

Incident ID	nAPP2110931060
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>>105</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 not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input 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

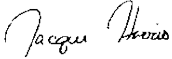
If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, 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.

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	nAPP2110931060
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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: Jacqui Harris Title: Environmental Coordinator
Signature:  Date: 7.6.21
email: jacqui.harris@conocophillips.com Telephone: 575-745-1807

OCD Only

Received by: _____ Date: _____

Incident ID	nAPP2110931060
District RP	
Facility ID	
Application ID	

Remediation Plan

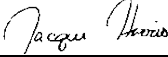
Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- ☒ 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: Jacqui Harris Title: Environmental Coordinator
Signature:  Date: 7.6.21
email: jacqui.harris@conocophillips.com Telephone: 575-745-1807

OCD Only

Received by: Chad Hensley Date: 07/21/2021

☒ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature:  Date: 07/21/2021

Site Assessment Report and Proposed Remediation Workplan

COG Operating, LLC

Eider Federal 2H

Lea County, New Mexico

Unit Letter O, Section 23, Township 24 South, Range 32 East

Latitude 32.16782 North, Longitude 103.64268 West

NMOCD Reference No. nAPP2110931060

Prepared By:

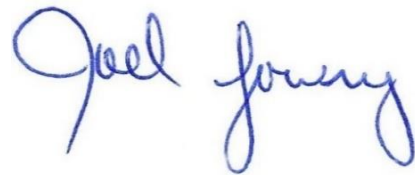
Etech Environmental & Safety Solutions, Inc.

3100 Plains Highway

Lovington, New Mexico 88260



Matthew Grieco



Joel W. Lowry



Midland • San Antonio • Lubbock • Lovington • Lafayette

TABLE OF CONTENTS

	<i>Section</i>
PROJECT INFORMATION.....	1.0
SITE CHARACTERIZATION.....	2.0
CLOSURE CRITERIA FOR SOILS IMPACTED BY A RELEASE.....	3.0
INITIAL SITE ASSESSMENT.....	4.0
PROPOSED REMEDIATION PLAN.....	5.0
SAMPLING PLAN.....	6.0
TIMELINE AND ESTIMATED VOLUME OF SOIL TO BE REMEDIATED.....	7.0
RESTORATION, RECLAMATION, AND RE-VEGETATION PLAN.....	8.0
LIMITATIONS.....	9.0
DISTRIBUTION.....	10.0

FIGURES

- Figure 1 - Topographic Map
- Figure 2 - Aerial Proximity Map
- Figure 3 - Site and Sample Location Map

TABLES

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

APPENDICES

- Appendix A - Depth to Groundwater Information
- Appendix B - Field Data and Soil Profile Logs
- Appendix C - Laboratory Analytical Reports
- Appendix D - Photographic Log

1.0 PROJECT INFORMATION

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of COG Operating, LLC, has prepared this *Site Assessment Report and Proposed Remediation Workplan* for the release site known as the Eider Federal 2H (henceforth, "Site"). Details of the release are summarized below:

Location of Release Source

Latitude: 32.16782 Longitude: -103.64268

Provided GPS are in WGS84 format.

Site Name:	Eider Federal 2H	Site Type:	Tank Battery
Date Release Discovered:	4/3/2021	API # (if applicable):	N/A

Unit Letter	Section	Township	Range	County
O	23	24S	32E	Lea

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (Name _____)

Nature and Volume of Release

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 20	Volume Recovered (bbls) 18
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water > 10,000 mg/L?	<input type="checkbox"/> Yes <input 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:

The release was caused by a cracked thread oil line on the FWKO resulting in a release. The release was within a Falcon Lined facility and some over sprayed in the pasture. A vacuum truck was dispatched to remove all freestanding fluids. Concho will evaluate the site to determine if we may commence remediation immediately or delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

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.

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>>105 Feet</u>	
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
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
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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 the 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 not on an exploration, development, production or storage site?	<input checked="" type="checkbox"/> Yes	<input 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*‡
>105 Feet	Chloride (Cl ⁻)	EPA 300.0 or SM4500 Cl B	20,000	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 April 29, 2021, Etech conducted an initial site assessment. During the initial site assessment, a series of hand-augered soil bores were 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.

Based on field observations and field test data, sixteen (16) delineation soil samples (NH @ Surface 0-6", NH @ 1', EH @ Surface 0-6", EH @ 1', SH @ Surface 0-6", SH @ 1', WH @ Surface 0-6", WH @ 1', DEF @ Surface 0-6", DEF @ 2', V 1 @ Surface 0-6", V 1 @ 1', V 2 @ Surface 0-6", V 2 @ 1', V 3 @ Surface 0-6", and V 3 @ 1') 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 and/or the NMOCD Reclamation Standard beyond two (2) feet below ground surface (bgs) at sample point DEF, or beyond one (1) foot bgs in the areas characterized by sample points V 1 and V 2. Additionally, the horizontal extent of affected soil impacted above the NMOCD Closure Criteria was adequately defined.

A site and sample location map is provided as Figure 3. Field data and soil profile logs are provided as Appendix B. 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, COG Operating, LLC, proposes the following remediation activities designed to advance the Site toward an approved closure:

- Utilizing mechanical equipment and/or hand tools, excavate impacted soil affected above the NMOCD Reclamation Standard in the areas characterized by sample points V 1 and V 2 to an estimated depth of one (1) foot bgs, or until laboratory analytical results indicate BTEX, TPH, and chloride concentrations are below the NMOCD Reclamation Standard.
- Advance the edges of the excavation until laboratory analytical results indicate BTEX, TPH, and chloride concentrations are below the NMOCD Reclamation Standard, or to the maximum extent practicable.
- Remediation of impacted soil adjacent to and underneath the fencing, containment, pipelines, and associated appurtenances along the northern edge of the production pad will be deferred until the decommission and reclamation of the facility.
- Excavated soil will be temporarily stockpiled on-site atop an impermeable liner, then transported to an NMOCD-approved surface waste facility for disposal.
- Upon receiving laboratory analytical results from confirmation soil samples, backfill the excavated areas with locally sourced, non-impacted, "like" material.
- Upon completion of remediation activities, a *Remediation Summary and Deferral 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 250 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 200 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 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 during the first favorable growing season following closure of the Site.

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 COG Operating, LLC. Use of the information contained in this report is prohibited without the consent of Etech and/or COG Operating, LLC.

10.0 DISTRIBUTION

COG Operating, LLC
600 West Illinois Avenue
Midland, TX 79701

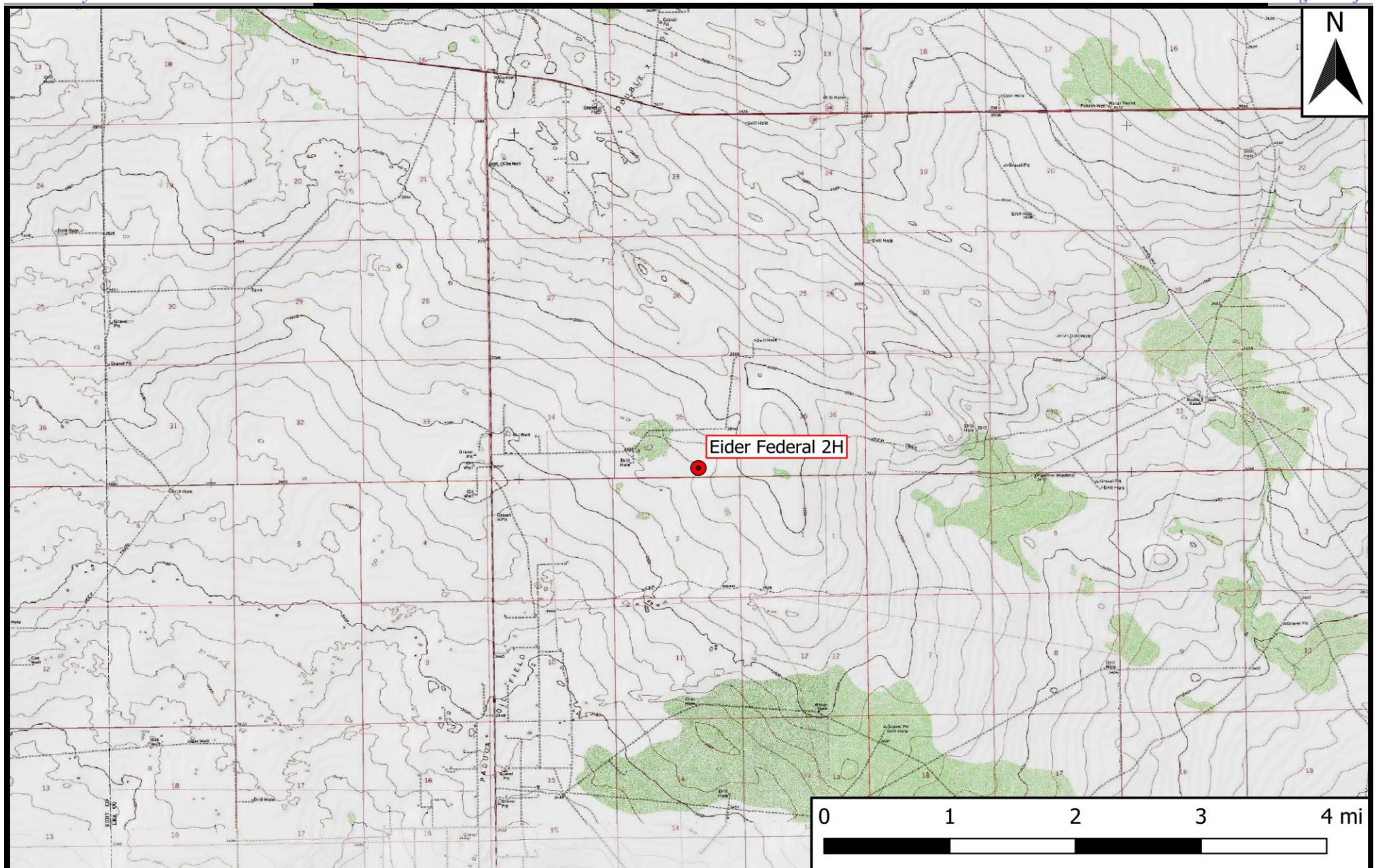
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District 1
1220 South St. Francis Drive
Santa Fe, NM 87505

Hobbs Field Office
New Mexico State Land Office
2827 North Dal Paso Street
Suite 117
Hobbs, NM 88240

(Electronic Submission)

Figure 1

Topographic Map



Legend

● Site Location

Figure 1

Topographic Map
 COG Operating, LLC
 Eider Federal 2H
 GPS: 32.16782, -103.64268
 Lea County

eTECH
 Environmental & Safety Solutions, Inc.

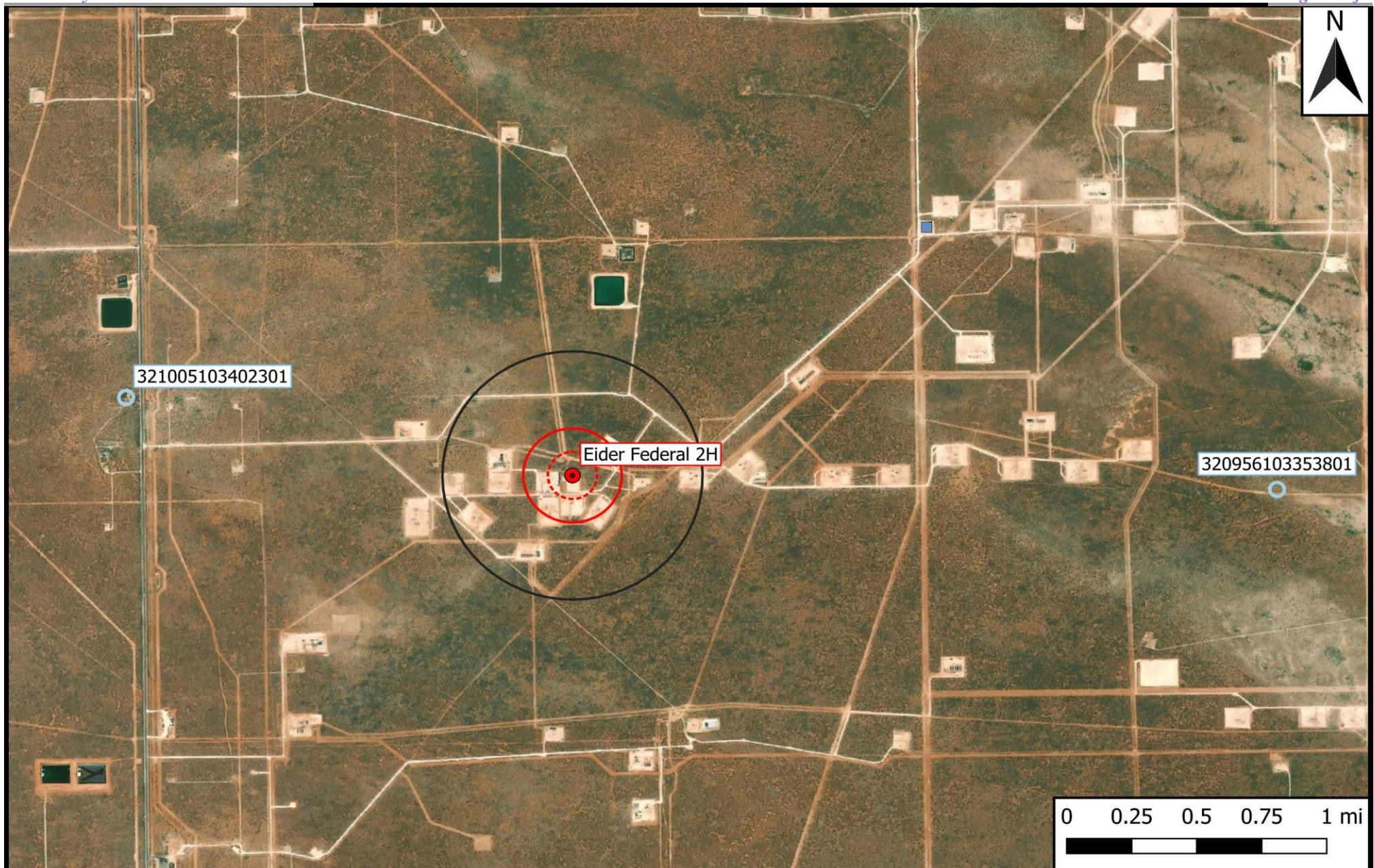
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Checked: jwl

Date: 4/22/21

Figure 2

Aerial Proximity Map



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

Figure 2
Aerial Proximity Map
COG Operating, LLC
Eider Federal 2H
GPS: 32.16782, -103.64268
Lea County

eTECH
Environmental & Safety Solutions, Inc.

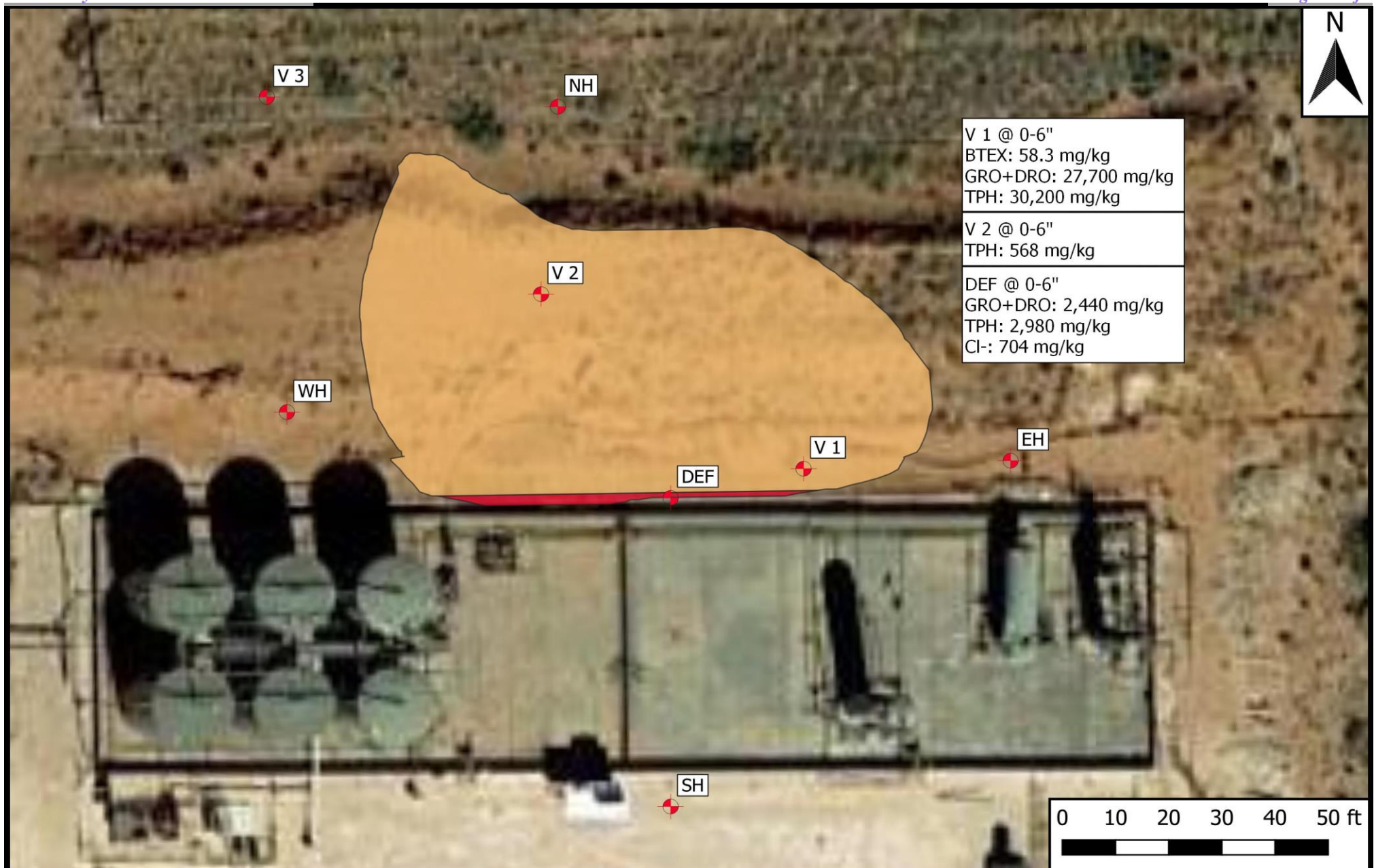
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Checked: jwl

Date: 4/22/21

Figure 3

Site and Sample Location Map



Legend

- Sample Point
- Proposed Excavation - 5264 Sq Ft
- Estimated Deferral Area - 96 Sq Ft

Figure 3

Site and Sample Location Map
 COG Operating, LLC
 Eider Federal 2H
 GPS: 32.16782, -103.64268
 Lea County



Drafted: mag

Checked: jwl

Date: 5/7/21

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

Table 1
Concentrations of BTEX, TPH, and Chloride in Soil
COG Operating, LLC
Eider Federal 2H
NMOCD Ref. #: Pending

NMOCD Closure Criteria				10	50	-	-	1,000	-	2,500	20,000
NMOCD Reclamation Standard				10	50	-	-	-	-	100	600
Sample ID	Date	Depth	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)
NH @ Surface 0-6"	4/28/2021	0-6"	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
NH @ 1'	4/28/2021	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
EH @ Surface 0-6"	4/28/2021	0-6"	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	112
EH @ 1'	4/28/2021	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	96.0
SH @ Surface 0-6"	4/28/2021	0-6"	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	64.0
SH @ 1'	4/28/2021	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	112
WH @ Surface 0-6"	4/28/2021	0-6"	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
WH @ 1'	4/28/2021	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
DEF @ Surface 0-6"	4/28/2021	0-6"	In-Situ	<0.050	<0.300	<10.0	2,440	2,440	537	2,980	704
DEF @ 2'	4/28/2021	2'	In-Situ	<0.050	<0.300	<10.0	54.3	54.3	15.5	69.8	16.0
V 1 @ Surface 0-6"	4/28/2021	0-6"	In-Situ	<0.050	58.3	2,070	25,600	27,700	2,480	30,200	560
V 1 @ 1'	4/28/2021	1'	In-Situ	<0.050	<0.300	<10.0	65.9	65.9	<10.0	65.9	32.0
V 2 @ Surface 0-6"	4/28/2021	0-6"	In-Situ	<0.050	<0.300	<10.0	496	496	72.1	568	112
V 2 @ 1'	4/28/2021	1'	In-Situ	<0.050	<0.300	<10.0	41.2	41.2	<10.0	41.2	16.0
V 3 @ Surface 0-6"	4/28/2021	0-6"	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
V 3 @ 1'	4/28/2021	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0

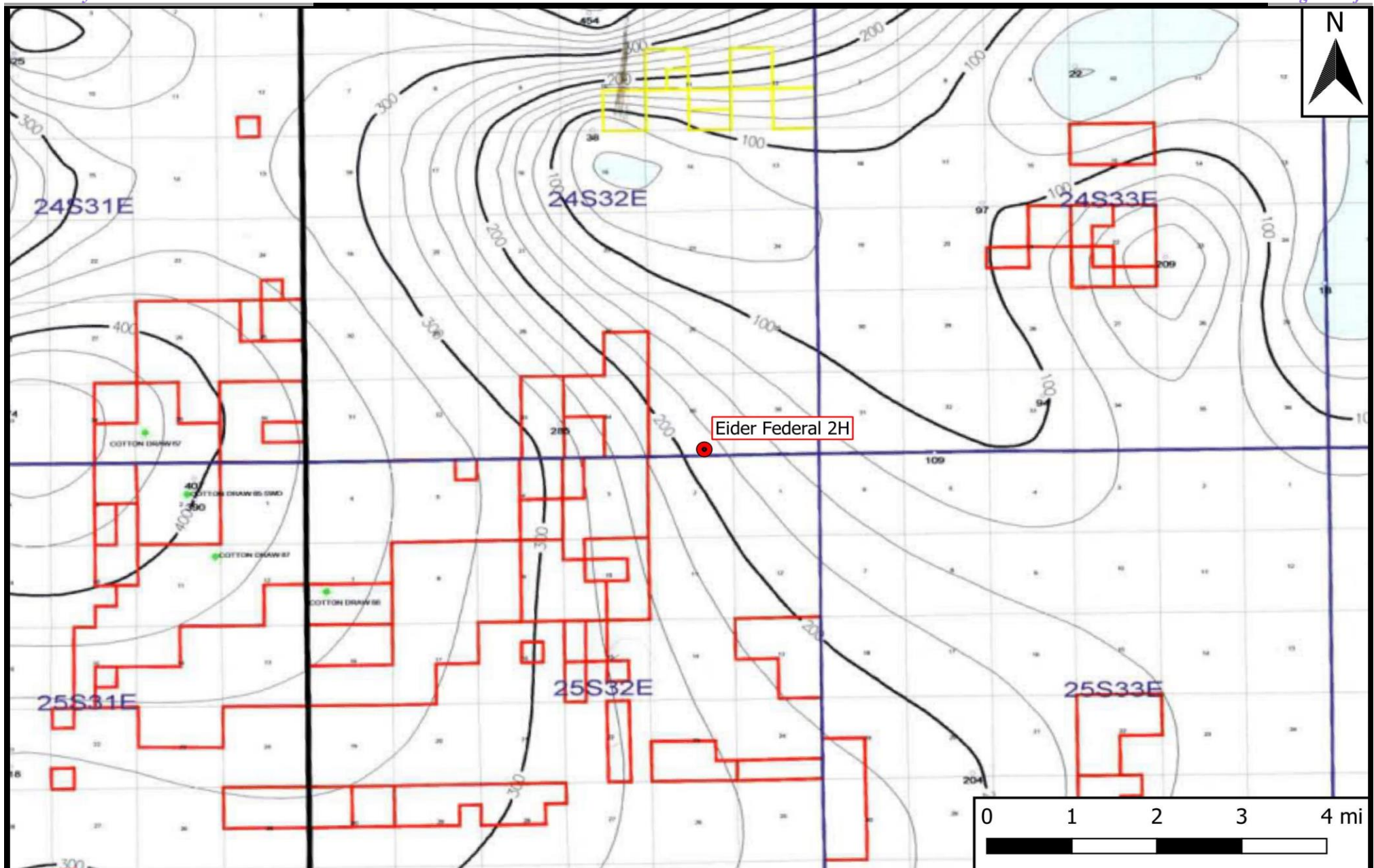
NOTES:

- = Sample not analyzed for that constituent.

Bold text denotes a concentration that exceeds the NMOCD Closure Criteria and/or the NMOCD Reclamation Standard

Appendix A

Depth to Groundwater Information



Legend

● Site Location

Figure 4

Inferred Depth to Groundwater Trend Map
 COG Operating, LLC
 Eider Federal 2H
 GPS: 32.16782, -103.64268
 Lea County



Drafted: mag

Checked: jwl

Date: 4/22/21



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
C 02312		CUB	LE	1	2	1	05	25S	33E	632292	3559772	4314	150	90	60
C 02890		C	LE	2	4	29	24S	33E	633114	3562012*		5575	500		

Average Depth to Water: **90 feet**

Minimum Depth: **90 feet**

Maximum Depth: **90 feet**

Record Count: 2

UTMNAD83 Radius Search (in meters):

Easting (X): 627977.29

Northing (Y): 3559844.67

Radius: 6440

*UTM location was derived from PLSS - see Help

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.

4/22/21 12:52 PM

WATER COLUMN/ AVERAGE DEPTH TO
WATER




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
NA	C 02312	1	2	1	05	25S	33E	632292	3559772 

x

Driller License:**Driller Company:****Driller Name:** UNKNOWN**Drill Start Date:** 01/01/1948**Drill Finish Date:** 06/30/1948**Plug Date:****Log File Date:****PCW Rcv Date:****Source:****Pump Type:****Pipe Discharge Size:****Estimated Yield:** 20 GPM**Casing Size:** 6.38**Depth Well:** 150 feet**Depth Water:** 90 feet

x

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.


4/22/21 12:55 PM

POINT OF DIVERSION SUMMARY



New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)					(NAD83 UTM in meters)		
		Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	C 02890	2	4	29	24S	33E		633114	3562012* 

x

Driller License:**Driller Company:****Driller Name:****Drill Start Date:****Drill Finish Date:****Plug Date:****Log File Date:****PCW Rcv Date:****Source:****Pump Type:****Pipe Discharge Size:****Estimated Yield:****Casing Size:** 8.00**Depth Well:** 500 feet**Depth Water:**

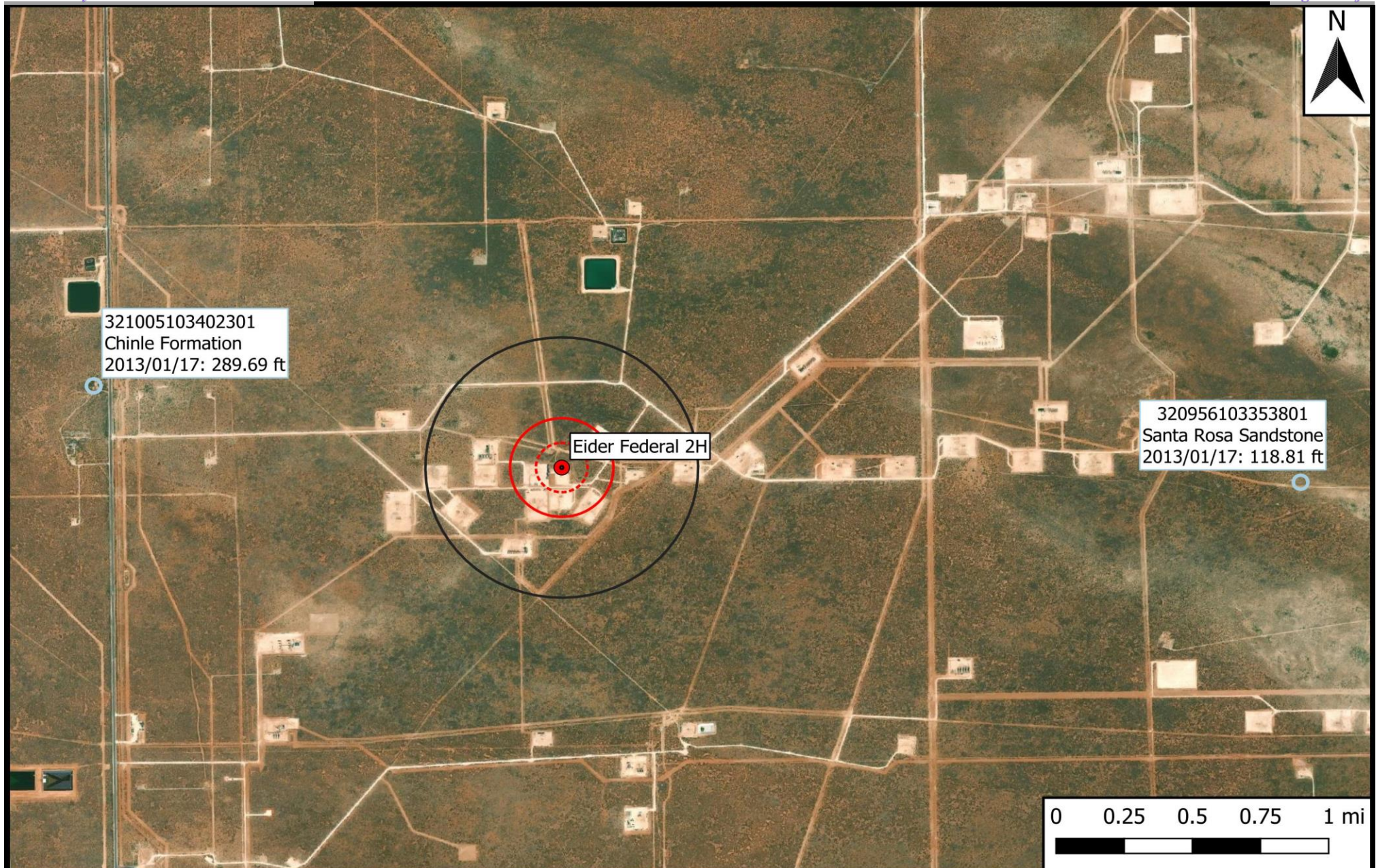
x

***UTM location was derived from PLSS - see Help**

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.

4/22/21 12:56 PM

POINT OF DIVERSION SUMMARY



Legend

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

Figure 5

USGS Well Proximity Map
COG Operating, LLC
Eider Federal 2H
GPS: 32.16782, -103.64268
Lea County



Drafted: mag

Checked: jwl


Date: 4/22/21

National Water Information System: Web Interface

USGS Water Resources

Data Category: Geographic Area:

Click to hideNews Bulletins

- Explore the **NEW** [USGS National Water Dashboard](#) to access real-time data from over 13,500 stations nationwide.
- [Full News](#) 

Groundwater levels for the Nation

* IMPORTANT: [Next Generation Station Page](#)

Search Results -- 1 sites found

Agency code = usgs
site_no list =

- 320956103353801

Minimum number of levels = 1
[Save file of selected sites](#) to local disk for future upload

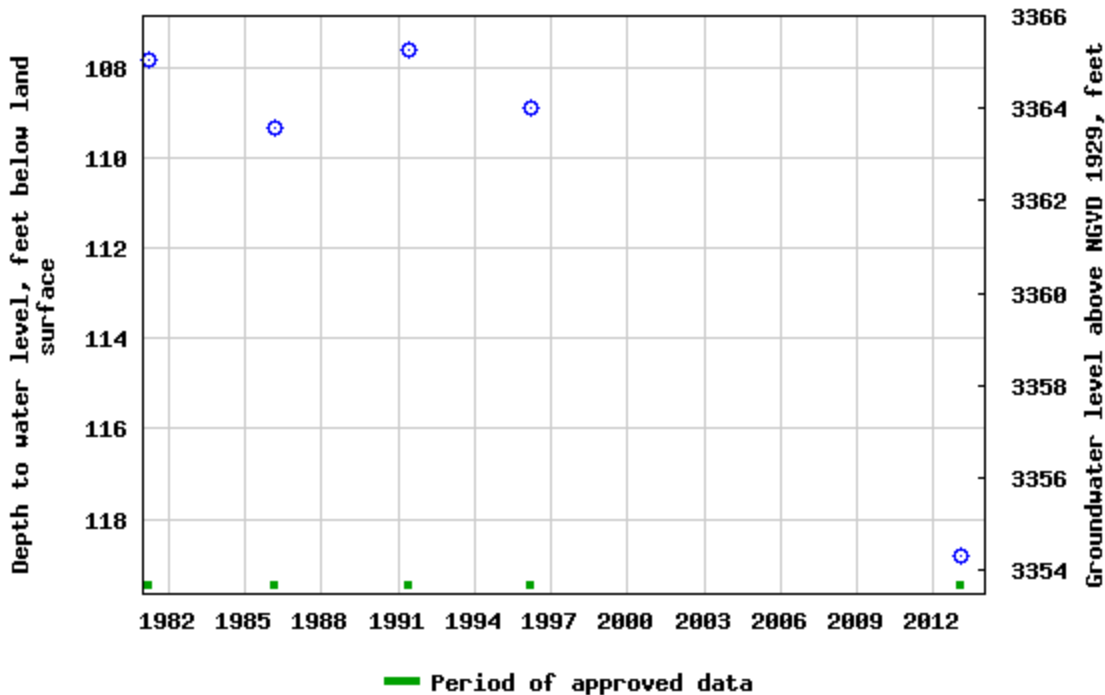
USGS 320956103353801 25S.33E.05.12122

Available data for this site

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°09'59.4", Longitude 103°35'47.2" NAD83
Land-surface elevation 3,473.00 feet above NGVD29
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Santa Rosa Sandstone (231SNRS) local aquifer.

Output formats

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



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

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

[Accessibility](#) [FOIA](#) [Privacy](#) [Policies and Notices](#)

[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

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: 2021-04-22 14:30:03 EDT

0.74 0.63 nadww01

National Water Information System: Web Interface

USGS Water Resources

Data Category:	Geographic Area:	
Groundwater	United States	GO

Click to hideNews Bulletins

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- [Full News](#) 

Groundwater levels for the Nation

* IMPORTANT: [Next Generation Station Page](#)

Search Results -- 1 sites found

Agency code = usgs
site_no list =

- 321005103402301

Minimum number of levels = 1
[Save file of selected sites](#) to local disk for future upload

USGS 321005103402301 24S.32E.33.42241

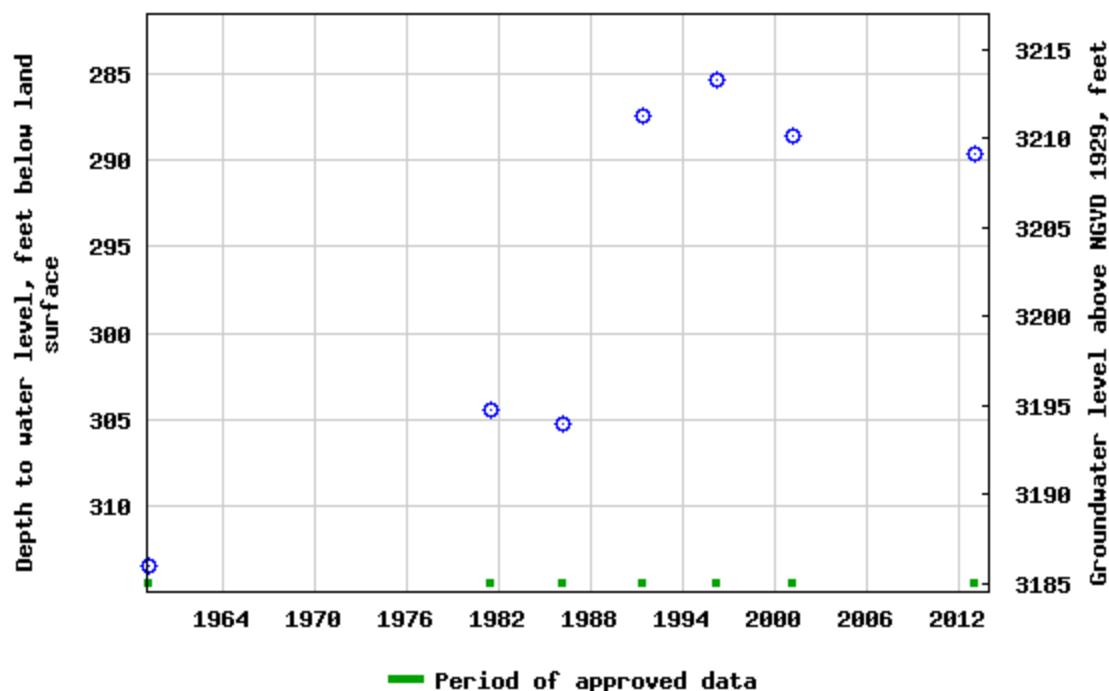
Available data for this site

Groundwater:	Field measurements	▼	GO
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Lea County, New Mexico
Hydrologic Unit Code 13070001
Latitude 32°10'21.6", Longitude 103°40'18.9" NAD83
Land-surface elevation 3,499.00 feet above NGVD29
The depth of the well is 367 feet below land surface.
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Chinle Formation (231CHNL) local aquifer.

Output formats

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



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

[Download a presentation-quality graph](#)

[Questions about sites/data?](#)

[Feedback on this web site](#)

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[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

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: 2021-04-22 14:30:04 EDT

0.74 0.62 nadww01



Appendix B

Field Data and Soil Profile Logs



Project Name :	Eider Fed 2H	Date :	Wednesday, June 16, 2021
Project No. :	214307	Sampler :	Clint Merritt
Location :	Lea County, New Mexico	Driller :	Scarborough Drilling
Coordinates :	32.16721, -103.64301	Method :	Air Rotary
Elevation :	3,544		

Depth (ft.)	WL	Soil Description	Lithology	Depth (ft.)	WL	Soil Description	Lithology
0		(0') - Yellowish orange, med. loose sand (SW). Dry		50		(50') - Light brown, very soft clay (ML). Dry	
5		(5') - Light brown, fine loose silty sand (SM). Dry		55			
10		(10') - Light brown, fine loose silty sand (SM). Dry		60		(50') - Light brown, med. stiff clay (CL). Dry	
15				65			
20		(20') - Light brown, fine loose silty sand (SM). Dry		70		(50') - Light brown, med. stiff clay (CL). Dry	
25				75			
30		(30') - Light brown, fine loose silty sand (SM). Dry		80		(50') - Light brown, med. stiff clay (CL). Dry	
35				85			
40		(40') - Light brown, fine med. dense sand (SC). Dry		90		(50') - Light brown, med. stiff clay (CL). Dry	
45				95			
50				100		(50') - Light brown, med. stiff clay (CL). Dry	

Comments :

Total Depth 105' bgs
 Drilling terminated @14:30 (CT) No Groundwater Present
 On 6/21/2021 No groundwater present



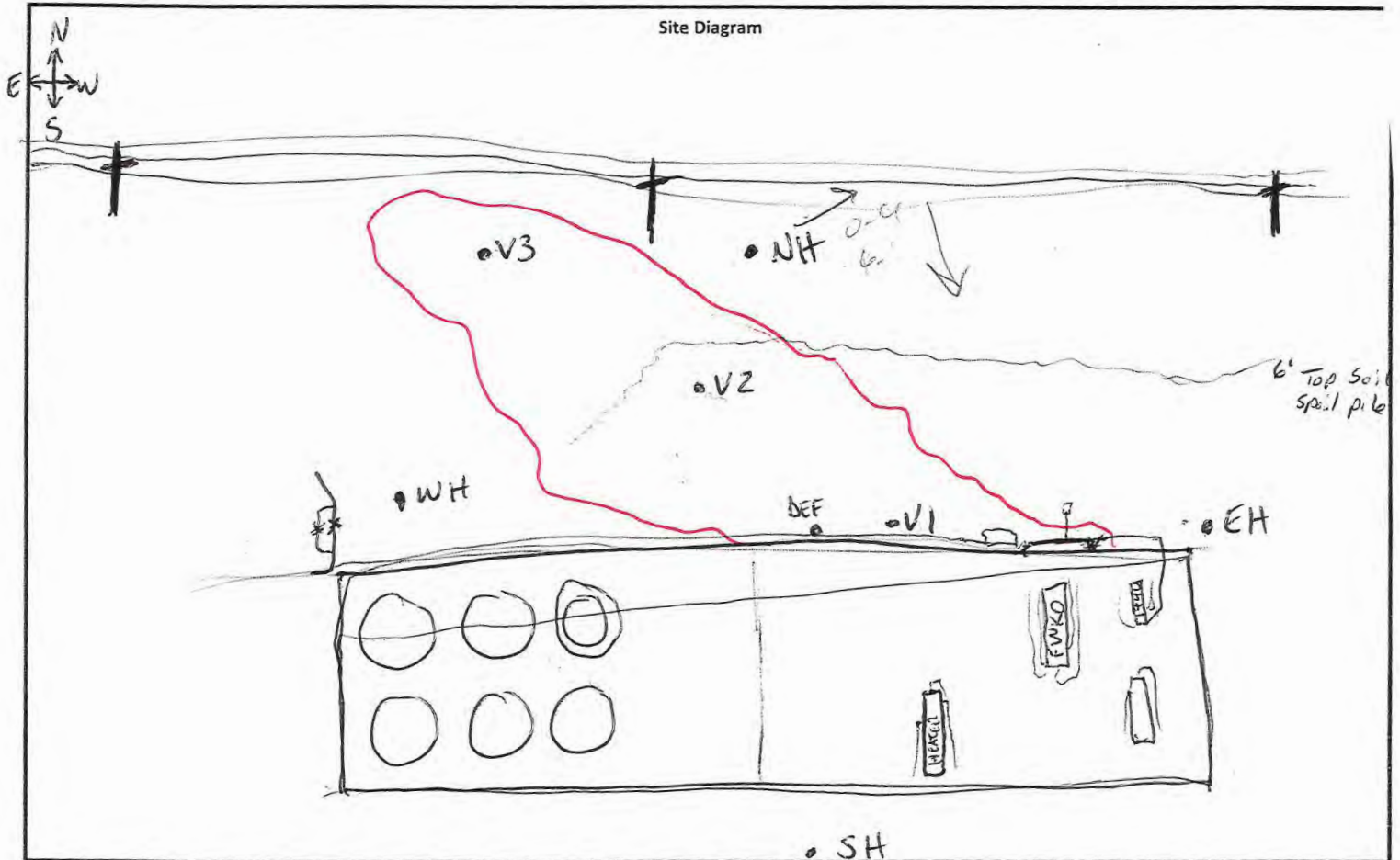
Initial Release Assessment Form

Project: EIDER Federal 2HDate: 4/29/21Project Number: 14061

Clean Up Level:

Latitude: 32.16782Longitude: -103.64268

Site Diagram



Notes:

Impacted Soil piles around Separator containment

~Length: NA ~Width: NA ~Area: Pasture ~Depth: 2'

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: 4/28/21

Project: Eider Federal 2H

Project Number: 14061 Latitude: 32.16782 Longitude: -103.64268

[illegible]

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:

4/29/21

Project: Eider Federal 2H

Project Number:

14061

Latitude:

32.16782

Longitude:

-103.64268

Depth (ft. bgs)

Description

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Brown fir
zone Caliche

Appendix C

Laboratory Analytical Reports



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

April 30, 2021

JOEL LOWRY

Etech Environmental & Safety Solutions

P.O. Box 301

Lovington, NM 88260

RE: EIDER FEDERAL 2H

Enclosed are the results of analyses for samples received by the laboratory on 04/28/21 14:38.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. 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 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 style with a large, stylized 'C' and 'K'.

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
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received:	04/28/2021	Sampling Date:	04/28/2021
Reported:	04/30/2021	Sampling Type:	Sludge
Project Name:	EIDER FEDERAL 2H	Sampling Condition:	Cool & Intact
Project Number:	14061	Sample Received By:	Tamara Oldaker
Project Location:	COG		

Sample ID: DEF @ SURFACE 0-6" (H211102-01)

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	04/29/2021	ND	2.06	103	2.00	5.49		
Toluene*	<0.050	0.050	04/29/2021	ND	2.02	101	2.00	10.1		
Ethylbenzene*	<0.050	0.050	04/29/2021	ND	1.99	99.6	2.00	9.59		
Total Xylenes*	<0.150	0.150	04/29/2021	ND	5.73	95.6	6.00	8.93		
Total BTEX	<0.300	0.300	04/29/2021	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.9 % 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	704	16.0	04/30/2021	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	04/29/2021	ND	222	111	200	3.11	
DRO >C10-C28*	2440	10.0	04/29/2021	ND	216	108	200	3.38	
EXT DRO >C28-C36	537	10.0	04/29/2021	ND					

Surrogate: 1-Chlorooctane 77.8 % 44.3-133

Surrogate: 1-Chlorooctadecane 154 % 38.9-142

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Etech Environmental & Safety Solutions
 JOEL LOWRY
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received: 04/28/2021
 Reported: 04/30/2021
 Project Name: EIDER FEDERAL 2H
 Project Number: 14061
 Project Location: COG

Sampling Date: 04/28/2021
 Sampling Type: Sludge
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: DEF @ 2' (H211102-02)

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	04/29/2021	ND	2.06	103	2.00	5.49	
Toluene*	<0.050	0.050	04/29/2021	ND	2.02	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	04/29/2021	ND	1.99	99.6	2.00	9.59	
Total Xylenes*	<0.150	0.150	04/29/2021	ND	5.73	95.6	6.00	8.93	
Total BTX	<0.300	0.300	04/29/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 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	04/30/2021	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	04/29/2021	ND	222	111	200	3.11	
DRO >C10-C28*	54.3	10.0	04/29/2021	ND	216	108	200	3.38	
EXT DRO >C28-C36	15.5	10.0	04/29/2021	ND					

Surrogate: 1-Chlorooctane 76.4 % 44.3-133

Surrogate: 1-Chlorooctadecane 74.2 % 38.9-142

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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
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received: 04/28/2021
 Reported: 04/30/2021
 Project Name: EIDER FEDERAL 2H
 Project Number: 14061
 Project Location: COG

Sampling Date: 04/28/2021
 Sampling Type: Sludge
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: NH @ SURFACE 0-6" (H211102-03)

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	04/29/2021	ND	2.06	103	2.00	5.49		
Toluene*	<0.050	0.050	04/29/2021	ND	2.02	101	2.00	10.1		
Ethylbenzene*	<0.050	0.050	04/29/2021	ND	1.99	99.6	2.00	9.59		
Total Xylenes*	<0.150	0.150	04/29/2021	ND	5.73	95.6	6.00	8.93		
Total BTEx	<0.300	0.300	04/29/2021	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.4 % 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	32.0	16.0	04/30/2021	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	04/29/2021	ND	222	111	200	3.11	
DRO >C10-C28*	<10.0	10.0	04/29/2021	ND	216	108	200	3.38	
EXT DRO >C28-C36	<10.0	10.0	04/29/2021	ND					

Surrogate: 1-Chlorooctane 87.0 % 44.3-133

Surrogate: 1-Chlorooctadecane 82.9 % 38.9-142

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Analytical Results For:

Etech Environmental & Safety Solutions
 JOEL LOWRY
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received: 04/28/2021
 Reported: 04/30/2021
 Project Name: EIDER FEDERAL 2H
 Project Number: 14061
 Project Location: COG

Sampling Date: 04/28/2021
 Sampling Type: Sludge
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: NH @ 1' (H211102-04)

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	04/29/2021	ND	2.06	103	2.00	5.49	
Toluene*	<0.050	0.050	04/29/2021	ND	2.02	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	04/29/2021	ND	1.99	99.6	2.00	9.59	
Total Xylenes*	<0.150	0.150	04/29/2021	ND	5.73	95.6	6.00	8.93	
Total BTEx	<0.300	0.300	04/29/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 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	04/30/2021	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	04/29/2021	ND	222	111	200	3.11	
DRO >C10-C28*	<10.0	10.0	04/29/2021	ND	216	108	200	3.38	
EXT DRO >C28-C36	<10.0	10.0	04/29/2021	ND					

Surrogate: 1-Chlorooctane 88.8 % 44.3-133

Surrogate: 1-Chlorooctadecane 85.2 % 38.9-142

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Etech Environmental & Safety Solutions
 JOEL LOWRY
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received: 04/28/2021
 Reported: 04/30/2021
 Project Name: EIDER FEDERAL 2H
 Project Number: 14061
 Project Location: COG

Sampling Date: 04/28/2021
 Sampling Type: Sludge
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SH @ SURFACE 0-6" (H211102-05)

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	04/29/2021	ND	2.06	103	2.00	5.49		
Toluene*	<0.050	0.050	04/29/2021	ND	2.02	101	2.00	10.1		
Ethylbenzene*	<0.050	0.050	04/29/2021	ND	1.99	99.6	2.00	9.59		
Total Xylenes*	<0.150	0.150	04/29/2021	ND	5.73	95.6	6.00	8.93		
Total BTEx	<0.300	0.300	04/29/2021	ND						

Surrogate: 4-Bromofluorobenzene (PID) 92.8 % 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	04/30/2021	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	04/29/2021	ND	222	111	200	3.11	
DRO >C10-C28*	<10.0	10.0	04/29/2021	ND	216	108	200	3.38	
EXT DRO >C28-C36	<10.0	10.0	04/29/2021	ND					

Surrogate: 1-Chlorooctane 75.6 % 44.3-133

Surrogate: 1-Chlorooctadecane 71.5 % 38.9-142

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Etech Environmental & Safety Solutions
 JOEL LOWRY
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received: 04/28/2021
 Reported: 04/30/2021
 Project Name: EIDER FEDERAL 2H
 Project Number: 14061
 Project Location: COG

Sampling Date: 04/28/2021
 Sampling Type: Sludge
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SH @ 1' (H211102-06)

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	04/29/2021	ND	2.06	103	2.00	5.49	
Toluene*	<0.050	0.050	04/29/2021	ND	2.02	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	04/29/2021	ND	1.99	99.6	2.00	9.59	
Total Xylenes*	<0.150	0.150	04/29/2021	ND	5.73	95.6	6.00	8.93	
Total BTX	<0.300	0.300	04/29/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.1 % 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	112	16.0	04/30/2021	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	04/30/2021	ND	222	111	200	3.11	
DRO >C10-C28*	<10.0	10.0	04/30/2021	ND	216	108	200	3.38	
EXT DRO >C28-C36	<10.0	10.0	04/30/2021	ND					

Surrogate: 1-Chlorooctane 79.3 % 44.3-133

Surrogate: 1-Chlorooctadecane 74.4 % 38.9-142

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 Fax To: (575) 396-1429

Received: 04/28/2021
 Reported: 04/30/2021
 Project Name: EIDER FEDERAL 2H
 Project Number: 14061
 Project Location: COG

Sampling Date: 04/28/2021
 Sampling Type: Sludge
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: WH @ SURFACE 0-6" (H211102-07)

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	04/29/2021	ND	2.06	103	2.00	5.49	
Toluene*	<0.050	0.050	04/29/2021	ND	2.02	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	04/29/2021	ND	1.99	99.6	2.00	9.59	
Total Xylenes*	<0.150	0.150	04/29/2021	ND	5.73	95.6	6.00	8.93	
Total BTX	<0.300	0.300	04/29/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 92.8 % 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	16.0	16.0	04/30/2021	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	04/30/2021	ND	222	111	200	3.11	
DRO >C10-C28*	<10.0	10.0	04/30/2021	ND	216	108	200	3.38	
EXT DRO >C28-C36	<10.0	10.0	04/30/2021	ND					

Surrogate: 1-Chlorooctane 85.5 % 44.3-133

Surrogate: 1-Chlorooctadecane 80.9 % 38.9-142

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Analytical Results For:

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Received: 04/28/2021
 Reported: 04/30/2021
 Project Name: EIDER FEDERAL 2H
 Project Number: 14061
 Project Location: COG

Sampling Date: 04/28/2021
 Sampling Type: Sludge
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: WH @ 1' (H211102-08)

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	04/29/2021	ND	2.06	103	2.00	5.49		
Toluene*	<0.050	0.050	04/29/2021	ND	2.02	101	2.00	10.1		
Ethylbenzene*	<0.050	0.050	04/29/2021	ND	1.99	99.6	2.00	9.59		
Total Xylenes*	<0.150	0.150	04/29/2021	ND	5.73	95.6	6.00	8.93		
Total BTEX	<0.300	0.300	04/29/2021	ND						

Surrogate: 4-Bromofluorobenzene (PID) 92.4 % 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	04/30/2021	ND	400	100	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	04/30/2021	ND	222	111	200	3.11	
DRO >C10-C28*	<10.0	10.0	04/30/2021	ND	216	108	200	3.38	
EXT DRO >C28-C36	<10.0	10.0	04/30/2021	ND					

Surrogate: 1-Chlorooctane 84.8 % 44.3-133

Surrogate: 1-Chlorooctadecane 81.0 % 38.9-142

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Analytical Results For:

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Received: 04/28/2021
 Reported: 04/30/2021
 Project Name: EIDER FEDERAL 2H
 Project Number: 14061
 Project Location: COG

Sampling Date: 04/28/2021
 Sampling Type: Sludge
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: EH @ SURFACE 0-6" (H211102-09)

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	04/29/2021	ND	2.06	103	2.00	5.49	
Toluene*	<0.050	0.050	04/29/2021	ND	2.02	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	04/29/2021	ND	1.99	99.6	2.00	9.59	
Total Xylenes*	<0.150	0.150	04/29/2021	ND	5.73	95.6	6.00	8.93	
Total BTX	<0.300	0.300	04/29/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.0 % 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	112	16.0	04/30/2021	ND	400	100	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	04/30/2021	ND	222	111	200	3.11	
DRO >C10-C28*	<10.0	10.0	04/30/2021	ND	216	108	200	3.38	
EXT DRO >C28-C36	<10.0	10.0	04/30/2021	ND					

Surrogate: 1-Chlorooctane 82.1 % 44.3-133

Surrogate: 1-Chlorooctadecane 77.4 % 38.9-142

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Analytical Results For:

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Received: 04/28/2021
 Reported: 04/30/2021
 Project Name: EIDER FEDERAL 2H
 Project Number: 14061
 Project Location: COG

Sampling Date: 04/28/2021
 Sampling Type: Sludge
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: EH @ 1' (H211102-10)

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	04/29/2021	ND	2.06	103	2.00	5.49	
Toluene*	<0.050	0.050	04/29/2021	ND	2.02	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	04/29/2021	ND	1.99	99.6	2.00	9.59	
Total Xylenes*	<0.150	0.150	04/29/2021	ND	5.73	95.6	6.00	8.93	
Total BTX	<0.300	0.300	04/29/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.5 % 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	96.0	16.0	04/30/2021	ND	400	100	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	04/29/2021	ND	240	120	200	3.38	
DRO >C10-C28*	<10.0	10.0	04/29/2021	ND	220	110	200	7.31	
EXT DRO >C28-C36	<10.0	10.0	04/29/2021	ND					

Surrogate: 1-Chlorooctane 63.3 % 44.3-133

Surrogate: 1-Chlorooctadecane 60.8 % 38.9-142

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Analytical Results For:

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 Fax To: (575) 396-1429

Received: 04/28/2021
 Reported: 04/30/2021
 Project Name: EIDER FEDERAL 2H
 Project Number: 14061
 Project Location: COG

Sampling Date: 04/28/2021
 Sampling Type: Sludge
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V 1 @ SURFACE 0-6" (H211102-11)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.500	0.500	04/29/2021	ND	2.06	103	2.00	5.49	
Toluene*	3.50	0.500	04/29/2021	ND	2.02	101	2.00	10.1	
Ethylbenzene*	5.38	0.500	04/29/2021	ND	1.99	99.6	2.00	9.59	
Total Xylenes*	49.4	1.50	04/29/2021	ND	5.73	95.6	6.00	8.93	
Total BTEX	58.3	3.00	04/29/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 136 % 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	560	16.0	04/30/2021	ND	400	100	400	0.00		
TPH 8015M		mg/kg		Analyzed By: MS						S-06

TPH 8015M	mg/kg		Analyzed By: MS					S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	2070	200	04/30/2021	ND	240	120	200	3.38	
DRO >C10-C28*	25600	200	04/30/2021	ND	220	110	200	7.31	
EXT DRO >C28-C36	2480	200	04/30/2021	ND					

Surrogate: 1-Chlorooctane 697 % 44.3-133

Surrogate: 1-Chlorooctadecane 818 % 38.9-142

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Analytical Results For:

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 Fax To: (575) 396-1429

Received: 04/28/2021
 Reported: 04/30/2021
 Project Name: EIDER FEDERAL 2H
 Project Number: 14061
 Project Location: COG

Sampling Date: 04/28/2021
 Sampling Type: Sludge
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V 1 @ 1' (H211102-12)

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	04/29/2021	ND	2.06	103	2.00	5.49	
Toluene*	<0.050	0.050	04/29/2021	ND	2.02	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	04/29/2021	ND	1.99	99.6	2.00	9.59	
Total Xylenes*	<0.150	0.150	04/29/2021	ND	5.73	95.6	6.00	8.93	
Total BTEX	<0.300	0.300	04/29/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.2 % 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	32.0	16.0	04/30/2021	ND	400	100	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	04/30/2021	ND	240	120	200	3.38	
DRO >C10-C28*	65.9	10.0	04/30/2021	ND	220	110	200	7.31	
EXT DRO >C28-C36	<10.0	10.0	04/30/2021	ND					

Surrogate: 1-Chlorooctane 76.0 % 44.3-133

Surrogate: 1-Chlorooctadecane 77.6 % 38.9-142

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Analytical Results For:

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Received: 04/28/2021
 Reported: 04/30/2021
 Project Name: EIDER FEDERAL 2H
 Project Number: 14061
 Project Location: COG

Sampling Date: 04/28/2021
 Sampling Type: Sludge
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V 2 @ SURFACE 0-6" (H211102-13)

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	04/29/2021	ND	2.06	103	2.00	5.49	
Toluene*	<0.050	0.050	04/29/2021	ND	2.02	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	04/29/2021	ND	1.99	99.6	2.00	9.59	
Total Xylenes*	<0.150	0.150	04/29/2021	ND	5.73	95.6	6.00	8.93	
Total BTEX	<0.300	0.300	04/29/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.5 % 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	112	16.0	04/30/2021	ND	400	100	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	04/29/2021	ND	240	120	200	3.38	
DRO >C10-C28*	496	10.0	04/29/2021	ND	220	110	200	7.31	
EXT DRO >C28-C36	72.1	10.0	04/29/2021	ND					

Surrogate: 1-Chlorooctane 73.3 % 44.3-133

Surrogate: 1-Chlorooctadecane 92.8 % 38.9-142

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Analytical Results For:

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Received: 04/28/2021
 Reported: 04/30/2021
 Project Name: EIDER FEDERAL 2H
 Project Number: 14061
 Project Location: COG

Sampling Date: 04/28/2021
 Sampling Type: Sludge
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V 2 @ 1' (H211102-14)

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	04/29/2021	ND	2.06	103	2.00	5.49	
Toluene*	<0.050	0.050	04/29/2021	ND	2.02	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	04/29/2021	ND	1.99	99.6	2.00	9.59	
Total Xylenes*	<0.150	0.150	04/29/2021	ND	5.73	95.6	6.00	8.93	
Total BTEX	<0.300	0.300	04/29/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.8 % 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	04/30/2021	ND	400	100	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	04/29/2021	ND	240	120	200	3.38	
DRO >C10-C28*	41.2	10.0	04/29/2021	ND	220	110	200	7.31	
EXT DRO >C28-C36	<10.0	10.0	04/29/2021	ND					

Surrogate: 1-Chlorooctane 71.4 % 44.3-133

Surrogate: 1-Chlorooctadecane 71.7 % 38.9-142

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Etech Environmental & Safety Solutions
 JOEL LOWRY
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received: 04/28/2021
 Reported: 04/30/2021
 Project Name: EIDER FEDERAL 2H
 Project Number: 14061
 Project Location: COG

Sampling Date: 04/28/2021
 Sampling Type: Sludge
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V 3 @ SURFACE 0-6" (H211102-15)

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	04/29/2021	ND	2.06	103	2.00	5.49	
Toluene*	<0.050	0.050	04/29/2021	ND	2.02	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	04/29/2021	ND	1.99	99.6	2.00	9.59	
Total Xylenes*	<0.150	0.150	04/29/2021	ND	5.73	95.6	6.00	8.93	
Total BTEx	<0.300	0.300	04/29/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.5 % 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	04/30/2021	ND	400	100	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	04/29/2021	ND	240	120	200	3.38	
DRO >C10-C28*	<10.0	10.0	04/29/2021	ND	220	110	200	7.31	
EXT DRO >C28-C36	<10.0	10.0	04/29/2021	ND					

Surrogate: 1-Chlorooctane 77.7 % 44.3-133

Surrogate: 1-Chlorooctadecane 76.1 % 38.9-142

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Etech Environmental & Safety Solutions
 JOEL LOWRY
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received: 04/28/2021
 Reported: 04/30/2021
 Project Name: EIDER FEDERAL 2H
 Project Number: 14061
 Project Location: COG

Sampling Date: 04/28/2021
 Sampling Type: Sludge
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: V 3 @ 1' (H211102-16)

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	04/29/2021	ND	2.06	103	2.00	5.49	
Toluene*	<0.050	0.050	04/29/2021	ND	2.02	101	2.00	10.1	
Ethylbenzene*	<0.050	0.050	04/29/2021	ND	1.99	99.6	2.00	9.59	
Total Xylenes*	<0.150	0.150	04/29/2021	ND	5.73	95.6	6.00	8.93	
Total BTX	<0.300	0.300	04/29/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 92.0 % 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	04/30/2021	ND	400	100	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	04/29/2021	ND	240	120	200	3.38	
DRO >C10-C28*	<10.0	10.0	04/29/2021	ND	220	110	200	7.31	
EXT DRO >C28-C36	<10.0	10.0	04/29/2021	ND					

Surrogate: 1-Chlorooctane 73.3 % 44.3-133

Surrogate: 1-Chlorooctadecane 71.7 % 38.9-142

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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



ARDINAL LABORATORIES

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Mainland, Hobbs, NM 88401-1001 (575) 393-2326 FAX (575) 393-2476										BILL TO										ANALYSIS REQUEST									
Company Name: Etech Environmental & Safety Solutions, Inc.										P.O. #:										Chloride TPH (8015M) BTEX (8021B)									
Project Manager: Joel Lowry										Company: COG																			
Address: P.O. Box 301										Attn: Saegui Harris																			
City: Lovington State: NM Zip: 88260										Address:																			
Phone #: (575) 396-2378 Fax #: (575) 396-1429										City:																			
Project #: 14061 Project Owner: COG										State: Zip:																			
Project Name: Eider Federal 2H										Phone #:																			
Project Location: -										Fax #:																			
Sampler Name: Leonel Mojica																													
FOR LAB USE ONLY																													
Lab I.D. Sample I.D.																													
H211102																													
1 DEF @ Surface 0'-6"										X X X																			
2 DEF @ 2'										X X X																			
3 NH @ Surface 0'-6"										X X X																			
4 NH @ 1'										X X X																			
5 SH @ Surface 0'-6"										X X X																			
6 SH @ 1'										X X X																			
7 WH @ Surface 0'-6"										X X X																			
8 WH @ 1'										X X X																			
9 EH @ Surface 0'-6"										X X X																			
10 EH @ 1'										X X X																			
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Relinquished By: Leonel Mojica										Received By: [Signature]										Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:									
Relinquished By:										Received By:										Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #:									
Date: 4/28/21 Time: 1438										REMARKS:										Please email results to pm@etechenv.com.									
Date: Time:																													
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 5.4c #113										Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No																			
										CHECKED BY: (Initials) T.O.																			

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

Appendix D

Photographic Log

Photographic Log



Photo Number: 1	<div>NW N NE E 0 330 0 30 60 90 120</div> <div>☀ 36°NE (T) ● 32°10'3"N, 103°38'33"W ±16ft ▲ 3536ft</div>  <div>Your Watermark - See Settings 07 Apr 2021, 13:09:40</div>
Photo Direction: Northeast	
Photo Description: Release area in pasture.	

Photo Number: 2	<div>N NE E SE 330 0 30 60 90 120 150</div> <div>☀ 57°NE (T) ● 32°10'3"N, 103°38'33"W ±16ft ▲ 3536ft</div>  <div>Your Watermark - See Settings 07 Apr 2021, 13:09:36</div>
Photo Direction: Northeast	
Photo Description: Release area adjacent to containment.	

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 35002

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 35002
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
chensley	None	7/21/2021