

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.*

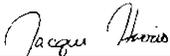
- Detailed description of proposed remediation technique
- Scaled sitemap with GPS coordinates showing delineation points
- Estimated volume of material to be remediated
- Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- Proposed schedule for remediation (note if remediation 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: 4/5/2022

email: jacqui.harris@conocophillips.com Telephone: 575-745-1807

**OCD Only**

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

- Approved     
 Approved with Attached Conditions of Approval     
 Denied     
 Deferral Approved

Signature:  Date: 05/13/2022

# Remediation Summary & Deferral Request

**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**

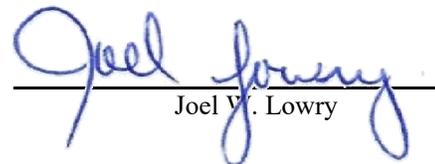
Prepared By:

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

2507 79th Street, Unit A

Lubbock, Texas 79423

  
Ben J. Arguijo

  
Joel V. Lowry



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### 1.0 PROJECT INFORMATION

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

<b>Location of Release Source</b>				
Latitude: <u>32.16782</u>		Longitude: <u>-103.64268</u>		
Provided GPS are in WGS84 format.				
Site Name: <u>Eider Federal 2H</u>		Site Type: <u>Tank Battery</u>		
Date Release Discovered: <u>4/3/2021</u>		API # (if applicable): <u>N/A</u>		
Unit Letter	Section	Township	Range	County
O	23	24S	32E	Lea
Surface Owner: <input type="checkbox"/> State <input checked="" type="checkbox"/> Federal <input type="checkbox"/> Tribal <input type="checkbox"/> Private (Name _____)				
<b>Nature and Volume of Release</b>				
<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 total dissolved solids (TDS) in the produced water > 10,000 mg/L?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" 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 free water knockout (FWKO). The release was within a Falcon lined facility, with some overspray in the pasture. A vacuum truck was dispatched to remove all freestanding fluids.				
<b>Initial Response</b>				
<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Release materials have been contained via the use of berms or dikes, absorbent pad, or other containment devices <input checked="" type="checkbox"/> 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.

	>105'	
What is the shallowest depth to groundwater beneath the area affected by the release?		
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
Are the lateral extents of the release within 300 feet of any 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 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 & Wildlife Services (FWS) shapefiles; topographic maps; NMOSE and USGS databases; and aerial imagery. The results are depicted in 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 Standards for the Site are as follows:

Probable Depth to Groundwater	Constituent	Laboratory Analytical Method	Closure Criteria*†	Reclamation Standard*‡
>105'	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 28, 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 and at the inferred edges of the affected area in an effort to determine the vertical and horizontal extent of impacted soil. Etech also advanced one (1) hand-augered soil bore (DEF) to characterize the affected area along the northern edge of the production pad requiring deferral of remediation. 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<sup>®</sup> chloride test kit.

Based on field observations and field test data, Etech submitted 16 delineation soil samples (NH @ Surface, NH @ 1', EH @ Surface, EH @ 1', SH @ Surface, SH @ 1', WH @ Surface, WH @ 1', V 1 @ Surface, V 1 @ 1', V 2 @ Surface, V 2 @ 1', V 3 @ Surface, V 3 @ 1', DEF @ Surface, and DEF @ 2') to a certified commercial laboratory for analysis of BTEX, TPH, and chloride. Based on laboratory analytical results, the vertical and horizontal extent of impacted soil was adequately defined. Soil was not affected above the NMOCD Closure Criteria and/or NMOCD Reclamation Standards beyond one (1) foot below ground surface (bgs) in the areas characterized by sample points V 1 and V 2 or beyond two (2) feet bgs in the area characterized by sample point DEF.

Sample point locations are depicted in Figure 3, "Site & Sample Location Map". Soil chemistry data is summarized in Table 1. Field data and a soil profile log are provided in Appendix B. Laboratory analytical reports are provided in Appendix C. General photographs of the Site are provided in Appendix D.

## 5.0 PROPOSED REMEDIATION PLAN

Based on laboratory analytical results, site characteristics, and field observations made during the initial site assessment, COG Operating, LLC, proposed 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.
- Defer remediation of impacted soil adjacent to and underneath the fencing, containment, pipelines, and associated appurtenances along the northern edge of the production pad (characterized by sample point DEF) until the decommission and reclamation of the facility.
- Temporarily stockpile excavated soil on-site atop an impermeable liner, then transport it to an NMOCD-permitted surface waste facility for disposal.
- 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, prepare a *Remediation Summary & Deferral Request* detailing field activities and laboratory analytical results from confirmation soil samples.

## 6.0 REGULATORY APPROVALS & STIPULATIONS

On July 6, 2021, a *Site Assessment Report and Proposed Remediation Workplan* was submitted to the NMOCD proposing the aforementioned remediation activities to advance the Site toward regulatory closure. The proposed workplan was subsequently approved by the NMOCD, with no added stipulations.

Please reference the *Site Assessment Report and Proposed Remediation Workplan* for additional details regarding site characterization and proposed remediation activities.

## 7.0 REMEDIATION ACTIVITIES SUMMARY

On October 7, 2021, remediation activities commenced at the Site. In accordance with the NMOCD-approved workplan, impacted soil affected above the NMOCD Closure Criteria was excavated and stockpiled on-site, pending transfer to an NMOCD-permitted surface waste facility for disposal. Olfactory/visual senses and/or a chloride test kit were utilized to field-screen the vertical and horizontal extent of impacted soil and to guide the excavation. The floor and sidewalls of the excavation were advanced until field tests and field observations suggested BTEX, TPH, and chloride concentrations were below the applicable NMOCD Closure Criteria and NMOCD Reclamation Standards.

Etech collected nine (9) confirmation soil samples (EW1 and FL 1 @ 1' through FL 8 @ 1') from the sidewall and floor of the excavated area. The soil samples were submitted to a certified commercial laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX, TPH, and chloride concentrations were below the applicable NMOCD Closure Criteria and NMOCD Reclamation Standards in each of the submitted soil samples, with the exception of soil sample FL 6 @ 1', which exhibited a TPH concentration of 331 mg/kg.

On October 8, 2021, Etech collected eight (8) confirmation soil samples (SW, FL 9 @ 1', FL 10 @ 1', and FL 14 @ 6" through FL 18 @ 6") from the sidewall and floor of the excavated area. The soil samples were submitted to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX, TPH, and chloride concentrations were below the applicable NMOCD Closure Criteria and NMOCD Reclamation Standards in each of the submitted soil samples.

On October 12, 2021, Etech collected 13 confirmation soil samples (NW, WW, FL 11 @ 1', FL 12 @ 2', FL 13 @ 1', and FL 19 @ 6" through FL 26 @ 6") from the sidewalls and floor of the excavated area. The soil samples were submitted to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX, TPH, and chloride concentrations were below the applicable NMOCD Closure Criteria and NMOCD Reclamation Standards in each of the submitted soil samples.

On October 13, 2021, the excavation was further advanced in the area characterized by soil sample FL 6 @ 1'. Etech collected one (1) confirmation soil sample (FL 6 @ 2') from the floor of the excavated area. The soil sample was submitted to the laboratory for analysis of TPH. Laboratory analytical results indicated TPH concentrations were below the NMOCD Closure Criterion and NMOCD Reclamation Standard.

The final dimensions of the excavated area were approximately 84 to 110 feet in length, 20 to 50 feet in width, and six (6) inches to two (2) feet in depth. During the course of remediation activities, approximately 300 cubic yards of impacted soil was transported to an NMOCD-permitted surface waste facility for disposal. Approximately 308 cubic yards of locally sourced, non-impacted material was imported to the Site for use as backfill.

Soil sample locations and the extents of the excavation and the area to be deferred are depicted in Figure 3, "Site & Sample Location Map". Soil chemistry data is summarized in Table 1. Field data is provided in Appendix B. Laboratory analytical reports are provided in Appendix C. General photographs of the Site are provided in Appendix D.

## 8.0 RESTORATION, RECLAMATION & RE-VEGETATION PLAN

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

## 9.0 DEFERRAL REQUEST

Remediation activities were conducted in accordance with an NMOCD-approved workplan. Impacted soil affected above the NMOCD Closure Criteria and/or NMOCD Reclamation Standards was excavated to the extent practicable and transported to an NMOCD-permitted disposal facility. Laboratory analytical results from confirmation soil samples indicate concentrations of BTEX, TPH, and chloride are below the applicable NMOCD Closure Criteria and NMOCD Reclamation Standard. Remediation of impacted soil affected above the NMOCD Closure Criteria remaining in-situ adjacent to and underneath the fencing, containment, pipelines, and associated appurtenances along the northern edge of the production pad (characterized by sample point DEF) will be completed upon decommissioning and abandonment of the facility, in accordance with Section 19.15.29.13 NMAC.

Based on laboratory analytical results and field activities conducted to date, Etech recommends COG Operating, LLC, provide copies of this *Remediation Summary & Deferral Request* to the appropriate agencies and cease remediation activities at the Site.

## 10.0 LIMITATIONS

Etech Environmental & Safety Solutions, Inc., has prepared this *Remediation Summary & Deferral Request* 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.

## **11.0 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*

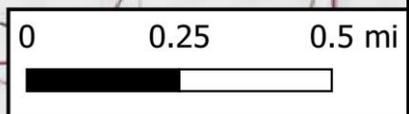
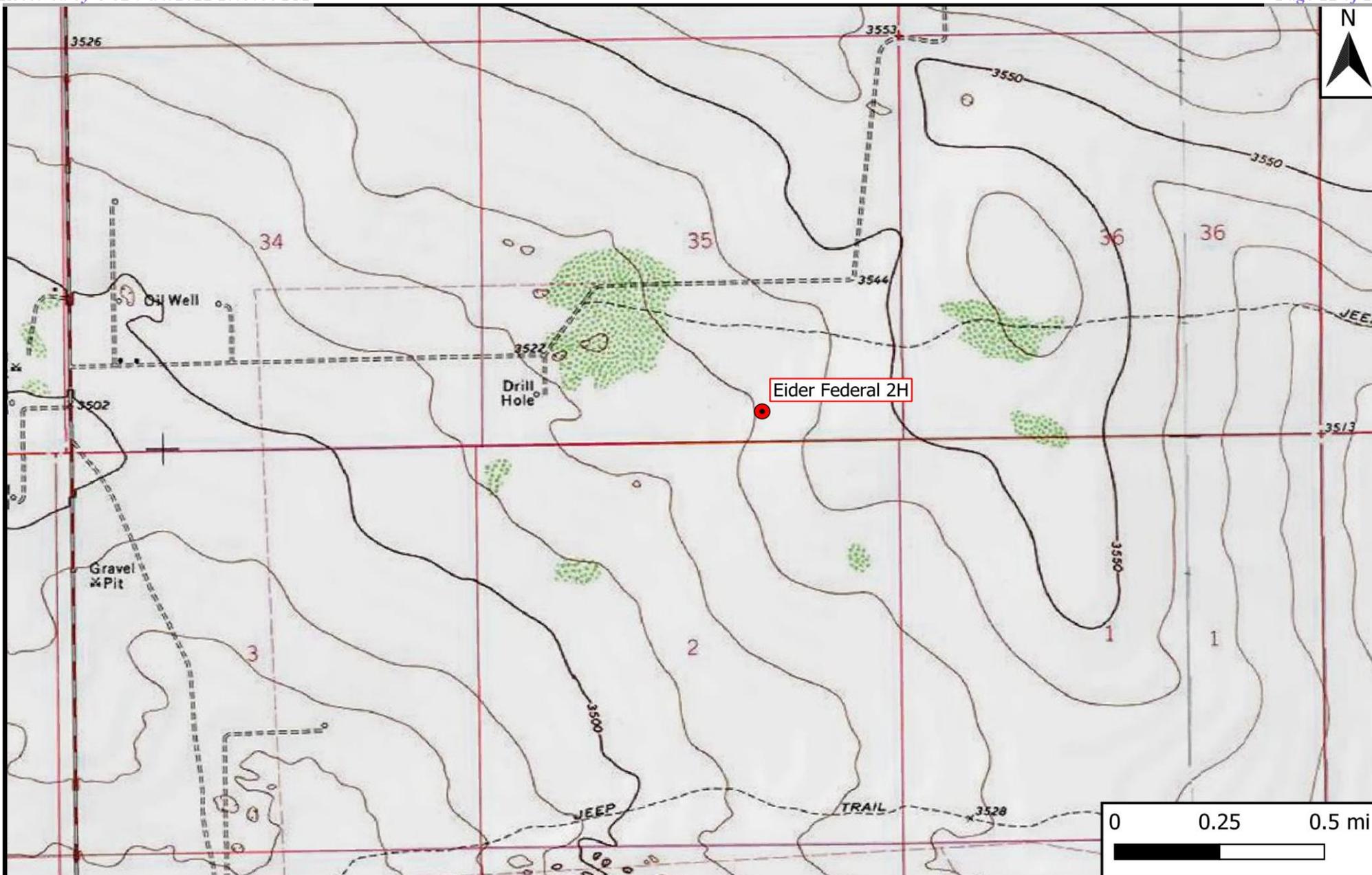
***Hobbs Field Office***

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

*(Electronic Submission)*

# **Figure 1**

## **Topographic Map**



Legend  
 ● Site Location

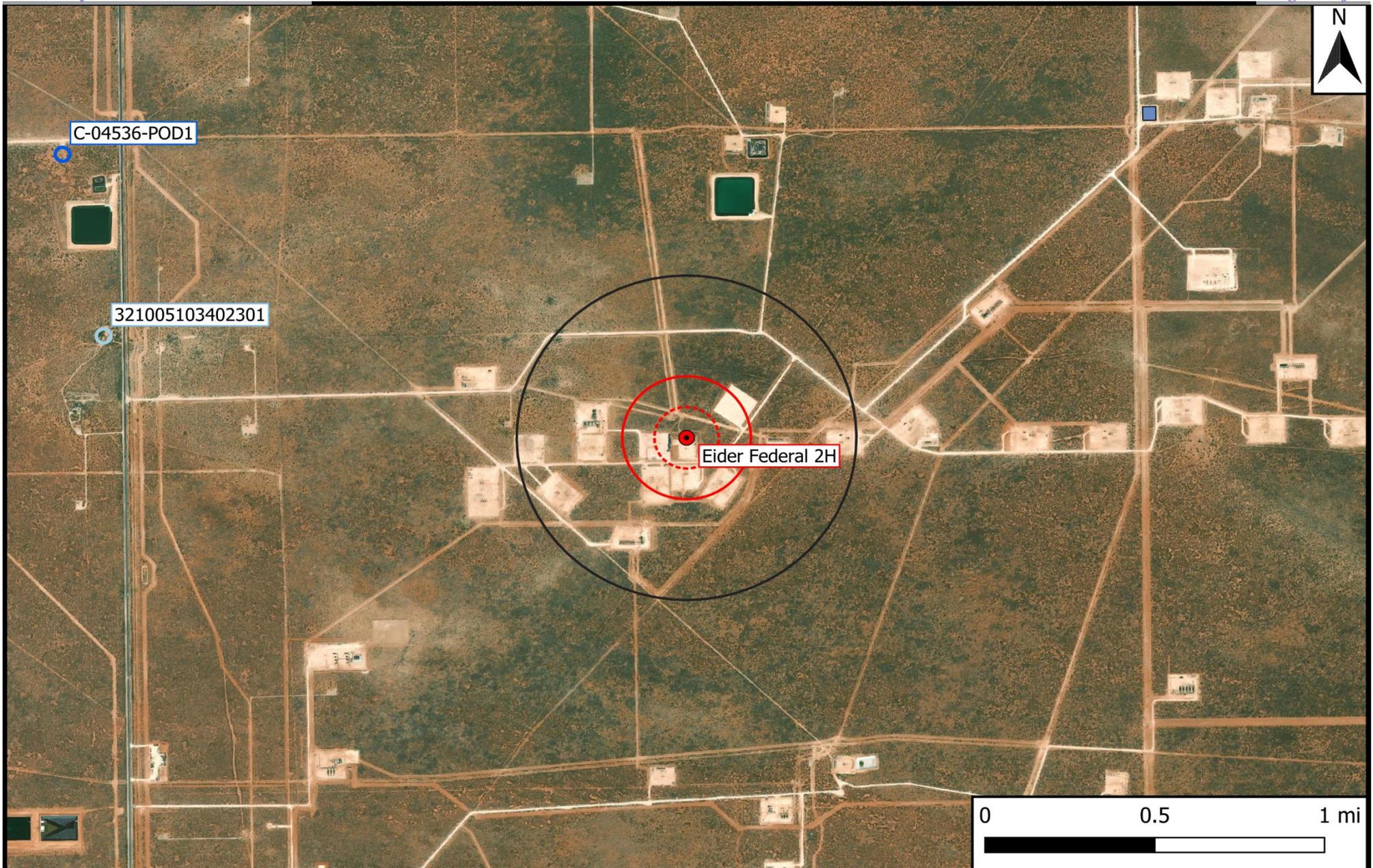
**Figure 1**  
 Topographic Map  
 COG Operating, LLC  
 Eider Federal 2H  
 GPS: 32.16782, -103.64268  
 Lea County



Drafted: bja    Checked: jwl    Date: 10/18/21

## **Figure 2**

### **Aerial Proximity Map**



Legend		
Site Location	1% Annual Flood Chance	500-Ft Radius
Well - NMOSE	Emergent/Forested Wetlands	1,000-Ft Radius
Well - USGS	Freshwater Pond/Lake	0.5-Mi Radius
Well - Investigative/Monitor	Medium/High Karst	
Potash Mine Workings	Riverine	

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

*Environmental & Safety Solutions, Inc.*

Drafted: bja      Checked: jwl      Date: 10/18/21

## **Figure 3**

### **Site & Sample Location Map**



- Legend**
- █ Excavation Extent
  - █ Deferral Area (96 ft<sup>2</sup>)
  - Pipeline
  - ⊙ Auger Hole
  - Composite Floor Sample
  - Composite Wall Sample

**Figure 3**  
 Site & Sample Location Map  
 COG Operating, LLC  
 Eider Federal 2H  
 GPS: 32.16782, -103.64268  
 Lea County



Drafted: bja      Checked: jwl      Date: 10/26/21

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

Table 1 Concentrations of BTEX, TPH & Chloride in Soil COG Operating, LLC Eider Federal 2H NMOCD Ref. #: nAPP2110931060											
NMOCD Closure Criteria				10	50	-	-	1,000	-	2,500	20,000
NMOCD Reclamation Standard				10	50	-	-	-	-	100	600
Sample ID	Date	Depth (Feet)	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500 Cl
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C <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)
<b>Delineation &amp; Deferral Samples</b>											
NH @ Surface	4/28/2021	0-0.5	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	4/28/2021	0-0.5	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	4/28/2021	0-0.5	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	4/28/2021	0-0.5	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
V 1 @ Surface	4/28/2021	0-0.5	Excavated	<0.050	<b>58.3</b>	2,070	25,600	<b>27,700</b>	2,480	<b>30,200</b>	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	4/28/2021	0-0.5	Excavated	<0.050	<0.300	<10.0	496	496	72.1	<b>568</b>	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	4/28/2021	0-0.5	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
DEF @ Surface	4/28/2021	0-0.5	Deferred	<0.050	<0.300	<10.0	2,440	<b>2,440</b>	537	<b>2,980</b>	<b>704</b>
DEF @ 2'	4/28/2021	2	In-Situ	<0.050	<0.300	<10.0	54.3	54.3	15.5	69.8	16.0
<b>Excavation Samples</b>											
NW	10/12/2021	0-0.5	In-Situ	<0.050	<0.300	<10.0	40.4	40.4	<10.0	40.4	16.0
EW1	10/7/2021	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
SW	10/8/2021	0-2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	224
WW	10/12/2021	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	64.0
FL 1 @ 1'	10/7/2021	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FL 2 @ 1'	10/7/2021	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
FL 3 @ 1'	10/7/2021	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FL 4 @ 1'	10/7/2021	1	In-Situ	<0.050	<0.300	<10.0	16.2	16.2	<10.0	16.2	112
FL 5 @ 1'	10/7/2021	1	In-Situ	<0.050	<0.300	<10.0	16.5	16.5	<10.0	16.5	32.0
FL 6 @ 1'	10/7/2021	1	Excavated	<0.050	<0.300	<10.0	258	258	72.6	<b>331</b>	112
FL 6 @ 2'	10/13/2021	2	In-Situ	-	-	<10.0	<10.0	<20.0	<10.0	<30.0	-
FL 7 @ 1'	10/7/2021	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	48.0
FL 8 @ 1'	10/7/2021	1	In-Situ	<0.050	<0.300	<10.0	18.8	18.8	<10.0	18.8	32.0
FL 9 @ 1'	10/8/2021	1	In-Situ	<0.050	<0.300	<10.0	36.7	36.7	<10.0	36.7	32.0
FL 10 @ 1'	10/8/2021	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	48.0
FL 11 @ 1'	10/12/2021	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	64.0
FL 12 @ 2'	10/12/2021	2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	48.0
FL 13 @ 1'	10/12/2021	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	160
FL 14 @ 6"	10/8/2021	0.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
FL 15 @ 6"	10/8/2021	0.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
FL 16 @ 6"	10/8/2021	0.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
FL 17 @ 6"	10/8/2021	0.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
FL 18 @ 6"	10/8/2021	0.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0

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

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

<b>Table 1</b> <b>Concentrations of BTEX, TPH &amp; Chloride in Soil</b> <b>COG Operating, LLC</b> <b>Eider Federal 2H</b> <b>NMOCD Ref. #: nAPP2110931060</b>											
NMOCD Closure Criteria				10	50	-	-	1,000	-	2,500	20,000
NMOCD Reclamation Standard				10	50	-	-	-	-	100	600
Sample ID	Date	Depth (Feet)	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500 Cl
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C <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)
FL 19 @ 6"	10/12/2021	0.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FL 20 @ 6"	10/12/2021	0.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FL 21 @ 6"	10/12/2021	0.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FL 22 @ 6"	10/12/2021	0.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FL 23 @ 6"	10/12/2021	0.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
FL 24 @ 6"	10/12/2021	0.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
FL 25 @ 6"	10/12/2021	0.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
FL 26 @ 6"	10/12/2021	0.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0

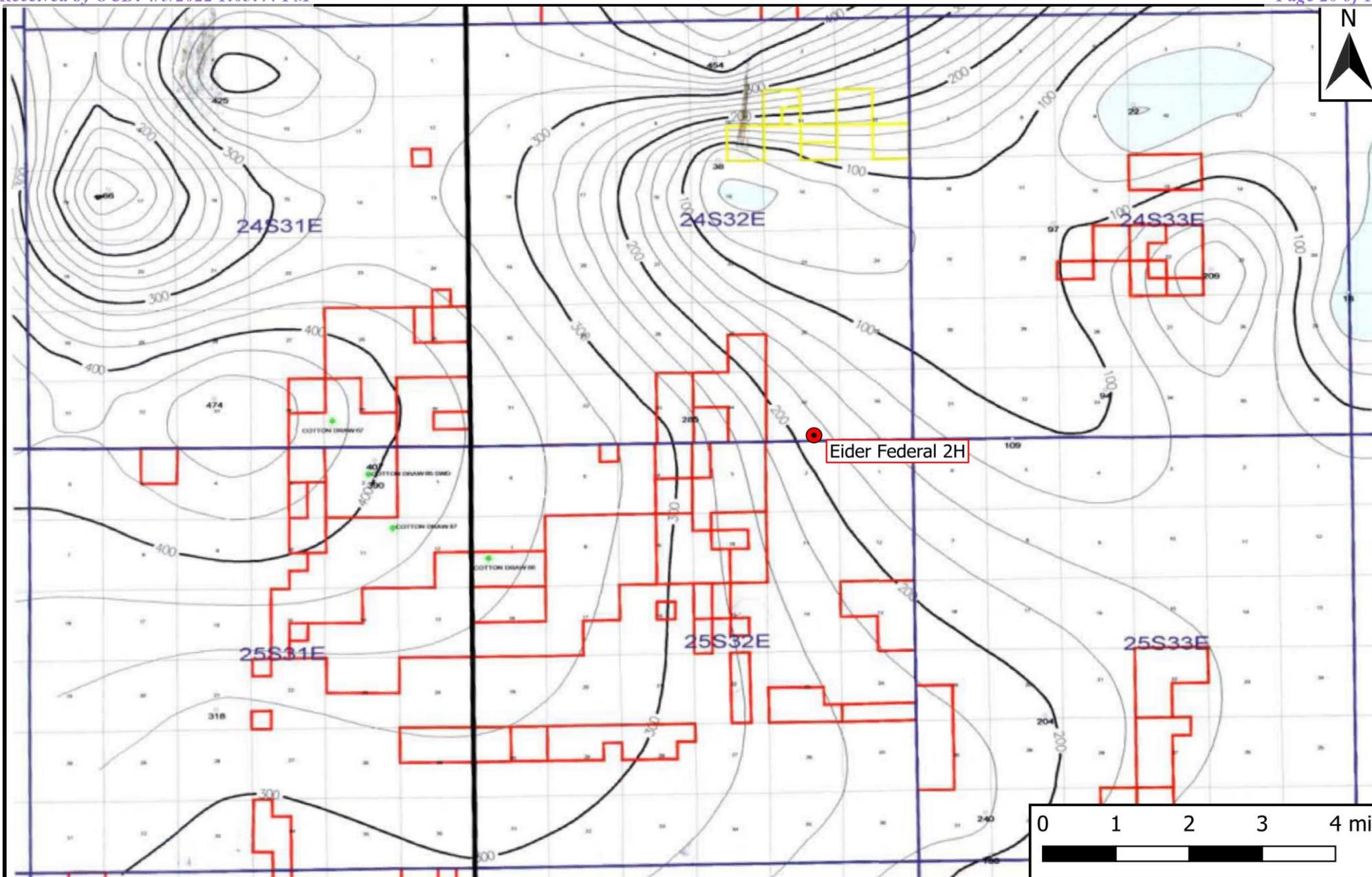
Dash (-): Sample not analyzed for that constituent.

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



Drafted: bja    Checked: jwl    Date: 10/18/21



# 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	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
<a href="#">C_04536 POD1</a>	C	LE		1	2	2	33	24S	32E	625019	3561244	3272	500	314	186

Average Depth to Water: **314 feet**  
 Minimum Depth: **314 feet**  
 Maximum Depth: **314 feet**

**Record Count:** 1

**UTMNAD83 Radius Search (in meters):**

**Easting (X):** 627977.28      **Northing (Y):** 3559844.66      **Radius:** 4023.4

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.

10/26/21 4:58 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)		
<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>
20E37	C 04536 POD1	1	2	2	33	24S	32E	625019	3561244

<b>Driller License:</b> 1706	<b>Driller Company:</b> ELITE DRILLERS CORPORATION	
<b>Driller Name:</b> BRYCE WALLACE		
<b>Drill Start Date:</b> 06/09/2021	<b>Drill Finish Date:</b> 06/10/2021	<b>Plug Date:</b>
<b>Log File Date:</b> 06/21/2021	<b>PCW Rev Date:</b>	<b>Source:</b> Shallow
<b>Pump Type:</b>	<b>Pipe Discharge Size:</b>	<b>Estimated Yield:</b> 4 GPM
<b>Casing Size:</b> 4.30	<b>Depth Well:</b> 500 feet	<b>Depth Water:</b> 314 feet

Water Bearing Stratifications:	Top	Bottom	Description
	235	480	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	300	500

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.

10/26/21 4:14 PM

POINT OF DIVERSION SUMMARY



- Legend
- Site Location
  - Well - USGS
  - 1,000-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: bja      Checked: jwl      Date: 10/18/21



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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**

Lea County, New Mexico

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**

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water- level approval status
1981-03-25			D	72019	107.83		1	Z			A
1986-03-12			D	72019	109.34		1	Z			A
1991-06-06			D	72019	107.58		1	Z			A
1996-03-07			D	72019	108.89		3	S			A
2013-01-17	16:00 UTC	m		72019	118.81		3	S	USGS	S	A

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level date-time accuracy	m	Date is accurate to the Minute
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Status	3	True value is above reported value due to local conditions
Method of measurement	S	Steel-tape measurement.
Method of measurement	Z	Other.
Measuring agency		Not determined
Measuring agency	USGS	U.S. Geological Survey
Source of measurement		Not determined
Source of measurement	S	Measured by personnel of reporting agency.
Water-level approval status	A	Approved for publication -- Processing and review completed.

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**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**

Lea County, New Mexico

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**

<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water-level approval status	
1959-02-18			D	72019	313.40			1	Z		A	
1981-06-12			D	72019	304.40			1	Z		A	
1986-03-11			D	72019	305.21			1	Z		A	
1991-05-29			D	72019	287.45			1	Z		A	
1996-03-14			D	72019	285.40			1	S		A	
2001-02-27			D	72019	288.68			1	S		A	
2013-01-17	16:30 UTC	m		72019	289.69			1	S	USGS	S	A

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level date-time accuracy	m	Date is accurate to the Minute
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	S	Steel-tape measurement.
Method of measurement	Z	Other.
Measuring agency		Not determined
Measuring agency	USGS	U.S. Geological Survey
Source of measurement		Not determined
Source of measurement	S	Measured by personnel of reporting agency.
Water-level approval status	A	Approved for publication -- Processing and review completed.

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0.55 0.35 nadww01

# **Appendix B**

## **Field Data & Soil Profile Logs**





### Sample Log

Date: 10/7/21

Project: Eider Federal 2H

Project Number: 14061 Latitude: 32.16782 Longitude: -103.64268

Sample ID	PID/Odor	Chloride Conc.	GPS
EW1	-	112	
FL1@1'	-	200	
FL2@1'	-	228	
FL3@1'	-	436	
FL4@1'	-	436	
FL5@1'	-	352	
FL6@1'	-	276	
FL7@1'	-	436	
FL8@1'	-	352	
FL9@1'	-	532	
FL10@1'	-	436	
SW	-	580	
FL 14@6"	-	180	
FL 15@6"	-	352	
FL 16@6"	-	152	
FL 17@6"	-	128	
FL 18@6"	-	212	
NW	-	180	
FL 11@1'	-	484	
* FL 12@1'	-	808	
FL 12@2'	-	312	
FL 19@6"	-	212	
FL 20@6"	-	180	
FL 21@6"	-	180	
FL 22@6"	-	292	
FL 23@6"	-	200	
FL 24@6"	-	148	
FL 25@6"	-	172	
FL 26@6"	-	260	
WW	-	228	
FL 13@1'	-	404	
FL 6@2'	-	172	

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

532

683



### 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 dirt  
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](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 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  
 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	
<b>Chloride</b>	<b>704</b>	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			
<b>DRO &gt;C10-C28*</b>	<b>2440</b>	10.0	04/29/2021	ND	216	108	200	3.38			
<b>EXT DRO &gt;C28-C36</b>	<b>537</b>	10.0	04/29/2021	ND							

Surrogate: 1-Chlorooctane 77.8 % 44.3-133

Surrogate: 1-Chlorooctadecane 154 % 38.9-142

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  
 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 @ 2' (H211102-02)**

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) 99.9 % 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
<b>Chloride</b>	<b>16.0</b>	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	
<b>DRO &gt;C10-C28*</b>	<b>54.3</b>	10.0	04/29/2021	ND	216	108	200	3.38	
<b>EXT DRO &gt;C28-C36</b>	<b>15.5</b>	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



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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	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: 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, 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	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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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	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: 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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**Analytical Results For:**

Etech Environmental & Safety Solutions  
 JOEL LOWRY  
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 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: 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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**Analytical Results For:**

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 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: SH @ 1' (H211102-06)**

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) 95.1 % 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	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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**Analytical Results For:**

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

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	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	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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 Lovington NM, 88260  
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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: 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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 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: EH @ SURFACE 0-6" (H211102-09)**

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) 93.0 % 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	04/30/2021	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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 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: EH @ 1' (H211102-10)**

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) 98.5 % 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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 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: 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	
<b>Toluene*</b>	<b>3.50</b>	0.500	04/29/2021	ND	2.02	101	2.00	10.1	
<b>Ethylbenzene*</b>	<b>5.38</b>	0.500	04/29/2021	ND	1.99	99.6	2.00	9.59	
<b>Total Xylenes*</b>	<b>49.4</b>	1.50	04/29/2021	ND	5.73	95.6	6.00	8.93	
<b>Total BTEX</b>	<b>58.3</b>	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
<b>Chloride</b>	<b>560</b>	16.0	04/30/2021	ND	400	100	400	0.00	

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

Surrogate: 1-Chlorooctane 697 % 44.3-133

Surrogate: 1-Chlorooctadecane 818 % 38.9-142

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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  
 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: 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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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	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: 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
<b>Chloride</b>	<b>112</b>	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	
<b>DRO &gt;C10-C28*</b>	<b>496</b>	10.0	04/29/2021	ND	220	110	200	7.31	
<b>EXT DRO &gt;C28-C36</b>	<b>72.1</b>	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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\* = 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  
 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: 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, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>16.0</b>	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	
<b>DRO &gt;C10-C28*</b>	<b>41.2</b>	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	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: 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, 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*	<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	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: V 3 @ 1' (H211102-16)**

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) 92.0 % 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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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager







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October 12, 2021

JOEL LOWRY

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: EIDER FEDERAL 2H

Enclosed are the results of analyses for samples received by the laboratory on 10/07/21 16:45.

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 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:	10/07/2021	Sampling Date:	10/07/2021
Reported:	10/12/2021	Sampling Type:	Soil
Project Name:	EIDER FEDERAL 2H	Sampling Condition:	** (See Notes)
Project Number:	14061	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO., NM		

**Sample ID: EW 1 (H212812-01)**

BTEX 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/09/2021	ND	2.04	102	2.00	6.91		
Toluene*	<0.050	0.050	10/09/2021	ND	1.99	99.3	2.00	6.45		
Ethylbenzene*	<0.050	0.050	10/09/2021	ND	1.95	97.6	2.00	6.28		
Total Xylenes*	<0.150	0.150	10/09/2021	ND	5.91	98.5	6.00	6.36		
Total BTEX	<0.300	0.300	10/09/2021	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	16.0	16.0	10/08/2021	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/08/2021	ND	217	108	200	4.63		
DRO >C10-C28*	<10.0	10.0	10/08/2021	ND	213	106	200	3.62		
EXT DRO >C28-C36	<10.0	10.0	10/08/2021	ND						

Surrogate: 1-Chlorooctane 83.6 % 44.3-133

Surrogate: 1-Chlorooctadecane 81.7 % 38.9-142

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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:	10/07/2021	Sampling Date:	10/07/2021
Reported:	10/12/2021	Sampling Type:	Soil
Project Name:	EIDER FEDERAL 2H	Sampling Condition:	** (See Notes)
Project Number:	14061	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO., NM		

**Sample ID: FL 1 @ 1' (H212812-02)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2021	ND	2.04	102	2.00	6.91	
Toluene*	<0.050	0.050	10/09/2021	ND	1.99	99.3	2.00	6.45	
Ethylbenzene*	<0.050	0.050	10/09/2021	ND	1.95	97.6	2.00	6.28	
Total Xylenes*	<0.150	0.150	10/09/2021	ND	5.91	98.5	6.00	6.36	
Total BTEX	<0.300	0.300	10/09/2021	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	10/08/2021	ND	432	108	400	3.77	

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	10/08/2021	ND	217	108	200	4.63	
DRO >C10-C28*	<10.0	10.0	10/08/2021	ND	213	106	200	3.62	
EXT DRO >C28-C36	<10.0	10.0	10/08/2021	ND					

Surrogate: 1-Chlorooctane 84.0 % 44.3-133

Surrogate: 1-Chlorooctadecane 81.9 % 38.9-142

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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: 10/07/2021  
 Reported: 10/12/2021  
 Project Name: EIDER FEDERAL 2H  
 Project Number: 14061  
 Project Location: COG - LEA CO., NM

Sampling Date: 10/07/2021  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: FL 2 @ 1' (H212812-03)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2021	ND	2.04	102	2.00	6.91	
Toluene*	<0.050	0.050	10/09/2021	ND	1.99	99.3	2.00	6.45	
Ethylbenzene*	<0.050	0.050	10/09/2021	ND	1.95	97.6	2.00	6.28	
Total Xylenes*	<0.150	0.150	10/09/2021	ND	5.91	98.5	6.00	6.36	
Total BTEX	<0.300	0.300	10/09/2021	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/08/2021	ND	432	108	400	3.77	

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	10/08/2021	ND	217	108	200	4.63	
DRO >C10-C28*	<10.0	10.0	10/08/2021	ND	213	106	200	3.62	
EXT DRO >C28-C36	<10.0	10.0	10/08/2021	ND					

Surrogate: 1-Chlorooctane 82.2 % 44.3-133

Surrogate: 1-Chlorooctadecane 80.3 % 38.9-142

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: 10/07/2021  
 Reported: 10/12/2021  
 Project Name: EIDER FEDERAL 2H  
 Project Number: 14061  
 Project Location: COG - LEA CO., NM

Sampling Date: 10/07/2021  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: FL 3 @ 1' (H212812-04)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2021	ND	2.04	102	2.00	6.91	
Toluene*	<0.050	0.050	10/09/2021	ND	1.99	99.3	2.00	6.45	
Ethylbenzene*	<0.050	0.050	10/09/2021	ND	1.95	97.6	2.00	6.28	
Total Xylenes*	<0.150	0.150	10/09/2021	ND	5.91	98.5	6.00	6.36	
Total BTEX	<0.300	0.300	10/09/2021	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	10/08/2021	ND	432	108	400	3.77	

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	10/08/2021	ND	217	108	200	4.63	
DRO >C10-C28*	<10.0	10.0	10/08/2021	ND	213	106	200	3.62	
EXT DRO >C28-C36	<10.0	10.0	10/08/2021	ND					

Surrogate: 1-Chlorooctane 86.9 % 44.3-133

Surrogate: 1-Chlorooctadecane 85.2 % 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  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 10/07/2021  
 Reported: 10/12/2021  
 Project Name: EIDER FEDERAL 2H  
 Project Number: 14061  
 Project Location: COG - LEA CO., NM

Sampling Date: 10/07/2021  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: FL 4 @ 1' (H212812-05)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2021	ND	2.04	102	2.00	6.91	
Toluene*	<0.050	0.050	10/09/2021	ND	1.99	99.3	2.00	6.45	
Ethylbenzene*	<0.050	0.050	10/09/2021	ND	1.95	97.6	2.00	6.28	
Total Xylenes*	<0.150	0.150	10/09/2021	ND	5.91	98.5	6.00	6.36	
Total BTEX	<0.300	0.300	10/09/2021	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	<b>112</b>	16.0	10/08/2021	ND	432	108	400	3.77	

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	10/08/2021	ND	217	108	200	4.63	
<b>DRO &gt;C10-C28*</b>	<b>16.2</b>	10.0	10/08/2021	ND	213	106	200	3.62	
EXT DRO >C28-C36	<10.0	10.0	10/08/2021	ND					

Surrogate: 1-Chlorooctane 89.5 % 44.3-133

Surrogate: 1-Chlorooctadecane 88.4 % 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  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 10/07/2021  
 Reported: 10/12/2021  
 Project Name: EIDER FEDERAL 2H  
 Project Number: 14061  
 Project Location: COG - LEA CO., NM

Sampling Date: 10/07/2021  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: FL 5 @ 1' (H212812-06)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2021	ND	2.04	102	2.00	6.91	
Toluene*	<0.050	0.050	10/09/2021	ND	1.99	99.3	2.00	6.45	
Ethylbenzene*	<0.050	0.050	10/09/2021	ND	1.95	97.6	2.00	6.28	
Total Xylenes*	<0.150	0.150	10/09/2021	ND	5.91	98.5	6.00	6.36	
Total BTEX	<0.300	0.300	10/09/2021	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>32.0</b>	16.0	10/08/2021	ND	432	108	400	3.77	

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	10/08/2021	ND	217	108	200	4.63	
<b>DRO &gt;C10-C28*</b>	<b>16.5</b>	10.0	10/08/2021	ND	213	106	200	3.62	
EXT DRO >C28-C36	<10.0	10.0	10/08/2021	ND					

Surrogate: 1-Chlorooctane 82.3 % 44.3-133

Surrogate: 1-Chlorooctadecane 80.4 % 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  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 10/07/2021  
 Reported: 10/12/2021  
 Project Name: EIDER FEDERAL 2H  
 Project Number: 14061  
 Project Location: COG - LEA CO., NM

Sampling Date: 10/07/2021  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: FL 6 @ 1' (H212812-07)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2021	ND	2.04	102	2.00	6.91	
Toluene*	<0.050	0.050	10/09/2021	ND	1.99	99.3	2.00	6.45	
Ethylbenzene*	<0.050	0.050	10/09/2021	ND	1.95	97.6	2.00	6.28	
Total Xylenes*	<0.150	0.150	10/09/2021	ND	5.91	98.5	6.00	6.36	
Total BTEX	<0.300	0.300	10/09/2021	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
<b>Chloride</b>	<b>112</b>	16.0	10/08/2021	ND	432	108	400	3.77	

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	10/08/2021	ND	217	108	200	4.63	
<b>DRO &gt;C10-C28*</b>	<b>258</b>	10.0	10/08/2021	ND	213	106	200	3.62	
<b>EXT DRO &gt;C28-C36</b>	<b>72.6</b>	10.0	10/08/2021	ND					

Surrogate: 1-Chlorooctane 95.0 % 44.3-133

Surrogate: 1-Chlorooctadecane 101 % 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  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received:	10/07/2021	Sampling Date:	10/07/2021
Reported:	10/12/2021	Sampling Type:	Soil
Project Name:	EIDER FEDERAL 2H	Sampling Condition:	** (See Notes)
Project Number:	14061	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO., NM		

**Sample ID: FL 7 @ 1' (H212812-08)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2021	ND	2.04	102	2.00	6.91	
Toluene*	<0.050	0.050	10/09/2021	ND	1.99	99.3	2.00	6.45	
Ethylbenzene*	<0.050	0.050	10/09/2021	ND	1.95	97.6	2.00	6.28	
Total Xylenes*	<0.150	0.150	10/09/2021	ND	5.91	98.5	6.00	6.36	
Total BTEX	<0.300	0.300	10/09/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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
<b>Chloride</b>	<b>48.0</b>	16.0	10/08/2021	ND	432	108	400	3.77	

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	10/08/2021	ND	187	93.4	200	7.38	
DRO >C10-C28*	<10.0	10.0	10/08/2021	ND	214	107	200	7.12	
EXT DRO >C28-C36	<10.0	10.0	10/08/2021	ND					

Surrogate: 1-Chlorooctane 78.0 % 44.3-133

Surrogate: 1-Chlorooctadecane 73.7 % 38.9-142

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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:	10/07/2021	Sampling Date:	10/07/2021
Reported:	10/12/2021	Sampling Type:	Soil
Project Name:	EIDER FEDERAL 2H	Sampling Condition:	** (See Notes)
Project Number:	14061	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO., NM		

**Sample ID: FL 8 @ 1' (H212812-09)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2021	ND	2.04	102	2.00	6.91	
Toluene*	<0.050	0.050	10/09/2021	ND	1.99	99.3	2.00	6.45	
Ethylbenzene*	<0.050	0.050	10/09/2021	ND	1.95	97.6	2.00	6.28	
Total Xylenes*	<0.150	0.150	10/09/2021	ND	5.91	98.5	6.00	6.36	
Total BTEX	<0.300	0.300	10/09/2021	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>32.0</b>	16.0	10/08/2021	ND	432	108	400	3.77	

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	10/08/2021	ND	187	93.4	200	7.38	
<b>DRO &gt;C10-C28*</b>	<b>18.8</b>	10.0	10/08/2021	ND	214	107	200	7.12	
EXT DRO >C28-C36	<10.0	10.0	10/08/2021	ND					

Surrogate: 1-Chlorooctane 75.1 % 44.3-133

Surrogate: 1-Chlorooctadecane 73.6 % 38.9-142

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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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Celey D. Keene, Lab Director/Quality Manager





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

---

October 13, 2021

JOEL LOWRY

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: EIDER FEDERAL 2H

Enclosed are the results of analyses for samples received by the laboratory on 10/08/21 16:42.

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".

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:	10/08/2021	Sampling Date:	10/08/2021
Reported:	10/13/2021	Sampling Type:	Soil
Project Name:	EIDER FEDERAL 2H	Sampling Condition:	** (See Notes)
Project Number:	14061	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO., NM		

**Sample ID: SW (H212830-01)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/12/2021	ND	1.87	93.5	2.00	2.40	
Toluene*	<0.050	0.050	10/12/2021	ND	1.89	94.6	2.00	3.29	
Ethylbenzene*	<0.050	0.050	10/12/2021	ND	1.87	93.5	2.00	3.19	
Total Xylenes*	<0.150	0.150	10/12/2021	ND	5.61	93.6	6.00	3.67	
Total BTEX	<0.300	0.300	10/12/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	224	16.0	10/12/2021	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/12/2021	ND	195	97.7	200	1.09	
DRO >C10-C28*	<10.0	10.0	10/12/2021	ND	228	114	200	0.122	
EXT DRO >C28-C36	<10.0	10.0	10/12/2021	ND					

Surrogate: 1-Chlorooctane 102 % 44.3-133

Surrogate: 1-Chlorooctadecane 97.5 % 38.9-142

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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: 10/08/2021  
 Reported: 10/13/2021  
 Project Name: EIDER FEDERAL 2H  
 Project Number: 14061  
 Project Location: COG - LEA CO., NM

Sampling Date: 10/08/2021  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 9 @ 1' (H212830-02)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/12/2021	ND	1.70	84.8	2.00	9.10	
Toluene*	<0.050	0.050	10/12/2021	ND	1.69	84.7	2.00	7.79	
Ethylbenzene*	<0.050	0.050	10/12/2021	ND	1.68	84.1	2.00	9.36	
Total Xylenes*	<0.150	0.150	10/12/2021	ND	5.02	83.7	6.00	9.88	
Total BTEX	<0.300	0.300	10/12/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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
<b>Chloride</b>	<b>32.0</b>	16.0	10/12/2021	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/12/2021	ND	195	97.7	200	1.09	
<b>DRO &gt;C10-C28*</b>	<b>36.7</b>	10.0	10/12/2021	ND	228	114	200	0.122	
EXT DRO >C28-C36	<10.0	10.0	10/12/2021	ND					

Surrogate: 1-Chlorooctane 103 % 44.3-133

Surrogate: 1-Chlorooctadecane 98.4 % 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  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 10/08/2021  
 Reported: 10/13/2021  
 Project Name: EIDER FEDERAL 2H  
 Project Number: 14061  
 Project Location: COG - LEA CO., NM

Sampling Date: 10/08/2021  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 10 @ 1' (H212830-03)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/12/2021	ND	1.70	84.8	2.00	9.10	
Toluene*	<0.050	0.050	10/12/2021	ND	1.69	84.7	2.00	7.79	
Ethylbenzene*	<0.050	0.050	10/12/2021	ND	1.68	84.1	2.00	9.36	
Total Xylenes*	<0.150	0.150	10/12/2021	ND	5.02	83.7	6.00	9.88	
Total BTEX	<0.300	0.300	10/12/2021	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	48.0	16.0	10/12/2021	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/12/2021	ND	195	97.7	200	1.09	
DRO >C10-C28*	<10.0	10.0	10/12/2021	ND	228	114	200	0.122	
EXT DRO >C28-C36	<10.0	10.0	10/12/2021	ND					

Surrogate: 1-Chlorooctane 103 % 44.3-133

Surrogate: 1-Chlorooctadecane 99.6 % 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  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received:	10/08/2021	Sampling Date:	10/08/2021
Reported:	10/13/2021	Sampling Type:	Soil
Project Name:	EIDER FEDERAL 2H	Sampling Condition:	** (See Notes)
Project Number:	14061	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO., NM		

**Sample ID: FL 14 @ 6" (H212830-04)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/12/2021	ND	1.70	84.8	2.00	9.10	
Toluene*	<0.050	0.050	10/12/2021	ND	1.69	84.7	2.00	7.79	
Ethylbenzene*	<0.050	0.050	10/12/2021	ND	1.68	84.1	2.00	9.36	
Total Xylenes*	<0.150	0.150	10/12/2021	ND	5.02	83.7	6.00	9.88	
Total BTEX	<0.300	0.300	10/12/2021	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	<16.0	16.0	10/12/2021	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/12/2021	ND	195	97.7	200	1.09	
DRO >C10-C28*	<10.0	10.0	10/12/2021	ND	228	114	200	0.122	
EXT DRO >C28-C36	<10.0	10.0	10/12/2021	ND					

Surrogate: 1-Chlorooctane 98.2 % 44.3-133

Surrogate: 1-Chlorooctadecane 93.0 % 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  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received:	10/08/2021	Sampling Date:	10/08/2021
Reported:	10/13/2021	Sampling Type:	Soil
Project Name:	EIDER FEDERAL 2H	Sampling Condition:	** (See Notes)
Project Number:	14061	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO., NM		

**Sample ID: FL 15 @ 6" (H212830-05)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/12/2021	ND	1.70	84.8	2.00	9.10	
Toluene*	<0.050	0.050	10/12/2021	ND	1.69	84.7	2.00	7.79	
Ethylbenzene*	<0.050	0.050	10/12/2021	ND	1.68	84.1	2.00	9.36	
Total Xylenes*	<0.150	0.150	10/12/2021	ND	5.02	83.7	6.00	9.88	
Total BTEX	<0.300	0.300	10/12/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	10/12/2021	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/12/2021	ND	195	97.7	200	1.09	
DRO >C10-C28*	<10.0	10.0	10/12/2021	ND	228	114	200	0.122	
EXT DRO >C28-C36	<10.0	10.0	10/12/2021	ND					

Surrogate: 1-Chlorooctane 104 % 44.3-133

Surrogate: 1-Chlorooctadecane 99.9 % 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  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 10/08/2021  
 Reported: 10/13/2021  
 Project Name: EIDER FEDERAL 2H  
 Project Number: 14061  
 Project Location: COG - LEA CO., NM

Sampling Date: 10/08/2021  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 16 @ 6" (H212830-06)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/12/2021	ND	1.70	84.8	2.00	9.10	
Toluene*	<0.050	0.050	10/12/2021	ND	1.69	84.7	2.00	7.79	
Ethylbenzene*	<0.050	0.050	10/12/2021	ND	1.68	84.1	2.00	9.36	
Total Xylenes*	<0.150	0.150	10/12/2021	ND	5.02	83.7	6.00	9.88	
Total BTEX	<0.300	0.300	10/12/2021	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	<16.0	16.0	10/12/2021	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/12/2021	ND	195	97.7	200	1.09	
DRO >C10-C28*	<10.0	10.0	10/12/2021	ND	228	114	200	0.122	
EXT DRO >C28-C36	<10.0	10.0	10/12/2021	ND					

Surrogate: 1-Chlorooctane 108 % 44.3-133

Surrogate: 1-Chlorooctadecane 105 % 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  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 10/08/2021  
 Reported: 10/13/2021  
 Project Name: EIDER FEDERAL 2H  
 Project Number: 14061  
 Project Location: COG - LEA CO., NM

Sampling Date: 10/08/2021  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 17 @ 6" (H212830-07)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/12/2021	ND	1.70	84.8	2.00	9.10	
Toluene*	<0.050	0.050	10/12/2021	ND	1.69	84.7	2.00	7.79	
Ethylbenzene*	<0.050	0.050	10/12/2021	ND	1.68	84.1	2.00	9.36	
Total Xylenes*	<0.150	0.150	10/12/2021	ND	5.02	83.7	6.00	9.88	
Total BTEX	<0.300	0.300	10/12/2021	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	<16.0	16.0	10/12/2021	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/12/2021	ND	195	97.7	200	1.09	
DRO >C10-C28*	<10.0	10.0	10/12/2021	ND	228	114	200	0.122	
EXT DRO >C28-C36	<10.0	10.0	10/12/2021	ND					

Surrogate: 1-Chlorooctane 106 % 44.3-133

Surrogate: 1-Chlorooctadecane 103 % 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  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received:	10/08/2021	Sampling Date:	10/08/2021
Reported:	10/13/2021	Sampling Type:	Soil
Project Name:	EIDER FEDERAL 2H	Sampling Condition:	** (See Notes)
Project Number:	14061	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO., NM		

**Sample ID: FL 18 @ 6" (H212830-08)**

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/12/2021	ND	1.70	84.8	2.00	9.10	
Toluene*	<0.050	0.050	10/12/2021	ND	1.69	84.7	2.00	7.79	
Ethylbenzene*	<0.050	0.050	10/12/2021	ND	1.68	84.1	2.00	9.36	
Total Xylenes*	<0.150	0.150	10/12/2021	ND	5.02	83.7	6.00	9.88	
Total BTEX	<0.300	0.300	10/12/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	10/12/2021	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/12/2021	ND	195	97.7	200	1.09	
DRO >C10-C28*	<10.0	10.0	10/12/2021	ND	228	114	200	0.122	
EXT DRO >C28-C36	<10.0	10.0	10/12/2021	ND					

Surrogate: 1-Chlorooctane 125 % 44.3-133

Surrogate: 1-Chlorooctadecane 132 % 38.9-142

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
- 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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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Etech Environmental</u>			<b>BILL TO</b>			<b>ANALYSIS REQUEST</b>																
Project Manager: <u>Joel Lowry</u>			P.O. #:																			
Address: <u>2617 W Marland</u>			Company: <u>COG</u>																			
City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u>			Attn:																			
Phone #: <u>575-964-2880</u> Fax #: <u>—</u>			Address:																			
Project #: <u>14061</u> Project Owner: <u>COG</u>			City:																			
Project Name: <u>Eider Federal 2H</u>			State: Zip:																			
Project Location: <u>Rural Lea County</u>			Phone #:																			
Sampler Name: <u>Jimmy Hand</u>			Fax #:																			
FOR LAB USE ONLY																						
Lab I.D.		Sample I.D.		(GRAB OR C)OMP.	# CONTAINERS	MATRIX			PRESERV.	SAMPLING												
						GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME						
<u>H212830</u>																						
<u>1 SW</u>				<u>C</u>	<u>1</u>			<u>X</u>						<u>X</u>								
<u>2 FL 9 @ 1'</u>																						
<u>3 FL 10 @ 1'</u>																						
<u>4 FL 14 @ 6"</u>																						
<u>5 FL 15 @ 6"</u>																						
<u>6 FL 16 @ 6"</u>																						
<u>7 FL 17 @ 6"</u>																						
<u>8 FL 18 @ 6"</u>																						

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Relinquished By: <u>[Signature]</u>		Date: <u>10/10/21</u>	Received By: <u>[Signature]</u>		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:	
Relinquished By:		Time: <u>1642</u>	Received By:		All Results are emailed. Please provide Email address:	
Date:			Time:		REMARKS: <u>pm@etechenv.com</u>	
Delivered By: (Circle One)		Observed Temp. °C <u>38.0</u>	Sample Condition		Turnaround Time: <u>Standard</u> <input checked="" type="checkbox"/> <u>Rush</u> <input type="checkbox"/>	Bacteria (only) Sample Condition
Sampler - UPS - Bus - Other:		Corrected Temp. °C <u>27.5</u>	Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Thermometer ID #113	Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No
FORM-006 R 3.1 09/04/20			Checked By: <u>[Signature]</u>		Correction Factor <u>None -0.5C</u>	Observed Temp. °C
						Corrected Temp. °C

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



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

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October 14, 2021

JOEL LOWRY

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: EIDER FEDERAL 2H

Enclosed are the results of analyses for samples received by the laboratory on 10/12/21 16:50.

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".

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:	10/12/2021	Sampling Date:	10/12/2021
Reported:	10/14/2021	Sampling Type:	Soil
Project Name:	EIDER FEDERAL 2H	Sampling Condition:	** (See Notes)
Project Number:	14061	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO., NM		

**Sample ID: NW (H212850-01)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/13/2021	ND	1.94	97.2	2.00	5.54	
Toluene*	<0.050	0.050	10/13/2021	ND	1.94	96.8	2.00	5.02	
Ethylbenzene*	<0.050	0.050	10/13/2021	ND	1.93	96.7	2.00	5.42	
Total Xylenes*	<0.150	0.150	10/13/2021	ND	5.83	97.2	6.00	4.98	
Total BTEX	<0.300	0.300	10/13/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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	16.0	16.0	10/13/2021	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/14/2021	ND	196	98.0	200	1.83	
<b>DRO &gt;C10-C28*</b>	<b>40.4</b>	10.0	10/14/2021	ND	231	115	200	2.92	
EXT DRO >C28-C36	<10.0	10.0	10/14/2021	ND					

Surrogate: 1-Chlorooctane 116 % 44.3-133

Surrogate: 1-Chlorooctadecane 114 % 38.9-142

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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: 10/12/2021  
 Reported: 10/14/2021  
 Project Name: EIDER FEDERAL 2H  
 Project Number: 14061  
 Project Location: COG - LEA CO., NM

Sampling Date: 10/12/2021  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 11 @ 1' (H212850-02)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/13/2021	ND	1.94	97.2	2.00	5.54	
Toluene*	<0.050	0.050	10/13/2021	ND	1.94	96.8	2.00	5.02	
Ethylbenzene*	<0.050	0.050	10/13/2021	ND	1.93	96.7	2.00	5.42	
Total Xylenes*	<0.150	0.150	10/13/2021	ND	5.83	97.2	6.00	4.98	
Total BTEX	<0.300	0.300	10/13/2021	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 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	64.0	16.0	10/13/2021	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/14/2021	ND	196	98.0	200	1.83	
DRO >C10-C28*	<10.0	10.0	10/14/2021	ND	231	115	200	2.92	
EXT DRO >C28-C36	<10.0	10.0	10/14/2021	ND					

Surrogate: 1-Chlorooctane 117 % 44.3-133

Surrogate: 1-Chlorooctadecane 120 % 38.9-142

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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: 10/12/2021  
 Reported: 10/14/2021  
 Project Name: EIDER FEDERAL 2H  
 Project Number: 14061  
 Project Location: COG - LEA CO., NM

Sampling Date: 10/12/2021  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 12 @ 2' (H212850-03)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/13/2021	ND	1.94	97.2	2.00	5.54	
Toluene*	<0.050	0.050	10/13/2021	ND	1.94	96.8	2.00	5.02	
Ethylbenzene*	<0.050	0.050	10/13/2021	ND	1.93	96.7	2.00	5.42	
Total Xylenes*	<0.150	0.150	10/13/2021	ND	5.83	97.2	6.00	4.98	
Total BTEX	<0.300	0.300	10/13/2021	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	10/13/2021	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/14/2021	ND	196	98.0	200	1.83	
DRO >C10-C28*	<10.0	10.0	10/14/2021	ND	231	115	200	2.92	
EXT DRO >C28-C36	<10.0	10.0	10/14/2021	ND					

Surrogate: 1-Chlorooctane 117 % 44.3-133

Surrogate: 1-Chlorooctadecane 112 % 38.9-142

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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: 10/12/2021  
 Reported: 10/14/2021  
 Project Name: EIDER FEDERAL 2H  
 Project Number: 14061  
 Project Location: COG - LEA CO., NM

Sampling Date: 10/12/2021  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 19 @ 6" (H212850-04)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/13/2021	ND	1.94	97.2	2.00	5.54	
Toluene*	<0.050	0.050	10/13/2021	ND	1.94	96.8	2.00	5.02	
Ethylbenzene*	<0.050	0.050	10/13/2021	ND	1.93	96.7	2.00	5.42	
Total Xylenes*	<0.150	0.150	10/13/2021	ND	5.83	97.2	6.00	4.98	
Total BTEX	<0.300	0.300	10/13/2021	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	10/13/2021	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/14/2021	ND	196	98.0	200	1.83	
DRO >C10-C28*	<10.0	10.0	10/14/2021	ND	231	115	200	2.92	
EXT DRO >C28-C36	<10.0	10.0	10/14/2021	ND					

Surrogate: 1-Chlorooctane 118 % 44.3-133

Surrogate: 1-Chlorooctadecane 111 % 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  
 2617 W MARLAND  
 HOBBS NM, 88240  
 Fax To:

Received: 10/12/2021  
 Reported: 10/14/2021  
 Project Name: EIDER FEDERAL 2H  
 Project Number: 14061  
 Project Location: COG - LEA CO., NM

Sampling Date: 10/12/2021  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 20 @ 6" (H212850-05)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/13/2021	ND	1.94	97.2	2.00	5.54		
Toluene*	<0.050	0.050	10/13/2021	ND	1.94	96.8	2.00	5.02		
Ethylbenzene*	<0.050	0.050	10/13/2021	ND	1.93	96.7	2.00	5.42		
Total Xylenes*	<0.150	0.150	10/13/2021	ND	5.83	97.2	6.00	4.98		
Total BTEX	<0.300	0.300	10/13/2021	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	16.0	16.0	10/13/2021	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/14/2021	ND	196	98.0	200	1.83		
DRO >C10-C28*	<10.0	10.0	10/14/2021	ND	231	115	200	2.92		
EXT DRO >C28-C36	<10.0	10.0	10/14/2021	ND						

Surrogate: 1-Chlorooctane 112 % 44.3-133

Surrogate: 1-Chlorooctadecane 110 % 38.9-142

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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: 10/12/2021  
 Reported: 10/14/2021  
 Project Name: EIDER FEDERAL 2H  
 Project Number: 14061  
 Project Location: COG - LEA CO., NM

Sampling Date: 10/12/2021  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 21 @ 6" (H212850-06)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/14/2021	ND	1.94	97.2	2.00	5.54		
Toluene*	<0.050	0.050	10/14/2021	ND	1.94	96.8	2.00	5.02		
Ethylbenzene*	<0.050	0.050	10/14/2021	ND	1.93	96.7	2.00	5.42		
Total Xylenes*	<0.150	0.150	10/14/2021	ND	5.83	97.2	6.00	4.98		
Total BTEX	<0.300	0.300	10/14/2021	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 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	16.0	16.0	10/13/2021	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/14/2021	ND	196	98.0	200	1.83		
DRO >C10-C28*	<10.0	10.0	10/14/2021	ND	231	115	200	2.92		
EXT DRO >C28-C36	<10.0	10.0	10/14/2021	ND						

Surrogate: 1-Chlorooctane 114 % 44.3-133

Surrogate: 1-Chlorooctadecane 113 % 38.9-142

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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: 10/12/2021  
 Reported: 10/14/2021  
 Project Name: EIDER FEDERAL 2H  
 Project Number: 14061  
 Project Location: COG - LEA CO., NM

Sampling Date: 10/12/2021  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 22 @ 6" (H212850-07)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/14/2021	ND	1.94	97.2	2.00	5.54		
Toluene*	<0.050	0.050	10/14/2021	ND	1.94	96.8	2.00	5.02		
Ethylbenzene*	<0.050	0.050	10/14/2021	ND	1.93	96.7	2.00	5.42		
Total Xylenes*	<0.150	0.150	10/14/2021	ND	5.83	97.2	6.00	4.98		
Total BTEX	<0.300	0.300	10/14/2021	ND						

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	10/13/2021	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/14/2021	ND	196	98.0	200	1.83		
DRO >C10-C28*	<10.0	10.0	10/14/2021	ND	231	115	200	2.92		
EXT DRO >C28-C36	<10.0	10.0	10/14/2021	ND						

Surrogate: 1-Chlorooctane 112 % 44.3-133

Surrogate: 1-Chlorooctadecane 110 % 38.9-142

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: 10/12/2021  
 Reported: 10/14/2021  
 Project Name: EIDER FEDERAL 2H  
 Project Number: 14061  
 Project Location: COG - LEA CO., NM

Sampling Date: 10/12/2021  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 23 @ 6" (H212850-08)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/14/2021	ND	1.94	97.2	2.00	5.54		
Toluene*	<0.050	0.050	10/14/2021	ND	1.94	96.8	2.00	5.02		
Ethylbenzene*	<0.050	0.050	10/14/2021	ND	1.93	96.7	2.00	5.42		
Total Xylenes*	<0.150	0.150	10/14/2021	ND	5.83	97.2	6.00	4.98		
Total BTEX	<0.300	0.300	10/14/2021	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	<16.0	16.0	10/13/2021	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/14/2021	ND	196	98.0	200	1.83		
DRO >C10-C28*	<10.0	10.0	10/14/2021	ND	231	115	200	2.92		
EXT DRO >C28-C36	<10.0	10.0	10/14/2021	ND						

Surrogate: 1-Chlorooctane 114 % 44.3-133

Surrogate: 1-Chlorooctadecane 112 % 38.9-142

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:	10/12/2021	Sampling Date:	10/12/2021
Reported:	10/14/2021	Sampling Type:	Soil
Project Name:	EIDER FEDERAL 2H	Sampling Condition:	** (See Notes)
Project Number:	14061	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO., NM		

**Sample ID: FL 24 @ 6" (H212850-09)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/14/2021	ND	1.94	97.2	2.00	5.54		
Toluene*	<0.050	0.050	10/14/2021	ND	1.94	96.8	2.00	5.02		
Ethylbenzene*	<0.050	0.050	10/14/2021	ND	1.93	96.7	2.00	5.42		
Total Xylenes*	<0.150	0.150	10/14/2021	ND	5.83	97.2	6.00	4.98		
Total BTEX	<0.300	0.300	10/14/2021	ND						

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	10/13/2021	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/14/2021	ND	196	98.0	200	1.83		
DRO >C10-C28*	<10.0	10.0	10/14/2021	ND	231	115	200	2.92		
EXT DRO >C28-C36	<10.0	10.0	10/14/2021	ND						

Surrogate: 1-Chlorooctane 115 % 44.3-133

Surrogate: 1-Chlorooctadecane 113 % 38.9-142

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: 10/12/2021  
 Reported: 10/14/2021  
 Project Name: EIDER FEDERAL 2H  
 Project Number: 14061  
 Project Location: COG - LEA CO., NM

Sampling Date: 10/12/2021  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 25 @ 6" (H212850-10)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/14/2021	ND	1.94	97.2	2.00	5.54	
Toluene*	<0.050	0.050	10/14/2021	ND	1.94	96.8	2.00	5.02	
Ethylbenzene*	<0.050	0.050	10/14/2021	ND	1.93	96.7	2.00	5.42	
Total Xylenes*	<0.150	0.150	10/14/2021	ND	5.83	97.2	6.00	4.98	
Total BTEX	<0.300	0.300	10/14/2021	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/13/2021	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/14/2021	ND	196	98.0	200	1.83	
DRO >C10-C28*	<10.0	10.0	10/14/2021	ND	231	115	200	2.92	
EXT DRO >C28-C36	<10.0	10.0	10/14/2021	ND					

Surrogate: 1-Chlorooctane 112 % 44.3-133

Surrogate: 1-Chlorooctadecane 110 % 38.9-142

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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: 10/12/2021  
 Reported: 10/14/2021  
 Project Name: EIDER FEDERAL 2H  
 Project Number: 14061  
 Project Location: COG - LEA CO., NM

Sampling Date: 10/12/2021  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 26 @ 6" (H212850-11)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/14/2021	ND	1.94	97.2	2.00	5.54	
Toluene*	<0.050	0.050	10/14/2021	ND	1.94	96.8	2.00	5.02	
Ethylbenzene*	<0.050	0.050	10/14/2021	ND	1.93	96.7	2.00	5.42	
Total Xylenes*	<0.150	0.150	10/14/2021	ND	5.83	97.2	6.00	4.98	
Total BTEX	<0.300	0.300	10/14/2021	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	10/13/2021	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/14/2021	ND	196	98.0	200	1.83	
DRO >C10-C28*	<10.0	10.0	10/14/2021	ND	231	115	200	2.92	
EXT DRO >C28-C36	<10.0	10.0	10/14/2021	ND					

Surrogate: 1-Chlorooctane 108 % 44.3-133

Surrogate: 1-Chlorooctadecane 107 % 38.9-142

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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: 10/12/2021  
 Reported: 10/14/2021  
 Project Name: EIDER FEDERAL 2H  
 Project Number: 14061  
 Project Location: COG - LEA CO., NM

Sampling Date: 10/12/2021  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: WW (H212850-12)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/14/2021	ND	1.94	97.2	2.00	5.54	
Toluene*	<0.050	0.050	10/14/2021	ND	1.94	96.8	2.00	5.02	
Ethylbenzene*	<0.050	0.050	10/14/2021	ND	1.93	96.7	2.00	5.42	
Total Xylenes*	<0.150	0.150	10/14/2021	ND	5.83	97.2	6.00	4.98	
Total BTEX	<0.300	0.300	10/14/2021	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	10/13/2021	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/14/2021	ND	196	98.0	200	1.83	
DRO >C10-C28*	<10.0	10.0	10/14/2021	ND	231	115	200	2.92	
EXT DRO >C28-C36	<10.0	10.0	10/14/2021	ND					

Surrogate: 1-Chlorooctane 113 % 44.3-133

Surrogate: 1-Chlorooctadecane 112 % 38.9-142

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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: 10/12/2021  
 Reported: 10/14/2021  
 Project Name: EIDER FEDERAL 2H  
 Project Number: 14061  
 Project Location: COG - LEA CO., NM

Sampling Date: 10/12/2021  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: FL 13 @ 1' (H212850-13)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/14/2021	ND	1.94	97.2	2.00	5.54	
Toluene*	<0.050	0.050	10/14/2021	ND	1.94	96.8	2.00	5.02	
Ethylbenzene*	<0.050	0.050	10/14/2021	ND	1.93	96.7	2.00	5.42	
Total Xylenes*	<0.150	0.150	10/14/2021	ND	5.83	97.2	6.00	4.98	
Total BTEX	<0.300	0.300	10/14/2021	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	10/13/2021	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/14/2021	ND	196	98.0	200	1.83	
DRO >C10-C28*	<10.0	10.0	10/14/2021	ND	231	115	200	2.92	
EXT DRO >C28-C36	<10.0	10.0	10/14/2021	ND					

Surrogate: 1-Chlorooctane 112 % 44.3-133

Surrogate: 1-Chlorooctadecane 109 % 38.9-142

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\*=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

Cardinal Laboratories

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager





CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Etch Environmental
Project Manager: Joel Lowery
Address: 2617 W Marland
City: Hobbs State: NM Zip: 88240
Phone #: 575-964-2880 Fax #:
Project #: 14061 Project Owner: COG
Project Name: Eider Federal 2H
Project Location: Lea County, NM
Sampler Name:
BILL TO ANALYSIS REQUEST
Lab I.D. Sample I.D. (G)RAB OR (C)OMP. # CONTAINERS
MATRIX: GROUNDWATER, WASTEWATER, SOIL, OIL, SLUDGE, OTHER
PRESERV: ACID/BASE, ICE / COOL, OTHER
SAMPLING: DATE, TIME
Chlorides, BTEX, TPH

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses.

Relinquished By: [Signature] Date: 10-12-21 Received By: [Signature] Date: 10-13-21
Time: 1650
Observed Temp. °C 29.9 Sample Condition Cool Intact CHECKED BY: TO
Corrected Temp. °C 29.4
Turnaround Time: Standard [X] Rush [ ] Bacteria (only) Sample Condition Cool Intact Observed Temp. °C
Thermometer ID #113 Correction Factor None -0.5°C

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



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

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October 14, 2021

JOEL LOWRY

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: EIDER FEDERAL 2H

Enclosed are the results of analyses for samples received by the laboratory on 10/13/21 16:25.

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".

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:	10/13/2021	Sampling Date:	10/13/2021
Reported:	10/14/2021	Sampling Type:	Soil
Project Name:	EIDER FEDERAL 2H	Sampling Condition:	** (See Notes)
Project Number:	14061	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO., NM		

**Sample ID: FL 6 @ 2' (H212878-01)**

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	10/14/2021	ND	207	104	200	5.94		
DRO >C10-C28*	<10.0	10.0	10/14/2021	ND	215	108	200	3.89		
EXT DRO >C28-C36	<10.0	10.0	10/14/2021	ND						
<hr/>										
Surrogate: 1-Chlorooctane	141 %	44.3-133								
Surrogate: 1-Chlorooctadecane	150 %	38.9-142								

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

Notes and Definitions

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

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>Etech Environmental</u>		<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>															
Project Manager: <u>Joel Lowery</u>		P.O. #:																			
Address: <u>2617 W Marland</u>		Company: <u>COG</u>																			
City: <u>Hobbs</u> State: <u>NM</u> Zip: <u>88240</u>		Attn:																			
Phone #: <u>575-964-2880</u> Fax #:		Address:																			
Project #: <u>14061</u> Project Owner: <u>COG</u>		City:																			
Project Name: <u>Eider Federal 2H</u>		State: Zip:																			
Project Location: <u>Royal Lea Co, Nm</u>		Phone #:																			
Sampler Name: <u>Jimmy Hard</u>		Fax #:																			
FOR LAB USE ONLY				MATRIX		PRESERV.		SAMPLING													
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE/COOL	OTHER:	DATE	TIME	TPH						
<u>H212878</u>	<u>FL602</u>	<u>1</u>				<u>X</u>					<u>X</u>		<u>10-13-21</u>								

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable services. 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: <u>[Signature]</u>	Date: <u>10-13-21</u>	Received By: <u>[Signature]</u>	Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
	Time: <u>1625</u>		All Results are emailed. Please provide Email address:	
Relinquished By:	Date:	Received By:	<u>pm@etechenv.com</u>	
	Time:		REMARKS:	
Delivered By: (Circle One)	Observed Temp. °C <u>20.1</u>	Sample Condition	Turnaround Time: <b>Standard</b> <input type="checkbox"/> <b>Rush</b> <input checked="" type="checkbox"/>	Bacteria (only) Sample Condition
Sampler - UPS - Bus - Other:	Corrected Temp. °C <u>19.6</u>	Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Thermometer ID #113	Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No
		Checked By: (Initials) <u>TO.</u>	Correction Factor <u>None - 0.5c TD.</u>	Observed Temp. °C
				Corrected Temp. °C

FORM 000 R 3.1 00/04/20

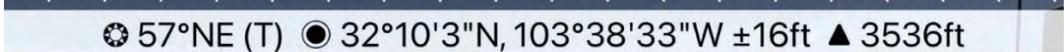
† Cardinal cannot accept verbal changes. Please email changes to [celey.keene@cardinallabsnm.com](mailto:celey.keene@cardinallabsnm.com)

# **Appendix D**

## **Photographic Log**

### Photographic Log

<b>Photo Number:</b> 1	
<b>Photo Direction:</b> Northeast	
<b>Photo Description:</b>  View of the affected area.	<p>☀ 36°NE (T) ● 32°10'3"N, 103°38'33"W ±16ft ▲ 3536ft</p>  <p>Your Watermark - See Settings <span style="float: right;">07 Apr 2021, 13:09:40</span></p>

<b>Photo Number:</b> 2	
<b>Photo Direction:</b> Northeast	
<b>Photo Description:</b>  View of the affected area.	<p>☀ 57°NE (T) ● 32°10'3"N, 103°38'33"W ±16ft ▲ 3536ft</p>  <p>Your Watermark - See Settings <span style="float: right;">07 Apr 2021, 13:09:36</span></p>

### Photographic Log

<b>Photo Number:</b> 3	 <p>+32.167811,-103.642272 10/15/21, 12:04 PM</p>
<b>Photo Direction:</b> Southwest	
<b>Photo Description:</b>  View of the excavated area.	

<b>Photo Number:</b> 4	 <p>+32.167687,-103.642747 10/19/21, 1:46 PM</p>
<b>Photo Direction:</b> Northeast	
<b>Photo Description:</b>  View of the remediated area following backfilling and regrading.	

### Photographic Log

<b>Photo Number:</b> 5	 <p>+32.167781,-103.642797 10/19/21, 1:46 PM</p>
<b>Photo Direction:</b> East	
<b>Photo Description:</b>  View of the remediated area following backfilling and regrading.	

<b>Photo Number:</b> 6	 <p>+32.167858,-103.642255 10/19/21, 1:48 PM</p>
<b>Photo Direction:</b> Southwest	
<b>Photo Description:</b>  View of the remediated area following backfilling and regrading.	

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

CONDITIONS

Action 96099

**CONDITIONS**

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 96099
	Action Type: [C-141] Release Corrective Action (C-141)

**CONDITIONS**

Created By	Condition	Condition Date
jnobui	Deferral Request Approved. Going forward, avoid collecting confirmation soil samples in a linear pattern as it is not the best statistical or spatial representation.	5/13/2022