

Incident ID	nAPP2213659126
District RP	
Facility ID	
Application ID	

Closure

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

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

- A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- Description of remediation activities

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

Printed Name: Connor Walker _____ Title: Sr. Engineer _____
 Signature:  _____ Date: 11/18/2022 _____
 email: cwalker@mewbourne.com _____ Telephone: (806)202-5281 _____

OCD Only

Received by: Jocelyn Harimon _____ Date: 11/18/2022 _____

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

Closure Approved by:  _____ Date: 2/17/2023 _____
 Printed Name: Robert Hamlet _____ Title: Environmental Specialist - Advanced _____

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Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	65 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

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

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

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

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Printed Name: Connor Walker Title: Sr. Engineer

Signature:  Date: 11/18/2022

email: cwalker@mewbourne.com Telephone: (806)202-5281

OCD Only

Received by: Jocelyn Harimon Date: 11/18/2022

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

Printed Name: Connor Walker _____ Title: Sr. Engineer _____
 Signature:  _____ Date: 11/18/2022 _____
 email: cwalker@mewbourne.com _____ Telephone: (806)202-5281 _____

OCD Only

Received by: Jocelyn Harimon _____ Date: 11/18/2022 _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Remediation Summary & Soil Closure Request

Mewbourne Oil Company Aureus-Zuma Frac Line

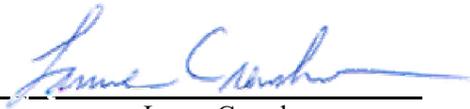
Eddy County, New Mexico
Unit Letter "D", Section 25, Township 26 South, Range 29 East
Latitude 32.0166830 North, Longitude 103.943324 West
NMOCD Reference No. nAPP2213659126

Prepared By:

Etech Environmental & Safety Solutions, Inc.
6309 Indiana Ave, Ste. D
Lubbock, Texas 79413



Ben J. Arguijo



Lance Crenshaw



Midland • San Antonio • Lubbock • Hobbs • Lafayette

TABLE OF CONTENTS

	<i>Section</i>
PROJECT INFORMATION.....	1.0
SITE CHARACTERIZATION.....	2.0
CLOSURE CRITERIA FOR SOILS IMPACTED BY A RELEASE.....	3.0
INITIAL SITE ASSESSMENT.....	4.0
REMEDIATION ACTIVITIES SUMMARY.....	5.0
RESTORATION, RECLAMATION & RE-VEGETATION PLAN.....	6.0
SOIL CLOSURE REQUEST.....	7.0
LIMITATIONS.....	8.0
DISTRIBUTION.....	9.0

FIGURES

- Figure 1 - Topographic Map
- Figure 2 - Site Characterization Map
- Figure 3 - Site & Sample Location Map

TABLES

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

APPENDICES

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

1.0 PROJECT INFORMATION

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of Mewbourne Oil Company, has prepared this *Remediation Summary & Soil Closure Request* for the release site known as the Aureus-Zuma Frac Line. Details of the release are summarized below:

Location of Release Source				
Latitude: <u>32.0166830</u>		Longitude: <u>-103.943324</u>		
Provided GPS are in WGS84 format.				
Site Name: <u>Aureus-Zuma Frac Line</u>		Site Type: <u>Pipeline</u>		
Date Release Discovered: <u>5/2/2022</u>		API # (if applicable): <u>N/A</u>		
Unit Letter	Section	Township	Range	County
"D"	25	26S	29E	Eddy
Surface Owner: <input type="checkbox"/> State <input checked="" type="checkbox"/> Federal <input type="checkbox"/> Tribal <input type="checkbox"/> Private (Name _____)				
Nature and Volume of Release				
<input type="checkbox"/> Crude Oil	Volume Released (bbls)		Volume Recovered (bbls)	
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) <u>434</u>		Volume Recovered (bbls) <u>0</u>	
	Is the concentration of total dissolved solids (TDS) in the produced water > 10,000 mg/L?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<input type="checkbox"/> Condensate	Volume Released (bbls)		Volume Recovered (bbls)	
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)		Volume Recovered (Mcf)	
<input type="checkbox"/> Other (describe)	Volume/Weight Released		Volume/Weight Recovered	
Cause of Release: A discharge line downstream of a booster pump burst due to overpressure.				
Initial Response				
<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 in 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 Aureus-Zuma Frac Line release site. Probable groundwater depth was determined using data generated by numeric models based on available water well data and published information. Depth to groundwater information is provided as Appendix A.

What is the shallowest depth to groundwater beneath the area affected by the release?	65'		
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 checked="" type="checkbox"/> Yes	<input 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 Aureus-Zuma Frac Line release site are as follows:

Probable Depth to Groundwater	Constituent	Laboratory Analytical Method	Closure Criteria*†	Reclamation Standard*‡
65'	Chloride (Cl-)	EPA 300.0 or SM4500 Cl B	600	600
	Total Petroleum Hydrocarbons (TPH)	EPA SW-846 Method 8015M Ext	100	100
	Gas Range Organics + Diesel Range Organics (GRO + DRO)	EPA SW-846 Method 8015M	N/A	N/A
	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 September 13, 2022, Etech conducted an initial site assessment. During the initial site assessment, thirteen (13) hand-augered soil bores (SP 1 through SP 13) were advanced along an ephemeral wash near the point of release that was inferred to have been impacted by the spill. During the advancement of the hand-augered soil bores, soil samples were collected and field-screened for the presence of Volatile Organic Compounds (VOCs) utilizing olfactory/visual senses and/or concentrations of chloride utilizing a Hach Quantab® chloride test kit. The soil bores were advanced in one (1) foot increments until field tests and field observations suggested BTEX, TPH, and chloride concentrations were below the applicable NMOCD Closure Criteria and NMOCD Reclamation Standards.

Based on field observations and field test data, a total of 26 delineation soil samples (SP 1 @ Surf., SP 1 @ 1', SP 2 @ Surf., SP 2 @ 1', SP 3 @ Surf., SP 3 @ 1', SP 4 @ Surf., SP 4 @ 1', SP 5 @ Surf., SP 5 @ 1', SP 6 @ Surf., SP 6 @ 1', SP 7 @ Surf., SP 7 @ 1', SP 8 @ Surf., SP 8 @ 1', SP 9 @ Surf., SP 9 @ 1', SP 10 @ Surf., SP 10 @ 1', SP 11 @ Surf., SP 11 @ 1', SP 12 @ Surf., SP 12 @ 1', SP 13 @ Surf., and SP 13 @ 1') were submitted to a certified, commercial laboratory (henceforth, "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. BTEX, TPH, and chloride concentrations were also below the applicable laboratory method detection limit (MDL), with the exceptions of soil samples SP 1 @ 1', SP 5 @ Surf., SP 5 @ 1', and SP 6 @ 1', which exhibited chloride concentrations ranging from 16.0 mg/kg to 32.0 mg/kg. Based on laboratory analytical results, soil in the ephemeral wash was not affected above background concentrations, and no additional remedial action was required in the areas characterized by sample points SP 1 through SP 13.

The locations of the hand-augered soil bores are depicted in Figure 3, "Site & Sample Location Map".

5.0 REMEDIATION ACTIVITIES SUMMARY

On September 14, 2022, remediation activities commenced at the release site. In accordance with NMOCD regulatory guidelines, impacted soil affected above the NMOCD Closure Criteria and NMOCD Reclamation Standards was excavated and stockpiled on-site, pending transfer to an NMOCD-permitted surface waste facility for disposal. Olfactory/visual senses and/or a Hach Quantab® chloride test kit were utilized to field-screen the horizontal extent of impacted soil and to guide the excavation. The sidewalls and floors 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. Representative five-point composite confirmation soil samples were collected every 200 square feet from the sidewalls and floor of the excavated area to be submitted for laboratory analysis.

On September 15, 2022, Etech collected six (6) confirmation soil samples (EW 1, WW 3, FS 5 @ 1', FS 6 @ 1', FS 7 @ 1', and FS 10 @ 1') 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. BTEX and TPH concentrations were also below the applicable laboratory MDL, with the exception of soil sample WW 3, which exhibited a TPH concentration of 15.0 mg/kg. Chloride concentrations ranged from 128 mg/kg in soil sample WW 3 to 576 mg/kg in soil sample FS 10 @ 1'.

On September 16, 2022, Etech collected 24 confirmation soil samples (EW 2 through EW 6, WW 1, WW 2, WW 4 through WW 7, FS 1 @ 1' through FS 4 @ 1', FS 8 @ 2', FS 9 @ 2', and FS 11 @ 1' through FS 17 @ 1') 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. BTEX and TPH concentrations were also below the applicable laboratory MDL, with the exception of soil sample WW 5, which exhibited a TPH concentration of 10.1 mg/kg. Chloride concentrations ranged from 32.0 mg/kg in soil sample WW 1 to 368 mg/kg in soil sample WW 5.

On September 19, 2022, Etech collected 21 confirmation soil samples (EW 7, EW 8, EW 9, EW 11, SW 1, WW 8 through WW 11, FS 18 @ 3' through FS 28 @ 1', and FS 30 @ 1') 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. BTEX and TPH concentrations were also below the applicable laboratory MDL. Chloride concentrations ranged from 16.0 mg/kg in soil sample FS 26 @ 1' to 448 mg/kg in soil sample FS 18 @ 3'.

On September 20, 2022, Etech collected 11 confirmation soil samples (EW 10, EW 12, WW 12, WW 14, FS 29 @ 2', and FS 31 @ 1' through FS 36 @ 2') 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. BTEX and TPH concentrations were also below the applicable laboratory MDL. Chloride concentrations ranged from 32.0 mg/kg in soil samples WW 12 and WW 14 to 288 mg/kg in soil sample FS 33 @ 1'.

On September 21, 2022, Etech collected seven (7) confirmation soil samples (NW 1, EW 13, EW 14, WW 13, FS 37 @ 2', FS 38 @ 2', and FS 39 @ 2') 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. BTEX and TPH concentrations were also below the applicable laboratory MDL. Chloride concentrations ranged from 16.0 mg/kg in soil samples EW 13 and WW 13 to 160 mg/kg in soil sample FS 39 @ 2'.

The final dimensions of the excavated area were approximately 728 feet in length, 12 to 38 feet in width, and one (1) to five (5) feet in depth. During the course of remediation activities, Etech transported approximately 1,196 cubic yards of impacted soil to an NMOCD-permitted surface waste facility for disposal and imported approximately 1,342 cubic yards of locally sourced, non-impacted material to the site for use as backfill.

Soil sample locations and the extent of the excavated area are depicted in Figure 3, "Site & Sample Location Map". Soil chemistry data is summarized in Table 1. Field data and soil profile logs are provided in Appendix B. General photographs of the site are provided in Appendix C. Laboratory analytical reports are provided in Appendix D. Copies of all regulatory correspondence are provided in Appendix E.

6.0 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 compacted and contoured to achieve erosion control, stability, and preservation of surface water flow, to the extent practicable. Affected areas not on production pads and/or lease roads will be reseeded with an agency and/or landowner-approved seed mixture during the first favorable growing season following closure of the site.

7.0 SOIL CLOSURE REQUEST

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

Based on laboratory analytical results and field activities conducted to date, Etech recommends Mewbourne Oil Company provide copies of this *Remediation Summary & Soil Closure Request* to the appropriate agencies and request closure be granted to the Aureus-Zuma Frac Line release site.

8.0 LIMITATIONS

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

This report has been prepared for the benefit of Mewbourne Oil Company. Use of the information contained in this report is prohibited without the consent of Etech and/or Mewbourne Oil Company.

9.0 DISTRIBUTION

Mewbourne Oil Company

4801 Business Park Blvd.

Hobbs, NM 88240

New Mexico Energy, Minerals and Natural Resources Department

Oil Conservation Division, District 2

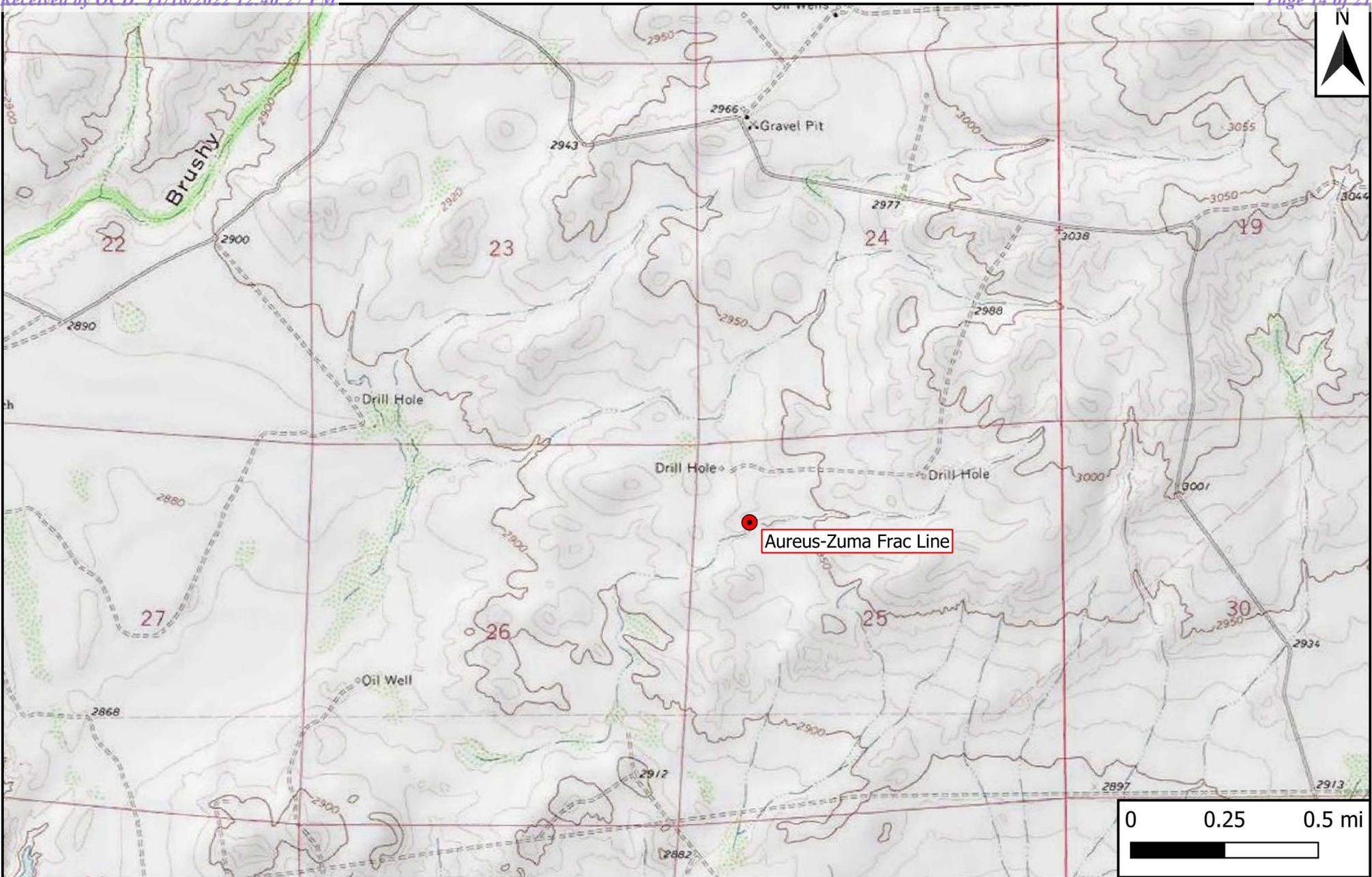
811 S. First Street

Artesia, NM 88210

(Electronic Submission)

Figure 1

Topographic Map



Legend
 ● Site Location

Figure 1
 Topographic Map
 Mewbourne Oil Company
 Aureus-Zuma Frac Line
 GPS: 32.016683, -103.943324
 Eddy County

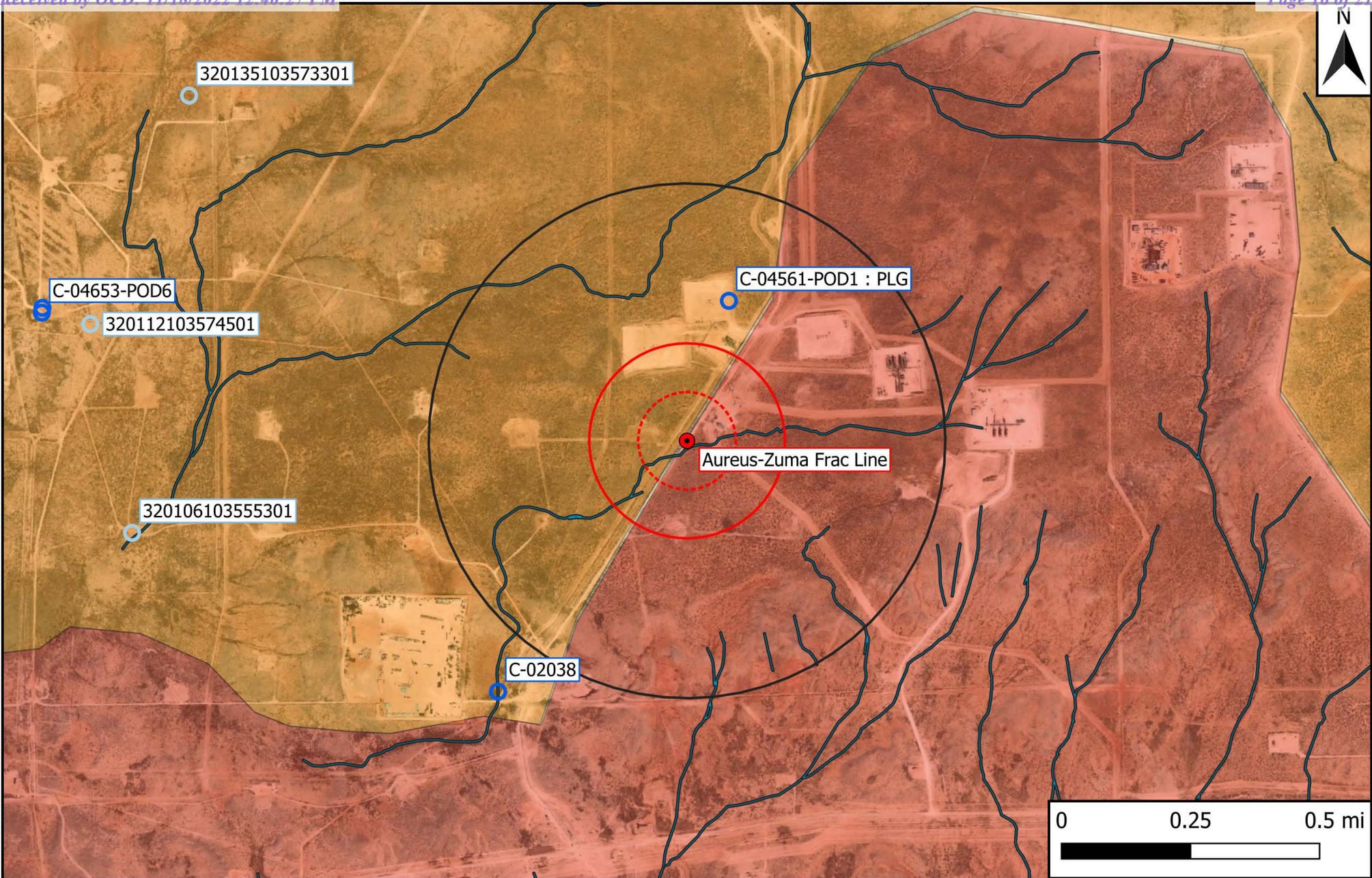


Drafted: bja

Checked: lc

Date: 9/13/22

Figure 2 Site Characterization Map



Legend			
	Site Location		500-Ft Radius
	Well - NMOSE		1,000-Ft Radius
	Well - USGS		0.5-Mi Radius
	Well - Exploratory/Monitor		Municipal Boundary
	Potash Mine Workings		1% Annual Flood Chance
	Emergent/Forested Wetlands		Freshwater Pond/Lake
	Karst Potential (Low/Med./High)		Riverine

Figure 2
 Site Characterization Map
 Mewbourne Oil Company
 Aureus-Zuma Frac Line
 GPS: 32.016683, -103.943324
 Eddy County



Drafted: bja Checked: lc Date: 9/13/22

Figure 3 Site & Sample Location Map



Legend	
	Excavation Extent
	Composite Floor Sample
	Composite Wall Sample
	Delineation Sample Location

Figure 3
 Site & Sample Location Map
 Mewbourne Oil Company
 Aureus-Zuma Frac Line
 GPS: 32.016683, -103.943324
 Eddy County



eTECH
 Environmental & Safety Solutions, Inc.



Drafted: bja
Checked: lc
Date: 11/16/2022

Table 1
Concentrations of BTEX, TPH & Chloride in Soil

Table 1 Concentrations of BTEX, TPH & Chloride in Soil Mewbourne Oil Company Aureus-Zuma Frac Line NMOCD Ref. #: nAPP2213659126											
NMOCD Closure Criteria				10	50	N/A	N/A	N/A	N/A	100	600
NMOCD Reclamation Standard				10	50	N/A	N/A	N/A	N/A	100	600
Sample ID	Date	Depth (Feet)	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500 Cl
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
Delineation Samples											
SP 1 @ Surf.	9/13/2022	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 1 @ 1'	9/13/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
SP 2 @ Surf.	9/13/2022	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 2 @ 1'	9/13/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 3 @ Surf.	9/13/2022	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 3 @ 1'	9/13/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 4 @ Surf.	9/13/2022	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 4 @ 1'	9/13/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 5 @ Surf.	9/13/2022	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
SP 5 @ 1'	9/13/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
SP 6 @ Surf.	9/13/2022	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 6 @ 1'	9/13/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
SP 7 @ Surf.	9/13/2022	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 7 @ 1'	9/13/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 8 @ Surf.	9/13/2022	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 8 @ 1'	9/13/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 9 @ Surf.	9/13/2022	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 9 @ 1'	9/13/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 10 @ Surf.	9/13/2022	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 10 @ 1'	9/13/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 11 @ Surf.	9/13/2022	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 11 @ 1'	9/13/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 12 @ Surf.	9/13/2022	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 12 @ 1'	9/13/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 13 @ Surf.	9/13/2022	0	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
SP 13 @ 1'	9/13/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	<16.0
Excavation Samples											
NW 1	9/21/2022	0-2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	96.0
EW 1	9/15/2022	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	240
EW 2	9/16/2022	0-2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	256
EW 3	9/16/2022	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	128
EW 4	9/16/2022	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	208
EW 5	9/16/2022	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	144
EW 6	9/16/2022	0-3	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	64.0
EW 7	9/19/2022	0-1.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	128
EW 8	9/19/2022	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
EW 9	9/19/2022	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	176
EW 10	9/20/2022	0-2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	208
EW 11	9/19/2022	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	48.0
EW 12	9/20/2022	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	128

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

Bold: NMOCD Closure Criteria exceedance.

Red: NMOCD Reclamation Standard exceedance.

Table 1 Concentrations of BTEX, TPH & Chloride in Soil Mewbourne Oil Company Aureus-Zuma Frac Line NMOCD Ref. #: nAPP2213659126											
NMOCD Closure Criteria				10	50	N/A	N/A	N/A	N/A	100	600
NMOCD Reclamation Standard				10	50	N/A	N/A	N/A	N/A	100	600
Sample ID	Date	Depth (Feet)	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500 Cl
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
EW 13	9/21/2022	0-2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
EW 14	9/21/2022	0-2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	64.0
SW 1	9/19/2022	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	192
WW 1	9/16/2022	0-3	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
WW 2	9/16/2022	0-5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	144
WW 3	9/15/2022	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	15.0	15.0	128
WW 4	9/16/2022	0-2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	320
WW 5	9/16/2022	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	10.1	10.1	368
WW 6	9/16/2022	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	160
WW 7	9/16/2022	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	240
WW 8	9/19/2022	0-3	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	144
WW 9	9/19/2022	0-1.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	80.0
WW 10	9/19/2022	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	64.0
WW 11	9/19/2022	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	320
WW 12	9/20/2022	0-2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
WW 13	9/21/2022	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
WW 14	9/20/2022	0-1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
FS 1 @ 1'	9/16/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	80.0
FS 2 @ 3'	9/16/2022	3	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	144
FS 3 @ 5'	9/16/2022	5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	224
FS 4 @ 1'	9/16/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	64.0
FS 5 @ 1'	9/15/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	160
FS 6 @ 1'	9/15/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	288
FS 7 @ 1'	9/15/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	416
FS 8 @ 2'	9/16/2022	2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	112
FS 9 @ 2'	9/16/2022	2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	144
FS 10 @ 1'	9/15/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	576
FS 11 @ 1'	9/16/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	304
FS 12 @ 1'	9/16/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	304
FS 13 @ 1'	9/16/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	128
FS 14 @ 1'	9/16/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	128
FS 15 @ 1'	9/16/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	240
FS 16 @ 1'	9/16/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	176
FS 17 @ 1'	9/16/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	112
FS 18 @ 3'	9/19/2022	3	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	448
FS 19 @ 3'	9/19/2022	3	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	208
FS 20 @ 1.5'	9/19/2022	1.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	160
FS 21 @ 1.5'	9/19/2022	1.5	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	224
FS 22 @ 1'	9/19/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
FS 23 @ 1'	9/19/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
FS 24 @ 1'	9/19/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	48.0

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

Bold: NMOCD Closure Criteria exceedance.

Red: NMOCD Reclamation Standard exceedance.

Table 1 Concentrations of BTEX, TPH & Chloride in Soil Mewbourne Oil Company Aureus-Zuma Frac Line NMOCD Ref. #: nAPP2213659126											
NMOCD Closure Criteria				10	50	N/A	N/A	N/A	N/A	100	600
NMOCD Reclamation Standard				10	50	N/A	N/A	N/A	N/A	100	600
Sample ID	Date	Depth (Feet)	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500 Cl
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
FS 25 @ 1'	9/19/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	32.0
FS 26 @ 1'	9/19/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	16.0
FS 27 @ 1'	9/19/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	64.0
FS 28 @ 1'	9/19/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	96.0
FS 29 @ 2'	9/20/2022	2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	160
FS 30 @ 1'	9/19/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	112
FS 31 @ 1'	9/20/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	224
FS 32 @ 1'	9/20/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	144
FS 33 @ 1'	9/20/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	288
FS 34 @ 1'	9/20/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	176
FS 35 @ 1'	9/20/2022	1	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	272
FS 36 @ 2'	9/20/2022	2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	192
FS 37 @ 2'	9/21/2022	2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	128
FS 38 @ 2'	9/21/2022	2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	80.0
FS 39 @ 2'	9/21/2022	2	In-Situ	<0.050	<0.300	<10.0	<10.0	<20.0	<10.0	<30.0	160

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

Bold: NMOCD Closure Criteria exceedance.

Red: NMOCD Reclamation Standard exceedance.

Connor Walker

From: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>
Sent: Tuesday, August 16, 2022 2:31 PM
To: Lance Crenshaw
Cc: Connor Walker; Ben Arguijo; Joel Lowry; Bratcher, Mike, EMNRD; Nobui, Jennifer, EMNRD; Harimon, Jocelyn, EMNRD
Subject: [EXT] (Extension Approval) for NMOCD Incident #nAPP2213659126

RE: Incident # **NAPP2213659126**

Lance,

Your request for an extension to **November 20th, 2022** is approved. Please include this e-mail correspondence in the remediation and/or closure report.

Robert Hamlet • Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
811 S. First Street | Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
<http://www.emnrd.state.nm.us/OCD/>



From: Lance Crenshaw <lance@etechnv.com>
Sent: Tuesday, August 16, 2022 2:16 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Enviro, OCD, EMNRD <OCD.Enviro@state.nm.us>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>
Cc: Connor Walker <cwalker@mewbourne.com>; Ben Arguijo <bena@etechnv.com>; Joel Lowry <joel@etechnv.com>
Subject: [EXTERNAL] Extension request for NMOCD Incident #nAPP2213659126

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Dear NMOCD Environmental Bureau,

Mewbourne Oil Company (Mewbourne) contracted Etech Environmental & Safety Solutions, Inc. (Etech), on August 16, 2021, to assume remediation activities for the release known as the Aureus – Zuma Frac Line (NMOCD Incident #nAPP2213659126) located in Eddy County. Pursuant to NMOCD regulations, a work plan or closure report was due for the release on August 16, 2022.

This release has been tied up with a third-party company and insurance providers, and Etech was just awarded this project based on the decision from the third-party insurance company, who will be paying for the dirt work. Also, the release occurred on top of numerous high-pressure lines from several different midstream and pipeline companies, which will require coordination with said companies to be able to excavate around their lines.

In consideration of this, Etech, on behalf of Mewbourne, would like to request an extension until November 20, 2022, in order to allow us time to fully complete the remediation and advance the site to an NMOCD-approved closure.

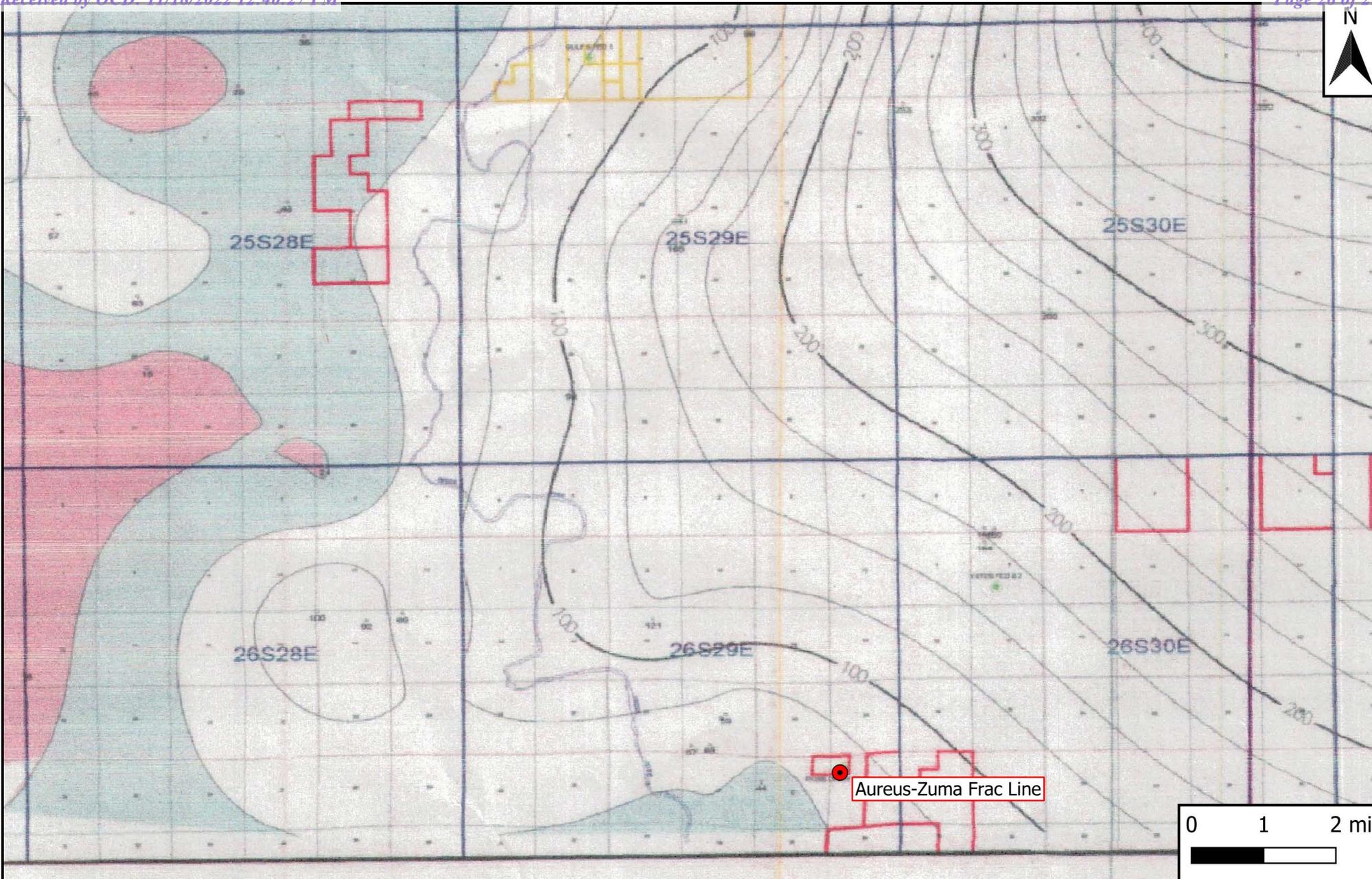
If you have any questions or need any additional information, please do not hesitate to contact me by phone or email.

Thank you for your time and consideration.

Lance Crenshaw
Etech Environmental & Safety Solutions
575-631-2532

Appendix A

Depth to Groundwater Information



Legend
 ● Site Location

Figure 4
 Inferred Depth to Groundwater Trend Map
 Mewbourne Oil Company
 Aureus-Zuma Frac Line
 GPS: 32.016683, -103.943324
 Eddy County



Drafted: bja Checked: lc Date: 10/13/22



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

(R=POD has been replaced,
O=orphaned,
C=the file is closed)

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

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec 24	Tws 26S	Rng 29E	X 599924	Y 3543208	Distance	DepthWell	DepthWater	Water Column
C_04561	POD1	CUB	ED	4	3	3	24	26S	29E	599924	3543208	454			

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 599793.12

Northing (Y): 3542772.78

Radius: 804.67

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.

10/20/22 9:14 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER



New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE)			(quarters are smallest to largest)			(NAD83 UTM in meters)	
		Q64	Q16	Q4	Sec	Tws	Rng	X	Y
NA	C 04561 POD1	4	3	3	24	26S	29E	599924	3543208

Driller License: 1249	Driller Company: ATKINS ENGINEERING ASSOC. INC.	
Driller Name: ATKINS, JACKIE D.UELENER		
Drill Start Date: 07/28/2021	Drill Finish Date: 07/28/2021	Plug Date: 08/12/2021
Log File Date: 08/17/2021	PCW Rcv Date:	Source:
Pump Type:	Pipe Discharge Size:	Estimated Yield:
Casing Size:	Depth Well:	Depth Water:

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.

10/20/22 9:14 AM

POINT OF DIVERSION SUMMARY



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

OSE DIT AUG 17 2021 PM 3:11

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) POD1 (BH-01)		WELL TAG ID NO. n/a		OSE FILE NO(S). C-4561			
	WELL OWNER NAME(S) XTO Energy (Kyle Littrell)				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS 6401 Holiday Hill Dr.				CITY Midland	STATE TX	ZIP 79707	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 1	SECONDS 14.17	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND		
		LONGITUDE 103	56	30.83	W	* DATUM REQUIRED: WGS 84		
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE SE SW Sec. 31T23S R33E								
2. DRILLING & CASING INFORMATION	LICENSE NO. 1249		NAME OF LICENSED DRILLER Jackie D. Atkins			NAME OF WELL DRILLING COMPANY Atkins Engineering Associates, Inc.		
	DRILLING STARTED 07/28/2021	DRILLING ENDED 07/28/2021	DEPTH OF COMPLETED WELL (FT) temporary well material	BORE HOLE DEPTH (FT) 105	DEPTH WATER FIRST ENCOUNTERED (FT) n/a			
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) n/a			
	DRILLING FLUID: <input type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input checked="" type="checkbox"/> OTHER - SPECIFY: Hollow Stem Auger							
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	0	105	±6.5	Boring- HSA	--	--	--	--
3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT		
	FROM	TO						

FOR OSE INTERNAL USE		WR-20 WELL RECORD & LOG (Version 06/30/17)			
FILE NO.	C-4561	POD NO.	POD1	TRN NO.	701043
LOCATION	24S-29E-24 433		WELL TAG ID NO.	PAGE 1 OF 2	



- Legend
- Site Location
 - Well - USGS
 - ⊘ 500-Ft Radius
 - ⊠ 1,000-Ft Radius
 - ⊡ 0.5-Mi Radius

Figure 5
 USGS Well Proximity Map
 Mewbourne Oil Company
 Aureus-Zuma Frac Line
 GPS: 32.016683, -103.943324
 Eddy County



Drafted: bja

Checked: lc

Date: 10/13/22



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Search Results -- 1 sites found

Agency code = usgs
site_no list =
• 320154103562301

Minimum number of levels = 1
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USGS 320154103562301 26S.29E.22.23341

Eddy County, New Mexico
Latitude 32°01'54", Longitude 103°56'23" NAD27
Land-surface elevation 2,974 feet above NAVD88
The depth of the well is 200 feet below land surface.
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

- [Table of data](#)
- [Tab-separated data](#)
- [Graph of data](#)
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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
1975-12-09			D 72019	61.45			1	Z			A
1976-01-16			D 72019	64.75			1	Z			A
1977-01-14			D 72019	63.41			1	Z			A
1978-02-23			D 72019	65.47			1	Z			A
1983-01-26			D 72019	66.44			1	Z			A
1987-10-14			D 72019	49.81			1	Z			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
1992-11-04		D	72019	59.28			1	S			A
1998-01-22		D	72019	66.42			1	S			A

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
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
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

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

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



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0.31 0.25 nadww01



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Agency code = usgs
 site_no list = 320106103555301

Minimum number of levels = 1
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USGS 320106103555301 26S.29E.26.13143

Eddy County, New Mexico
 Latitude 32°00'51.3", Longitude 103°57'42.0" NAD83
 Land-surface elevation 2,883.00 feet above NGVD29
 The depth of the well is 140 feet below land surface.
 This well is completed in the Other aquifers (N9999OTHER) national aquifer.
 This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

- [Table of data](#)
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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
1983-01-26			D	72019	54.30		1	Z			A
1987-10-14			D	72019	35.29		1	Z			A
1992-11-04			D	72019	44.06		1	S			A
1998-01-28			D	72019	53.01		1	S	USGS	S	A
2003-01-27			D	72019	55.93		1	S	USGS	S	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
2013-01-09	19:00 UTC	m	72019	57.81			1	S	USGS	S	A
2021-02-24	21:10 UTC	m	72019	53.46			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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0.3 0.25 nadww01



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Agency code = usgs
 site_no list =
 • 320135103573301

Minimum number of levels = 1
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USGS 320135103573301 26S.29E.23.31220

Eddy County, New Mexico
 Latitude 32°01'35", Longitude 103°57'33" NAD27
 Land-surface elevation 2,913 feet above NGVD29
 The depth of the well is 170.00 feet below land surface.
 This well is completed in the Other aquifers (N9999OTHER) national aquifer.
 This well is completed in the Forty-Niner Member of Rustler Formation (310FRNR) local aquifer.

Output formats

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

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
1987-10-14		D	72019	80.88			1	S			A

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
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.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

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0.33 0.26 nadww01



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Agency code = usgs

site_no list =
• 320112103574501

Minimum number of levels = 1

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

USGS 320112103574501 26S.29E.22.333242

Eddy County, New Mexico

Latitude 32°01'12", Longitude 103°57'45" NAD27

Land-surface elevation 2,892.0 feet above NGVD29

This well is completed in the Other aquifers (N9999OTHER) national aquifer.

Output formats

[Table of data](#)

[Tab-separated data](#)

[Graph of data](#)

[Reselect period](#)

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
1993-01-05	21:45 UTC	m	72019	57.38			1	S			A

Explanation

Section	Code	Description
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.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

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0.35 0.25 nadww01

Appendix B

Field Data & Soil Profile Logs



Sample Log

9-13-22

Date: 9-14-22

Project: Aureus-Zuma Frac Line

Project Number: Pending Latitude: 32.016683 Longitude: -103.943324

Sample ID	PID/Odor	Chloride Conc.	GPS
WW1-25' Left	-	604.336	
WW1-25' Right	*	172	
FS1e1'	-	372	
FS2e1'03'	-	604.264	
FS3e1'03 1/2'05'	-	976.1868	
FS4e1'	-	236	
WW2-25' Left	*	908.416	
WW2-25' Right	*	656.296	
WW3-25' Left	*	264	
WW3-25' Right	-	372	
EW1-25' Left	-	2008.504	EW2-25' Right * 504
EW1-25' Right	*	1132.552	EW2-25' Left 552
FS5e1'	-	200	
FS6e1'	-	456	
FS7e1'	-	552	
WW4-25' Left	-	456	
WW4-25' Right	-	416	
SW1	-	1736.552	
FS8e1'02'	-	716.232	
FS9e1'02'	-	776.296	
FS10e1'	-	552	
WW5-25' Left	*	1052.504	
WW5-25' Right	-	552	
EW3-25' Right	*	336	
EW3-25' Left	-	456	
FS11e1'	-	336	
FS12e1'	-	416	
FS13e1'	-	372	
FS14e1'	-	372	
EW4-25' Left	*	296	
EW4-25' Right	-	552	
WW6-25' Right	*	416	
WW6-25' Left	-	504	
FS15e1'	-	336	
FS16e1'	-	416	
FS17e1'	-	372	

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

Sample Log

Project: Aureus-Zuma Fracture

Date: 9-16-22

Project Number: 16615

Latitude: 32.016683

Longitude: -103.943324

Sample ID	PID/Odor	Chloride Conc.	GPS
FS18e1'e2'e3'	-	716-716-552	
FS19e1'e2'e3'	-	716-840-336	
WW7-25' Left	-	296	
WW7-25' Right *	-	264	
WW8-25' Left *	-	336	
WW8-25' Right	-	456	
EW5-25' Right	-	416	
EW5-25' Left *	-	372	
EW6-25' Right *	-	336	
EW6-25' Left	-	504	
EW7	-	504	
EW8	-	144	
EW9	-	296	
WW9	-	264	
WW10	-	264	
WW11	-	504	
FS18'03'	-	552	
FS19'03'	-	336	
FS20e1 1/2'	-	372	
FS21e1 1/2'	-	336	
FS22e1'	-	232	
FS23e1'	-	296	
FS24e1'	-	200	
FS25e1'	-	232	
FS26e1'	-	120	
FS27e1'	-	172	
FS28e1'	-	232	
FS29e1'e2'	-	656-296	
FS30e1'	-	296	
EW10	-	612-332	
EW11	-	992 992	
WW12	-	724-200	
WW13	-	612-1328-1072-120	
FS31e1'	-	460	
FS32e1'	-	372	
FS33e1'	-	460	

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 = CR #1 @ CR #1 SW #10
 Stockpile = Stockpile #1
 GPS Sample Points, Center of Comp Areas



Soil Profile

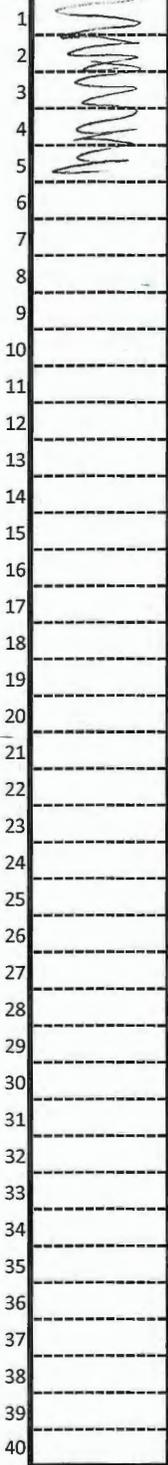
Date: _____

Project: Aureus-Zuma Frac Line

Project Number: 16615 Pending Latitude: 32.016683 Longitude: -103.943324

Depth (ft. bgs)

Description



on road caliche
 soft, loose dirt
 sand
 sand
 clay

Appendix C

Photographic Log

Photographic Log

Photo Number: 1	
Photo Direction: Southwest	
Photo Description: View of the affected area.	

Photo Number: 2	
Photo Direction: South	
Photo Description: View of the affected area.	

Photographic Log

Photo Number: 3	 <p>05/02/2022 16:06 32.016430, -103.943603</p>
Photo Direction: South-Southwest	
Photo Description: View of the affected area.	

Photo Number: 4	 <p>05/02/2022 16:07 32.016262, -103.943885</p>
Photo Direction: East-Southeast	
Photo Description: View of the affected area.	

Photographic Log

Photo Number: 5	
Photo Direction: Southwest	
Photo Description: View of the excavated area.	

Photo Number: 6	
Photo Direction: Southwest	
Photo Description: View of the excavated area.	

Photographic Log

Photo Number: 7	 <p>9/21/22, 10:50 AM +32.016758,-103.943358 ±5.00m 227° SW</p>
Photo Direction: Southwest	
Photo Description: View of the excavated area.	

Photo Number: 8	 <p>9/21/22, 10:51 AM +32.015966,-103.943949 ±10.00m 224° SW</p>
Photo Direction: Southwest	
Photo Description: View of the excavated area.	

Photographic Log

Photo Number: 9	
Photo Direction: Southwest	
Photo Description: View of the excavated area.	

Photo Number: 10	
Photo Direction: Northeast	
Photo Description: View of the excavated area.	

Photographic Log

Photo Number: 11	 <p>September 29, 2022 at 6:55 AM +32.016842,-103.943159</p>
Photo Direction: Southwest	
Photo Description: View of the remediation area after backfill and regrading.	

Photo Number: 12	 <p>September 29, 2022 at 6:54 AM +32.016842,-103.943159</p>
Photo Direction: Southwest	
Photo Description: View of the remediation area after backfill and regrading.	

Appendix D

Laboratory Analytical Reports



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

June 17, 2022

DAN DUNKELBERG

TRINITY OILFIELD SERVICES & RENTALS, LLC

P. O. BOX 2587

HOBBS, NM 88241

RE: FULLER (ZUMA FRAC)

Enclosed are the results of analyses for samples received by the laboratory on 06/14/22 14:12.

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.

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:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 1 @ 4' (H222539-01)

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	06/14/2022	ND	2.23	111	2.00	4.99	QM-07, QR-03
Toluene*	<0.050	0.050	06/14/2022	ND	2.24	112	2.00	5.28	QM-07, QR-03
Ethylbenzene*	<0.050	0.050	06/14/2022	ND	2.18	109	2.00	4.63	QM-07, QR-03
Total Xylenes*	<0.150	0.150	06/14/2022	ND	6.80	113	6.00	4.98	QM-07, QR-03
Total BTEX	<0.300	0.300	06/14/2022	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2040	16.0	06/15/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/15/2022	ND	198	99.0	200	6.74	
DRO >C10-C28*	<10.0	10.0	06/15/2022	ND	186	92.9	200	3.42	
EXT DRO >C28-C36	<10.0	10.0	06/15/2022	ND					

Surrogate: 1-Chlorooctane 131 % 66.9-136

Surrogate: 1-Chlorooctadecane 137 % 59.5-142

Cardinal Laboratories

* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 1 @ 6' (H222539-02)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	688	16.0	06/15/2022	ND	432	108	400	0.00	

Sample ID: SP - 1 @ 7' (H222539-03)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	06/15/2022	ND	432	108	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 2 @ 4' (H222539-04)

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	06/14/2022	ND	2.23	111	2.00	4.99		
Toluene*	<0.050	0.050	06/14/2022	ND	2.24	112	2.00	5.28		
Ethylbenzene*	<0.050	0.050	06/14/2022	ND	2.18	109	2.00	4.63		
Total Xylenes*	<0.150	0.150	06/14/2022	ND	6.80	113	6.00	4.98		
Total BTEX	<0.300	0.300	06/14/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 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	4400	16.0	06/15/2022	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/15/2022	ND	198	99.0	200	6.74		
DRO >C10-C28*	22.7	10.0	06/15/2022	ND	186	92.9	200	3.42		
EXT DRO >C28-C36	12.3	10.0	06/15/2022	ND						

Surrogate: 1-Chlorooctane 134 % 66.9-136

Surrogate: 1-Chlorooctadecane 142 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 3 @ SURFACE (H222539-05)

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	06/14/2022	ND	2.23	111	2.00	4.99	
Toluene*	<0.050	0.050	06/14/2022	ND	2.24	112	2.00	5.28	
Ethylbenzene*	<0.050	0.050	06/14/2022	ND	2.18	109	2.00	4.63	
Total Xylenes*	<0.150	0.150	06/14/2022	ND	6.80	113	6.00	4.98	
Total BTEX	<0.300	0.300	06/14/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.0 % 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	176	16.0	06/15/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/15/2022	ND	198	99.0	200	6.74	
DRO >C10-C28*	<10.0	10.0	06/15/2022	ND	186	92.9	200	3.42	
EXT DRO >C28-C36	<10.0	10.0	06/15/2022	ND					

Surrogate: 1-Chlorooctane 135 % 66.9-136

Surrogate: 1-Chlorooctadecane 139 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 4 @ SURFACE (H222539-06)

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	06/14/2022	ND	2.23	111	2.00	4.99		
Toluene*	<0.050	0.050	06/14/2022	ND	2.24	112	2.00	5.28		
Ethylbenzene*	<0.050	0.050	06/14/2022	ND	2.18	109	2.00	4.63		
Total Xylenes*	<0.150	0.150	06/14/2022	ND	6.80	113	6.00	4.98		
Total BTEX	<0.300	0.300	06/14/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.8 % 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	176	16.0	06/15/2022	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/15/2022	ND	198	99.0	200	6.74		
DRO >C10-C28*	<10.0	10.0	06/15/2022	ND	186	92.9	200	3.42		
EXT DRO >C28-C36	<10.0	10.0	06/15/2022	ND						

Surrogate: 1-Chlorooctane 130 % 66.9-136

Surrogate: 1-Chlorooctadecane 135 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 5 @ SURFACE (H222539-07)

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	06/14/2022	ND	2.23	111	2.00	4.99	
Toluene*	<0.050	0.050	06/14/2022	ND	2.24	112	2.00	5.28	
Ethylbenzene*	<0.050	0.050	06/14/2022	ND	2.18	109	2.00	4.63	
Total Xylenes*	<0.150	0.150	06/14/2022	ND	6.80	113	6.00	4.98	
Total BTEX	<0.300	0.300	06/14/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.5 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	06/15/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/15/2022	ND	198	99.0	200	6.74	
DRO >C10-C28*	<10.0	10.0	06/15/2022	ND	186	92.9	200	3.42	
EXT DRO >C28-C36	<10.0	10.0	06/15/2022	ND					

Surrogate: 1-Chlorooctane 130 % 66.9-136

Surrogate: 1-Chlorooctadecane 134 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 6 @ 2' (H222539-08)

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	06/14/2022	ND	2.23	111	2.00	4.99		
Toluene*	<0.050	0.050	06/14/2022	ND	2.24	112	2.00	5.28		
Ethylbenzene*	<0.050	0.050	06/14/2022	ND	2.18	109	2.00	4.63		
Total Xylenes*	<0.150	0.150	06/14/2022	ND	6.80	113	6.00	4.98		
Total BTEX	<0.300	0.300	06/14/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.5 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	06/15/2022	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/15/2022	ND	198	99.0	200	6.74		
DRO >C10-C28*	<10.0	10.0	06/15/2022	ND	186	92.9	200	3.42		
EXT DRO >C28-C36	<10.0	10.0	06/15/2022	ND						

Surrogate: 1-Chlorooctane 127 % 66.9-136

Surrogate: 1-Chlorooctadecane 131 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 8 @ SURFACE (H222539-09)

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	06/14/2022	ND	2.23	111	2.00	4.99	
Toluene*	<0.050	0.050	06/14/2022	ND	2.24	112	2.00	5.28	
Ethylbenzene*	<0.050	0.050	06/14/2022	ND	2.18	109	2.00	4.63	
Total Xylenes*	<0.150	0.150	06/14/2022	ND	6.80	113	6.00	4.98	
Total BTEX	<0.300	0.300	06/14/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16000	16.0	06/15/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/15/2022	ND	198	99.0	200	6.74	
DRO >C10-C28*	<10.0	10.0	06/15/2022	ND	186	92.9	200	3.42	
EXT DRO >C28-C36	<10.0	10.0	06/15/2022	ND					

Surrogate: 1-Chlorooctane 135 % 66.9-136

Surrogate: 1-Chlorooctadecane 138 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 9 @ 4' (H222539-10)

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	06/15/2022	ND	2.23	111	2.00	4.99		
Toluene*	<0.050	0.050	06/15/2022	ND	2.24	112	2.00	5.28		
Ethylbenzene*	<0.050	0.050	06/15/2022	ND	2.18	109	2.00	4.63		
Total Xylenes*	<0.150	0.150	06/15/2022	ND	6.80	113	6.00	4.98		
Total BTEX	<0.300	0.300	06/15/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.7 % 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	224	16.0	06/15/2022	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/15/2022	ND	198	99.0	200	6.74		
DRO >C10-C28*	<10.0	10.0	06/15/2022	ND	186	92.9	200	3.42		
EXT DRO >C28-C36	<10.0	10.0	06/15/2022	ND						

Surrogate: 1-Chlorooctane 130 % 66.9-136

Surrogate: 1-Chlorooctadecane 133 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 10 @ 4' (H222539-11)

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	06/15/2022	ND	2.23	111	2.00	4.99	
Toluene*	<0.050	0.050	06/15/2022	ND	2.24	112	2.00	5.28	
Ethylbenzene*	<0.050	0.050	06/15/2022	ND	2.18	109	2.00	4.63	
Total Xylenes*	<0.150	0.150	06/15/2022	ND	6.80	113	6.00	4.98	
Total BTEX	<0.300	0.300	06/15/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	800	16.0	06/15/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/15/2022	ND	198	99.0	200	6.74	
DRO >C10-C28*	<10.0	10.0	06/15/2022	ND	186	92.9	200	3.42	
EXT DRO >C28-C36	<10.0	10.0	06/15/2022	ND					

Surrogate: 1-Chlorooctane 121 % 66.9-136

Surrogate: 1-Chlorooctadecane 126 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 10 @ 7' (H222539-12)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	896	16.0	06/15/2022	ND	432	108	400	0.00	

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 11 @ SURFACE (H222539-13)

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	06/15/2022	ND	2.23	111	2.00	4.99	
Toluene*	<0.050	0.050	06/15/2022	ND	2.24	112	2.00	5.28	
Ethylbenzene*	<0.050	0.050	06/15/2022	ND	2.18	109	2.00	4.63	
Total Xylenes*	<0.150	0.150	06/15/2022	ND	6.80	113	6.00	4.98	
Total BTEX	<0.300	0.300	06/15/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.5 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	06/15/2022	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/15/2022	ND	198	99.0	200	6.74	
DRO >C10-C28*	<10.0	10.0	06/15/2022	ND	186	92.9	200	3.42	
EXT DRO >C28-C36	<10.0	10.0	06/15/2022	ND					

Surrogate: 1-Chlorooctane 118 % 66.9-136

Surrogate: 1-Chlorooctadecane 122 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 11 @ 1' (H222539-14)

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	06/15/2022	ND	2.23	111	2.00	4.99		
Toluene*	<0.050	0.050	06/15/2022	ND	2.24	112	2.00	5.28		
Ethylbenzene*	<0.050	0.050	06/15/2022	ND	2.18	109	2.00	4.63		
Total Xylenes*	<0.150	0.150	06/15/2022	ND	6.80	113	6.00	4.98		
Total BTEX	<0.300	0.300	06/15/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 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	496	16.0	06/15/2022	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/15/2022	ND	198	99.0	200	6.74		
DRO >C10-C28*	<10.0	10.0	06/15/2022	ND	186	92.9	200	3.42		
EXT DRO >C28-C36	<10.0	10.0	06/15/2022	ND						

Surrogate: 1-Chlorooctane 124 % 66.9-136

Surrogate: 1-Chlorooctadecane 129 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 20 @ 1' (H222539-15)

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	06/15/2022	ND	2.23	111	2.00	4.99		
Toluene*	<0.050	0.050	06/15/2022	ND	2.24	112	2.00	5.28		
Ethylbenzene*	<0.050	0.050	06/15/2022	ND	2.18	109	2.00	4.63		
Total Xylenes*	<0.150	0.150	06/15/2022	ND	6.80	113	6.00	4.98		
Total BTEX	<0.300	0.300	06/15/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.3 % 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	128	16.0	06/15/2022	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/15/2022	ND	198	99.0	200	6.74		
DRO >C10-C28*	<10.0	10.0	06/15/2022	ND	186	92.9	200	3.42		
EXT DRO >C28-C36	<10.0	10.0	06/15/2022	ND						

Surrogate: 1-Chlorooctane 131 % 66.9-136

Surrogate: 1-Chlorooctadecane 137 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 21 @ 1' (H222539-16)

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	06/15/2022	ND	2.23	111	2.00	4.99		
Toluene*	<0.050	0.050	06/15/2022	ND	2.24	112	2.00	5.28		
Ethylbenzene*	<0.050	0.050	06/15/2022	ND	2.18	109	2.00	4.63		
Total Xylenes*	<0.150	0.150	06/15/2022	ND	6.80	113	6.00	4.98		
Total BTEX	<0.300	0.300	06/15/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.6 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	06/15/2022	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/15/2022	ND	198	99.0	200	6.74		
DRO >C10-C28*	<10.0	10.0	06/15/2022	ND	186	92.9	200	3.42		
EXT DRO >C28-C36	<10.0	10.0	06/15/2022	ND						

Surrogate: 1-Chlorooctane 132 % 66.9-136

Surrogate: 1-Chlorooctadecane 137 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 22 @ SURFACE (H222539-17)

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	06/15/2022	ND	2.23	111	2.00	4.99		
Toluene*	<0.050	0.050	06/15/2022	ND	2.24	112	2.00	5.28		
Ethylbenzene*	<0.050	0.050	06/15/2022	ND	2.18	109	2.00	4.63		
Total Xylenes*	<0.150	0.150	06/15/2022	ND	6.80	113	6.00	4.98		
Total BTEX	<0.300	0.300	06/15/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.8 % 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	80.0	16.0	06/15/2022	ND	432	108	400	3.64		

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	06/15/2022	ND	198	99.0	200	6.74		
DRO >C10-C28*	<10.0	10.0	06/15/2022	ND	186	92.9	200	3.42		
EXT DRO >C28-C36	<10.0	10.0	06/15/2022	ND						

Surrogate: 1-Chlorooctane 128 % 66.9-136

Surrogate: 1-Chlorooctadecane 135 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 23 @ 2' (H222539-18)

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	06/15/2022	ND	2.23	111	2.00	4.99		
Toluene*	<0.050	0.050	06/15/2022	ND	2.24	112	2.00	5.28		
Ethylbenzene*	<0.050	0.050	06/15/2022	ND	2.18	109	2.00	4.63		
Total Xylenes*	<0.150	0.150	06/15/2022	ND	6.80	113	6.00	4.98		
Total BTEX	<0.300	0.300	06/15/2022	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	208	16.0	06/15/2022	ND	432	108	400	3.64		

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	06/15/2022	ND	168	84.0	200	3.89		
DRO >C10-C28*	<10.0	10.0	06/15/2022	ND	167	83.4	200	6.33		
EXT DRO >C28-C36	<10.0	10.0	06/15/2022	ND						

Surrogate: 1-Chlorooctane 94.5 % 66.9-136

Surrogate: 1-Chlorooctadecane 109 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 24 @ 1' (H222539-19)

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	06/15/2022	ND	2.19	109	2.00	7.80		
Toluene*	<0.050	0.050	06/15/2022	ND	2.17	108	2.00	7.64		
Ethylbenzene*	<0.050	0.050	06/15/2022	ND	2.09	104	2.00	7.66		
Total Xylenes*	<0.150	0.150	06/15/2022	ND	6.46	108	6.00	7.65		
Total BTEX	<0.300	0.300	06/15/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 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	06/15/2022	ND	432	108	400	3.64		

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	06/15/2022	ND	168	84.0	200	3.89		
DRO >C10-C28*	<10.0	10.0	06/15/2022	ND	167	83.4	200	6.33		
EXT DRO >C28-C36	<10.0	10.0	06/15/2022	ND						

Surrogate: 1-Chlorooctane 91.5 % 66.9-136

Surrogate: 1-Chlorooctadecane 104 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 25 @ 2' (H222539-20)

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	06/15/2022	ND	2.19	109	2.00	7.80	
Toluene*	<0.050	0.050	06/15/2022	ND	2.17	108	2.00	7.64	
Ethylbenzene*	<0.050	0.050	06/15/2022	ND	2.09	104	2.00	7.66	
Total Xylenes*	<0.150	0.150	06/15/2022	ND	6.46	108	6.00	7.65	
Total BTEX	<0.300	0.300	06/15/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	06/15/2022	ND	432	108	400	3.64	

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	06/15/2022	ND	168	84.0	200	3.89	
DRO >C10-C28*	<10.0	10.0	06/15/2022	ND	167	83.4	200	6.33	
EXT DRO >C28-C36	<10.0	10.0	06/15/2022	ND					

Surrogate: 1-Chlorooctane 94.6 % 66.9-136

Surrogate: 1-Chlorooctadecane 107 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 26 @ 2' (H222539-21)

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	06/15/2022	ND	2.19	109	2.00	7.80	
Toluene*	<0.050	0.050	06/15/2022	ND	2.17	108	2.00	7.64	
Ethylbenzene*	<0.050	0.050	06/15/2022	ND	2.09	104	2.00	7.66	
Total Xylenes*	<0.150	0.150	06/15/2022	ND	6.46	108	6.00	7.65	
Total BTEX	<0.300	0.300	06/15/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 69.9-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	06/15/2022	ND	432	108	400	3.64	

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	06/15/2022	ND	168	84.0	200	3.89	
DRO >C10-C28*	<10.0	10.0	06/15/2022	ND	167	83.4	200	6.33	
EXT DRO >C28-C36	<10.0	10.0	06/15/2022	ND					

Surrogate: 1-Chlorooctane 90.7 % 66.9-136

Surrogate: 1-Chlorooctadecane 103 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received: 06/14/2022
 Reported: 06/17/2022
 Project Name: FULLER (ZUMA FRAC)
 Project Number: NOT GIVEN
 Project Location: MEWBOURNE - EDDY CO., NM

Sampling Date: 06/09/2022
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Shalyn Rodriguez

Sample ID: SP - 26 @ 3' (H222539-22)

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	06/15/2022	ND	432	108	400	3.64	

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 27 @ 2' (H222539-23)

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	06/15/2022	ND	2.19	109	2.00	7.80		
Toluene*	<0.050	0.050	06/15/2022	ND	2.17	108	2.00	7.64		
Ethylbenzene*	<0.050	0.050	06/15/2022	ND	2.09	104	2.00	7.66		
Total Xylenes*	<0.150	0.150	06/15/2022	ND	6.46	108	6.00	7.65		
Total BTEX	<0.300	0.300	06/15/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.8 % 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	128	16.0	06/15/2022	ND	432	108	400	3.64		

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	06/15/2022	ND	168	84.0	200	3.89		
DRO >C10-C28*	<10.0	10.0	06/15/2022	ND	167	83.4	200	6.33		
EXT DRO >C28-C36	<10.0	10.0	06/15/2022	ND						

Surrogate: 1-Chlorooctane 88.5 % 66.9-136

Surrogate: 1-Chlorooctadecane 100 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 28 @ 4' (H222539-24)

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	06/15/2022	ND	2.19	109	2.00	7.80	
Toluene*	<0.050	0.050	06/15/2022	ND	2.17	108	2.00	7.64	
Ethylbenzene*	<0.050	0.050	06/15/2022	ND	2.09	104	2.00	7.66	
Total Xylenes*	<0.150	0.150	06/15/2022	ND	6.46	108	6.00	7.65	
Total BTEX	<0.300	0.300	06/15/2022	ND					

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

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1570	16.0	06/15/2022	ND	432	108	400	3.64	

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	06/15/2022	ND	168	84.0	200	3.89	
DRO >C10-C28*	<10.0	10.0	06/15/2022	ND	167	83.4	200	6.33	
EXT DRO >C28-C36	<10.0	10.0	06/15/2022	ND					

Surrogate: 1-Chlorooctane 89.8 % 66.9-136

Surrogate: 1-Chlorooctadecane 102 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/14/2022	Sampling Date:	06/09/2022
Reported:	06/17/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 29 @ 4' (H222539-25)

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	06/15/2022	ND	2.19	109	2.00	7.80		
Toluene*	<0.050	0.050	06/15/2022	ND	2.17	108	2.00	7.64		
Ethylbenzene*	<0.050	0.050	06/15/2022	ND	2.09	104	2.00	7.66		
Total Xylenes*	<0.150	0.150	06/15/2022	ND	6.46	108	6.00	7.65		
Total BTEX	<0.300	0.300	06/15/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 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	224	16.0	06/15/2022	ND	432	108	400	3.64		

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	06/15/2022	ND	168	84.0	200	3.89		
DRO >C10-C28*	<10.0	10.0	06/15/2022	ND	167	83.4	200	6.33		
EXT DRO >C28-C36	<10.0	10.0	06/15/2022	ND						

Surrogate: 1-Chlorooctane 91.6 % 66.9-136

Surrogate: 1-Chlorooctadecane 101 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

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

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

June 21, 2022

DAN DUNKELBERG

TRINITY OILFIELD SERVICES & RENTALS, LLC

P. O. BOX 2587

HOBBS, NM 88241

RE: FULLER (ZUMA FRAC)

Enclosed are the results of analyses for samples received by the laboratory on 06/17/22 12:40.

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.

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:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/17/2022	Sampling Date:	06/16/2022
Reported:	06/21/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	FULLER	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 7 @ SURFACE (H222604-01)

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	06/18/2022	ND	2.05	103	2.00	0.824	
Toluene*	<0.050	0.050	06/18/2022	ND	2.03	102	2.00	0.962	
Ethylbenzene*	<0.050	0.050	06/18/2022	ND	1.91	95.4	2.00	1.11	
Total Xylenes*	<0.150	0.150	06/18/2022	ND	5.94	98.9	6.00	0.792	
Total BTEX	<0.300	0.300	06/18/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 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	06/21/2022	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	06/20/2022	ND	180	89.9	200	0.806	
DRO >C10-C28*	<10.0	10.0	06/20/2022	ND	185	92.7	200	0.390	
EXT DRO >C28-C36	<10.0	10.0	06/20/2022	ND					

Surrogate: 1-Chlorooctane 103 % 66.9-136

Surrogate: 1-Chlorooctadecane 115 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/17/2022	Sampling Date:	06/16/2022
Reported:	06/21/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	FULLER	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 9 @ 4' (H222604-02)

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	06/20/2022	ND	2.07	103	2.00	8.49		
Toluene*	<0.050	0.050	06/20/2022	ND	2.05	103	2.00	8.33		
Ethylbenzene*	<0.050	0.050	06/20/2022	ND	1.93	96.5	2.00	8.51		
Total Xylenes*	<0.150	0.150	06/20/2022	ND	5.98	99.6	6.00	7.20		
Total BTEX	<0.300	0.300	06/20/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 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	1820	16.0	06/21/2022	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	06/20/2022	ND	180	89.9	200	0.806		
DRO >C10-C28*	<10.0	10.0	06/20/2022	ND	185	92.7	200	0.390		
EXT DRO >C28-C36	<10.0	10.0	06/20/2022	ND						

Surrogate: 1-Chlorooctane 100 % 66.9-136

Surrogate: 1-Chlorooctadecane 111 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/17/2022	Sampling Date:	06/16/2022
Reported:	06/21/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	FULLER	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 12 @ 2' (H222604-03)

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	06/20/2022	ND	2.07	103	2.00	8.49		
Toluene*	<0.050	0.050	06/20/2022	ND	2.05	103	2.00	8.33		
Ethylbenzene*	<0.050	0.050	06/20/2022	ND	1.93	96.5	2.00	8.51		
Total Xylenes*	<0.150	0.150	06/20/2022	ND	5.98	99.6	6.00	7.20		
Total BTEX	<0.300	0.300	06/20/2022	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	2680	16.0	06/21/2022	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	06/20/2022	ND	180	89.9	200	0.806		
DRO >C10-C28*	<10.0	10.0	06/20/2022	ND	185	92.7	200	0.390		
EXT DRO >C28-C36	<10.0	10.0	06/20/2022	ND						

Surrogate: 1-Chlorooctane 103 % 66.9-136

Surrogate: 1-Chlorooctadecane 114 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/17/2022	Sampling Date:	06/16/2022
Reported:	06/21/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	FULLER	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 13 @ 1' (H222604-04)

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	06/20/2022	ND	2.07	103	2.00	8.49		
Toluene*	<0.050	0.050	06/20/2022	ND	2.05	103	2.00	8.33		
Ethylbenzene*	<0.050	0.050	06/20/2022	ND	1.93	96.5	2.00	8.51		
Total Xylenes*	<0.150	0.150	06/20/2022	ND	5.98	99.6	6.00	7.20		
Total BTEX	<0.300	0.300	06/20/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 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	48.0	16.0	06/21/2022	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	06/20/2022	ND	180	89.9	200	0.806		
DRO >C10-C28*	<10.0	10.0	06/20/2022	ND	185	92.7	200	0.390		
EXT DRO >C28-C36	<10.0	10.0	06/20/2022	ND						

Surrogate: 1-Chlorooctane 101 % 66.9-136

Surrogate: 1-Chlorooctadecane 112 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/17/2022	Sampling Date:	06/16/2022
Reported:	06/21/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	FULLER	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 14 @ SURFACE (H222604-05)

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	06/20/2022	ND	2.07	103	2.00	8.49		
Toluene*	<0.050	0.050	06/20/2022	ND	2.05	103	2.00	8.33		
Ethylbenzene*	<0.050	0.050	06/20/2022	ND	1.93	96.5	2.00	8.51		
Total Xylenes*	<0.150	0.150	06/20/2022	ND	5.98	99.6	6.00	7.20		
Total BTEX	<0.300	0.300	06/20/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 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	512	16.0	06/21/2022	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	06/20/2022	ND	180	89.9	200	0.806		
DRO >C10-C28*	<10.0	10.0	06/20/2022	ND	185	92.7	200	0.390		
EXT DRO >C28-C36	<10.0	10.0	06/20/2022	ND						

Surrogate: 1-Chlorooctane 93.1 % 66.9-136

Surrogate: 1-Chlorooctadecane 103 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/17/2022	Sampling Date:	06/16/2022
Reported:	06/21/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	FULLER	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 14 @ 1' (H222604-06)

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	06/21/2022	ND	432	108	400	3.77	

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/17/2022	Sampling Date:	06/16/2022
Reported:	06/21/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	FULLER	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 15 @ SURFACE (H222604-07)

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	06/20/2022	ND	2.07	103	2.00	8.49		
Toluene*	<0.050	0.050	06/20/2022	ND	2.05	103	2.00	8.33		
Ethylbenzene*	<0.050	0.050	06/20/2022	ND	1.93	96.5	2.00	8.51		
Total Xylenes*	<0.150	0.150	06/20/2022	ND	5.98	99.6	6.00	7.20		
Total BTEX	<0.300	0.300	06/20/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 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	464	16.0	06/21/2022	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	06/20/2022	ND	180	89.9	200	0.806		
DRO >C10-C28*	<10.0	10.0	06/20/2022	ND	185	92.7	200	0.390		
EXT DRO >C28-C36	<10.0	10.0	06/20/2022	ND						

Surrogate: 1-Chlorooctane 94.2 % 66.9-136

Surrogate: 1-Chlorooctadecane 104 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/17/2022	Sampling Date:	06/16/2022
Reported:	06/21/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	FULLER	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 15 @ 1' (H222604-08)

Chloride, SM4500CI-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	06/21/2022	ND	432	108	400	3.77	

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/17/2022	Sampling Date:	06/16/2022
Reported:	06/21/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	FULLER	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 16 @ SURFACE (H222604-09)

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	06/20/2022	ND	2.07	103	2.00	8.49		
Toluene*	<0.050	0.050	06/20/2022	ND	2.05	103	2.00	8.33		
Ethylbenzene*	<0.050	0.050	06/20/2022	ND	1.93	96.5	2.00	8.51		
Total Xylenes*	<0.150	0.150	06/20/2022	ND	5.98	99.6	6.00	7.20		
Total BTEX	<0.300	0.300	06/20/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 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	720	16.0	06/21/2022	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	06/20/2022	ND	180	89.9	200	0.806		
DRO >C10-C28*	<10.0	10.0	06/20/2022	ND	185	92.7	200	0.390		
EXT DRO >C28-C36	<10.0	10.0	06/20/2022	ND						

Surrogate: 1-Chlorooctane 94.9 % 66.9-136

Surrogate: 1-Chlorooctadecane 105 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/17/2022	Sampling Date:	06/16/2022
Reported:	06/21/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	FULLER	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 17 @ SURFACE (H222604-10)

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	06/20/2022	ND	2.07	103	2.00	8.49		
Toluene*	<0.050	0.050	06/20/2022	ND	2.05	103	2.00	8.33		
Ethylbenzene*	<0.050	0.050	06/20/2022	ND	1.93	96.5	2.00	8.51		
Total Xylenes*	<0.150	0.150	06/20/2022	ND	5.98	99.6	6.00	7.20		
Total BTEX	<0.300	0.300	06/20/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 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	128	16.0	06/21/2022	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	06/20/2022	ND	180	89.9	200	0.806		
DRO >C10-C28*	<10.0	10.0	06/20/2022	ND	185	92.7	200	0.390		
EXT DRO >C28-C36	<10.0	10.0	06/20/2022	ND						

Surrogate: 1-Chlorooctane 88.8 % 66.9-136

Surrogate: 1-Chlorooctadecane 97.1 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/17/2022	Sampling Date:	06/16/2022
Reported:	06/21/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	FULLER	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 18 @ SURFACE (H222604-11)

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	06/20/2022	ND	2.07	103	2.00	8.49		
Toluene*	<0.050	0.050	06/20/2022	ND	2.05	103	2.00	8.33		
Ethylbenzene*	<0.050	0.050	06/20/2022	ND	1.93	96.5	2.00	8.51		
Total Xylenes*	<0.150	0.150	06/20/2022	ND	5.98	99.6	6.00	7.20		
Total BTEX	<0.300	0.300	06/20/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 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	208	16.0	06/21/2022	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	06/20/2022	ND	180	89.9	200	0.806		
DRO >C10-C28*	<10.0	10.0	06/20/2022	ND	185	92.7	200	0.390		
EXT DRO >C28-C36	<10.0	10.0	06/20/2022	ND						

Surrogate: 1-Chlorooctane 89.7 % 66.9-136

Surrogate: 1-Chlorooctadecane 97.4 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/17/2022	Sampling Date:	06/16/2022
Reported:	06/21/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	FULLER	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 19 @ SURFACE (H222604-12)

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	06/20/2022	ND	2.07	103	2.00	8.49	
Toluene*	<0.050	0.050	06/20/2022	ND	2.05	103	2.00	8.33	
Ethylbenzene*	<0.050	0.050	06/20/2022	ND	1.93	96.5	2.00	8.51	
Total Xylenes*	<0.150	0.150	06/20/2022	ND	5.98	99.6	6.00	7.20	
Total BTEX	<0.300	0.300	06/20/2022	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	176	16.0	06/21/2022	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	06/20/2022	ND	180	89.9	200	0.806	
DRO >C10-C28*	<10.0	10.0	06/20/2022	ND	185	92.7	200	0.390	
EXT DRO >C28-C36	<10.0	10.0	06/20/2022	ND					

Surrogate: 1-Chlorooctane 94.2 % 66.9-136

Surrogate: 1-Chlorooctadecane 101 % 59.5-142

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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/17/2022	Sampling Date:	06/16/2022
Reported:	06/21/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	FULLER	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 30 @ 4' (H222604-13)

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	06/20/2022	ND	2.07	103	2.00	8.49		
Toluene*	<0.050	0.050	06/20/2022	ND	2.05	103	2.00	8.33		
Ethylbenzene*	<0.050	0.050	06/20/2022	ND	1.93	96.5	2.00	8.51		
Total Xylenes*	<0.150	0.150	06/20/2022	ND	5.98	99.6	6.00	7.20		
Total BTEX	<0.300	0.300	06/20/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 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	2760	16.0	06/21/2022	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	06/20/2022	ND	180	89.9	200	0.806		
DRO >C10-C28*	<10.0	10.0	06/20/2022	ND	185	92.7	200	0.390		
EXT DRO >C28-C36	<10.0	10.0	06/20/2022	ND						

Surrogate: 1-Chlorooctane 104 % 66.9-136

Surrogate: 1-Chlorooctadecane 114 % 59.5-142

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/17/2022	Sampling Date:	06/16/2022
Reported:	06/21/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	FULLER	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 31 @ 4' (H222604-14)

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	06/20/2022	ND	2.07	103	2.00	8.49		
Toluene*	<0.050	0.050	06/20/2022	ND	2.05	103	2.00	8.33		
Ethylbenzene*	<0.050	0.050	06/20/2022	ND	1.93	96.5	2.00	8.51		
Total Xylenes*	<0.150	0.150	06/20/2022	ND	5.98	99.6	6.00	7.20		
Total BTEX	<0.300	0.300	06/20/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 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	1840	16.0	06/21/2022	ND	416	104	400	3.77	QM-07	

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/20/2022	ND	180	89.9	200	0.806		
DRO >C10-C28*	<10.0	10.0	06/20/2022	ND	185	92.7	200	0.390		
EXT DRO >C28-C36	<10.0	10.0	06/20/2022	ND						

Surrogate: 1-Chlorooctane 100 % 66.9-136

Surrogate: 1-Chlorooctadecane 110 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/17/2022	Sampling Date:	06/16/2022
Reported:	06/21/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	FULLER	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 32 @ SURFACE (H222604-15)

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	06/20/2022	ND	2.07	103	2.00	8.49	
Toluene*	<0.050	0.050	06/20/2022	ND	2.05	103	2.00	8.33	
Ethylbenzene*	<0.050	0.050	06/20/2022	ND	1.93	96.5	2.00	8.51	
Total Xylenes*	<0.150	0.150	06/20/2022	ND	5.98	99.6	6.00	7.20	
Total BTEX	<0.300	0.300	06/20/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 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	06/21/2022	ND	416	104	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	06/20/2022	ND	180	89.9	200	0.806	
DRO >C10-C28*	<10.0	10.0	06/20/2022	ND	185	92.7	200	0.390	
EXT DRO >C28-C36	<10.0	10.0	06/20/2022	ND					

Surrogate: 1-Chlorooctane 102 % 66.9-136

Surrogate: 1-Chlorooctadecane 110 % 59.5-142

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

TRINITY OILFIELD SERVICES & RENTALS, LLC
 DAN DUNKELBERG
 P. O. BOX 2587
 HOBBS NM, 88241
 Fax To: NONE

Received:	06/17/2022	Sampling Date:	06/16/2022
Reported:	06/21/2022	Sampling Type:	Soil
Project Name:	FULLER (ZUMA FRAC)	Sampling Condition:	Cool & Intact
Project Number:	FULLER	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE - EDDY CO., NM		

Sample ID: SP - 33 @ SURFACE (H222604-16)

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	06/20/2022	ND	2.07	103	2.00	8.49	
Toluene*	<0.050	0.050	06/20/2022	ND	2.05	103	2.00	8.33	
Ethylbenzene*	<0.050	0.050	06/20/2022	ND	1.93	96.5	2.00	8.51	
Total Xylenes*	<0.150	0.150	06/20/2022	ND	5.98	99.6	6.00	7.20	
Total BTEX	<0.300	0.300	06/20/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.7 % 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	06/21/2022	ND	416	104	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	06/20/2022	ND	216	108	200	0.244	
DRO >C10-C28*	<10.0	10.0	06/20/2022	ND	205	102	200	2.88	QM-07, QR-03
EXT DRO >C28-C36	<10.0	10.0	06/20/2022	ND					

Surrogate: 1-Chlorooctane 133 % 66.9-136

Surrogate: 1-Chlorooctadecane 131 % 59.5-142

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Notes and Definitions

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

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

September 19, 2022

LANCE CRENSHAW

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: AUREUS - ZUMA FRACLINE

Enclosed are the results of analyses for samples received by the laboratory on 09/14/22 16:22.

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

Cardinal Laboratories is 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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 1 @ SURF. (H224255-01)

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	09/17/2022	ND	2.03	102	2.00	2.38	
Toluene*	<0.050	0.050	09/17/2022	ND	2.00	100	2.00	1.51	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.95	97.5	2.00	2.01	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.98	99.7	6.00	2.54	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.5 % 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	09/16/2022	ND	400	100	400	3.92	

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	09/16/2022	ND	199	99.3	200	1.88	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	192	95.9	200	3.28	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 68.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 77.2 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 1 @ 1' (H224255-02)

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	09/17/2022	ND	1.67	83.5	2.00	14.8	
Toluene*	<0.050	0.050	09/17/2022	ND	1.72	85.8	2.00	15.5	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.68	84.2	2.00	14.9	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.26	87.6	6.00	14.6	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	09/16/2022	ND	400	100	400	3.92	

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	09/16/2022	ND	199	99.3	200	1.88	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	192	95.9	200	3.28	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 78.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 87.9 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 2 @ SURF. (H224255-03)

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	09/17/2022	ND	1.67	83.5	2.00	14.8	
Toluene*	<0.050	0.050	09/17/2022	ND	1.72	85.8	2.00	15.5	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.68	84.2	2.00	14.9	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.26	87.6	6.00	14.6	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	09/16/2022	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	09/16/2022	ND	199	99.3	200	1.88	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	192	95.9	200	3.28	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 79.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 87.4 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 2 @ 1' (H224255-04)

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	09/17/2022	ND	1.67	83.5	2.00	14.8	
Toluene*	<0.050	0.050	09/17/2022	ND	1.72	85.8	2.00	15.5	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.68	84.2	2.00	14.9	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.26	87.6	6.00	14.6	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 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	09/16/2022	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	09/16/2022	ND	199	99.3	200	1.88	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	192	95.9	200	3.28	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 72.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 80.9 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 3 @ SURF. (H224255-05)

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	09/17/2022	ND	1.67	83.5	2.00	14.8	
Toluene*	<0.050	0.050	09/17/2022	ND	1.72	85.8	2.00	15.5	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.68	84.2	2.00	14.9	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.26	87.6	6.00	14.6	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	09/16/2022	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	09/16/2022	ND	199	99.3	200	1.88	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	192	95.9	200	3.28	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 76.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 83.5 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 3 @ 1' (H224255-06)

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	09/17/2022	ND	1.67	83.5	2.00	14.8	
Toluene*	<0.050	0.050	09/17/2022	ND	1.72	85.8	2.00	15.5	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.68	84.2	2.00	14.9	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.26	87.6	6.00	14.6	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	09/16/2022	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	09/16/2022	ND	199	99.3	200	1.88	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	192	95.9	200	3.28	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 72.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 80.3 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 4 @ SURF. (H224255-07)

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	09/17/2022	ND	1.67	83.5	2.00	14.8	
Toluene*	<0.050	0.050	09/17/2022	ND	1.72	85.8	2.00	15.5	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.68	84.2	2.00	14.9	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.26	87.6	6.00	14.6	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	09/16/2022	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	09/16/2022	ND	199	99.3	200	1.88	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	192	95.9	200	3.28	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 65.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 72.0 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 4 @ 1' (H224255-08)

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	09/17/2022	ND	1.67	83.5	2.00	14.8	
Toluene*	<0.050	0.050	09/17/2022	ND	1.72	85.8	2.00	15.5	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.68	84.2	2.00	14.9	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.26	87.6	6.00	14.6	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	09/16/2022	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	09/16/2022	ND	199	99.3	200	1.88	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	192	95.9	200	3.28	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 71.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 80.1 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 5 @ SURF. (H224255-09)

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	09/17/2022	ND	1.67	83.5	2.00	14.8	
Toluene*	<0.050	0.050	09/17/2022	ND	1.72	85.8	2.00	15.5	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.68	84.2	2.00	14.9	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.26	87.6	6.00	14.6	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	09/16/2022	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	09/16/2022	ND	199	99.3	200	1.88	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	192	95.9	200	3.28	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 67.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 75.0 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 5 @ 1' (H224255-10)

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	09/17/2022	ND	1.67	83.5	2.00	14.8	
Toluene*	<0.050	0.050	09/17/2022	ND	1.72	85.8	2.00	15.5	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.68	84.2	2.00	14.9	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.26	87.6	6.00	14.6	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	09/16/2022	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	09/16/2022	ND	199	99.3	200	1.88	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	192	95.9	200	3.28	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 73.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 81.1 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 6 @ SURF. (H224255-11)

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	09/17/2022	ND	1.67	83.5	2.00	14.8	
Toluene*	<0.050	0.050	09/17/2022	ND	1.72	85.8	2.00	15.5	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.68	84.2	2.00	14.9	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.26	87.6	6.00	14.6	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	09/16/2022	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	09/16/2022	ND	199	99.3	200	1.88	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	192	95.9	200	3.28	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 67.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 75.7 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 6 @ 1' (H224255-12)

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	09/17/2022	ND	1.67	83.5	2.00	14.8	
Toluene*	<0.050	0.050	09/17/2022	ND	1.72	85.8	2.00	15.5	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.68	84.2	2.00	14.9	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.26	87.6	6.00	14.6	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	09/16/2022	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	09/16/2022	ND	191	95.6	200	5.29	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	183	91.4	200	7.31	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 93.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 106 % 46.3-178

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Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 7 @ SURF. (H224255-13)

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	09/17/2022	ND	1.67	83.5	2.00	14.8	
Toluene*	<0.050	0.050	09/17/2022	ND	1.72	85.8	2.00	15.5	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.68	84.2	2.00	14.9	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.26	87.6	6.00	14.6	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	09/16/2022	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	09/16/2022	ND	191	95.6	200	5.29	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	183	91.4	200	7.31	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 92.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 104 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 7 @ 1' (H224255-14)

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	09/17/2022	ND	1.67	83.5	2.00	14.8	
Toluene*	<0.050	0.050	09/17/2022	ND	1.72	85.8	2.00	15.5	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.68	84.2	2.00	14.9	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.26	87.6	6.00	14.6	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	09/16/2022	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	09/16/2022	ND	191	95.6	200	5.29	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	183	91.4	200	7.31	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 98.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 112 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 8 @ SURF. (H224255-15)

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	09/17/2022	ND	1.67	83.5	2.00	14.8	
Toluene*	<0.050	0.050	09/17/2022	ND	1.72	85.8	2.00	15.5	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.68	84.2	2.00	14.9	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.26	87.6	6.00	14.6	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	09/16/2022	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	09/16/2022	ND	191	95.6	200	5.29	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	183	91.4	200	7.31	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 93.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 107 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 8 @ 1' (H224255-16)

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	09/17/2022	ND	1.67	83.5	2.00	14.8	
Toluene*	<0.050	0.050	09/17/2022	ND	1.72	85.8	2.00	15.5	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.68	84.2	2.00	14.9	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.26	87.6	6.00	14.6	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	09/16/2022	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	09/16/2022	ND	191	95.6	200	5.29	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	183	91.4	200	7.31	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 91.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 105 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 9 @ SURF. (H224255-17)

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	09/17/2022	ND	1.67	83.5	2.00	14.8	
Toluene*	<0.050	0.050	09/17/2022	ND	1.72	85.8	2.00	15.5	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.68	84.2	2.00	14.9	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.26	87.6	6.00	14.6	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	09/16/2022	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	09/16/2022	ND	191	95.6	200	5.29	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	183	91.4	200	7.31	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 94.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 109 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 9 @ 1' (H224255-18)

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	09/17/2022	ND	1.67	83.5	2.00	14.8	
Toluene*	<0.050	0.050	09/17/2022	ND	1.72	85.8	2.00	15.5	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.68	84.2	2.00	14.9	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.26	87.6	6.00	14.6	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	09/16/2022	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	09/16/2022	ND	191	95.6	200	5.29	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	183	91.4	200	7.31	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 90.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 102 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 10 @ SURF. (H224255-19)

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	09/17/2022	ND	1.67	83.5	2.00	14.8	
Toluene*	<0.050	0.050	09/17/2022	ND	1.72	85.8	2.00	15.5	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.68	84.2	2.00	14.9	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.26	87.6	6.00	14.6	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	09/16/2022	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	09/16/2022	ND	191	95.6	200	5.29	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	183	91.4	200	7.31	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 93.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 107 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 10 @ 1' (H224255-20)

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	09/17/2022	ND	1.67	83.5	2.00	14.8	
Toluene*	<0.050	0.050	09/17/2022	ND	1.72	85.8	2.00	15.5	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.68	84.2	2.00	14.9	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.26	87.6	6.00	14.6	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	09/16/2022	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	09/16/2022	ND	191	95.6	200	5.29	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	183	91.4	200	7.31	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 98.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 112 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 11 @ SURF. (H224255-21)

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	09/17/2022	ND	1.67	83.5	2.00	14.8		
Toluene*	<0.050	0.050	09/17/2022	ND	1.72	85.8	2.00	15.5		
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.68	84.2	2.00	14.9		
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.26	87.6	6.00	14.6		
Total BTEX	<0.300	0.300	09/17/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	09/16/2022	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	09/16/2022	ND	191	95.6	200	5.29		
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	183	91.4	200	7.31		
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND						

Surrogate: 1-Chlorooctane 92.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 105 % 46.3-178

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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 11 @ 1' (H224255-22)

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	09/17/2022	ND	1.72	86.1	2.00	8.21	
Toluene*	<0.050	0.050	09/17/2022	ND	1.74	86.8	2.00	8.05	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.67	83.4	2.00	6.96	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.23	87.2	6.00	6.14	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 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	09/16/2022	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	09/16/2022	ND	191	95.6	200	5.29	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	183	91.4	200	7.31	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 89.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 101 % 46.3-178

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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 12 @ SURF. (H224255-23)

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	09/17/2022	ND	1.72	86.1	2.00	8.21	
Toluene*	<0.050	0.050	09/17/2022	ND	1.74	86.8	2.00	8.05	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.67	83.4	2.00	6.96	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.23	87.2	6.00	6.14	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	09/16/2022	ND	416	104	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	09/16/2022	ND	191	95.6	200	5.29	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	183	91.4	200	7.31	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 89.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 99.8 % 46.3-178

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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 12 @ 1' (H224255-24)

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	09/17/2022	ND	1.72	86.1	2.00	8.21	
Toluene*	<0.050	0.050	09/17/2022	ND	1.74	86.8	2.00	8.05	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.67	83.4	2.00	6.96	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.23	87.2	6.00	6.14	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 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	09/16/2022	ND	416	104	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	09/16/2022	ND	191	95.6	200	5.29	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	183	91.4	200	7.31	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 88.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 99.7 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 13 @ SURF. (H224255-25)

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	09/17/2022	ND	1.72	86.1	2.00	8.21	
Toluene*	<0.050	0.050	09/17/2022	ND	1.74	86.8	2.00	8.05	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.67	83.4	2.00	6.96	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.23	87.2	6.00	6.14	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	09/16/2022	ND	416	104	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	09/16/2022	ND	181	90.4	200	2.42	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	197	98.5	200	0.910	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 81.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 84.5 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/14/2022	Sampling Date:	09/13/2022
Reported:	09/19/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SP 13 @ 1' (H224255-26)

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	09/17/2022	ND	1.72	86.1	2.00	8.21	
Toluene*	<0.050	0.050	09/17/2022	ND	1.74	86.8	2.00	8.05	
Ethylbenzene*	<0.050	0.050	09/17/2022	ND	1.67	83.4	2.00	6.96	
Total Xylenes*	<0.150	0.150	09/17/2022	ND	5.23	87.2	6.00	6.14	
Total BTEX	<0.300	0.300	09/17/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 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	09/16/2022	ND	416	104	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	09/16/2022	ND	181	90.4	200	2.42	
DRO >C10-C28*	<10.0	10.0	09/16/2022	ND	197	98.5	200	0.910	
EXT DRO >C28-C36	<10.0	10.0	09/16/2022	ND					

Surrogate: 1-Chlorooctane 81.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 84.6 % 46.3-178

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- QR-04 The RPD for the BS/BSD was outside of historical limits.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- 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



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

Routine

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2 of 3

Company Name: Etech Environmental & Safety Solutions, Inc.		BILL TO		ANALYSIS REQUEST									
Project Manager: Lance Crenshaw		P.O. #:		Chloride TPH (8015M) BTEX (8021B)									
Address: 2617 W Marland		Company: Mewbourne											
City: Hobbs	State: NM	Zip: 88240	Attn: Conner										
Phone #: (575) 264-9884	Fax #:	Address: 4801 Business Park Blvd											
Project #: 16615	Project Owner: Mewbourne		City: Hobbs										
Project Name: Aureus - Zuma Fracline		State: NM Zip: 88240											
Project Location:		Phone #:											
Sampler Name: Eric Mojica		Fax #:											

FOR LAB USE ONLY		GRAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.		SAMPLING		DATE	TIME	Chloride	TPH (8015M)	BTEX (8021B)
Lab I.D.	Sample I.D.			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :						
H024255																		
	11 SP 6e Surf.	C	1			✓				✓			9-13-22		✓	✓	✓	
	12 SP 6e I'	C	1			✓				✓					✓	✓	✓	
	13 SP 7e Surf.	C	1			✓				✓					✓	✓	✓	
	14 SP 7e I'	C	1			✓				✓					✓	✓	✓	
	15 SP 8e Surf.	C	1			✓				✓					✓	✓	✓	
	16 SP 8e I'	C	1			✓				✓					✓	✓	✓	
	17 SP 9e Surf.	C	1			✓				✓					✓	✓	✓	
	18 SP 9e I'	C	1			✓				✓					✓	✓	✓	
	19 SP 10e Surf.	C	1			✓				✓					✓	✓	✓	
	20 SP 10e I'	C	1			✓				✓					✓	✓	✓	

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Relinquished By: Pi mojica	Date: 9-13-22 Time: 1622	Received By: Lawrence D. D. Kyle	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Date:	Received By:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One) UPS		Sample Condition: #113	CHECKED BY: (Initials) TO.	
Sampler - UPS - Bus - Other: 6.3i/5.7i		Cool/Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	REMARKS: Please email results and copy of CoC to pm@etechenv.com.	



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

September 21, 2022

LANCE CRENSHAW

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: AUREUS - ZUMA FRACLINE

Enclosed are the results of analyses for samples received by the laboratory on 09/16/22 15:36.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 1 @ 1' (H224308-01)

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	09/20/2022	ND	1.87	93.3	2.00	12.4	
Toluene*	<0.050	0.050	09/20/2022	ND	1.88	94.0	2.00	12.6	
Ethylbenzene*	<0.050	0.050	09/20/2022	ND	1.83	91.6	2.00	12.8	
Total Xylenes*	<0.150	0.150	09/20/2022	ND	5.73	95.5	6.00	12.8	
Total BTEX	<0.300	0.300	09/20/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	80.0	16.0	09/19/2022	ND	416	104	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	09/19/2022	ND	180	89.9	200	3.23	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	189	94.3	200	3.05	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 74.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 79.8 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 2 @ 3' (H224308-02)

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	09/20/2022	ND	1.87	93.3	2.00	12.4	
Toluene*	<0.050	0.050	09/20/2022	ND	1.88	94.0	2.00	12.6	
Ethylbenzene*	<0.050	0.050	09/20/2022	ND	1.83	91.6	2.00	12.8	
Total Xylenes*	<0.150	0.150	09/20/2022	ND	5.73	95.5	6.00	12.8	
Total BTEX	<0.300	0.300	09/20/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	144	16.0	09/19/2022	ND	416	104	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	09/19/2022	ND	180	89.9	200	3.23	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	189	94.3	200	3.05	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 81.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 87.2 % 46.3-178

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Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 3 @ 5' (H224308-03)

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	09/20/2022	ND	1.87	93.3	2.00	12.4	
Toluene*	<0.050	0.050	09/20/2022	ND	1.88	94.0	2.00	12.6	
Ethylbenzene*	<0.050	0.050	09/20/2022	ND	1.83	91.6	2.00	12.8	
Total Xylenes*	<0.150	0.150	09/20/2022	ND	5.73	95.5	6.00	12.8	
Total BTEX	<0.300	0.300	09/20/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	224	16.0	09/19/2022	ND	416	104	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	09/19/2022	ND	180	89.9	200	3.23	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	189	94.3	200	3.05	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 77.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 82.7 % 46.3-178

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Analytical Results For:

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 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 4 @ 1' (H224308-04)

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	09/20/2022	ND	1.87	93.3	2.00	12.4		
Toluene*	<0.050	0.050	09/20/2022	ND	1.88	94.0	2.00	12.6		
Ethylbenzene*	<0.050	0.050	09/20/2022	ND	1.83	91.6	2.00	12.8		
Total Xylenes*	<0.150	0.150	09/20/2022	ND	5.73	95.5	6.00	12.8		
Total BTEX	<0.300	0.300	09/20/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	09/19/2022	ND	416	104	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	09/19/2022	ND	180	89.9	200	3.23		
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	189	94.3	200	3.05		
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND						

Surrogate: 1-Chlorooctane 83.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 90.4 % 46.3-178

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Analytical Results For:

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 2617 W MARLAND
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Received:	09/16/2022	Sampling Date:	09/15/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 5 @ 1' (H224308-05)

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	09/20/2022	ND	1.87	93.3	2.00	12.4	
Toluene*	<0.050	0.050	09/20/2022	ND	1.88	94.0	2.00	12.6	
Ethylbenzene*	<0.050	0.050	09/20/2022	ND	1.83	91.6	2.00	12.8	
Total Xylenes*	<0.150	0.150	09/20/2022	ND	5.73	95.5	6.00	12.8	
Total BTEX	<0.300	0.300	09/20/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	09/19/2022	ND	416	104	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	09/19/2022	ND	180	89.9	200	3.23	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	189	94.3	200	3.05	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 70.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 73.4 % 46.3-178

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Analytical Results For:

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 2617 W MARLAND
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 Fax To:

Received:	09/16/2022	Sampling Date:	09/15/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 6 @ 1' (H224308-06)

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	09/20/2022	ND	1.87	93.3	2.00	12.4	
Toluene*	<0.050	0.050	09/20/2022	ND	1.88	94.0	2.00	12.6	
Ethylbenzene*	<0.050	0.050	09/20/2022	ND	1.83	91.6	2.00	12.8	
Total Xylenes*	<0.150	0.150	09/20/2022	ND	5.73	95.5	6.00	12.8	
Total BTEX	<0.300	0.300	09/20/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	288	16.0	09/19/2022	ND	416	104	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	09/19/2022	ND	187	93.6	200	4.96	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	188	94.1	200	6.83	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 72.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 75.4 % 46.3-178

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Analytical Results For:

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 Fax To:

Received:	09/16/2022	Sampling Date:	09/15/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 7 @ 1' (H224308-07)

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	09/20/2022	ND	1.87	93.3	2.00	12.4	
Toluene*	<0.050	0.050	09/20/2022	ND	1.88	94.0	2.00	12.6	
Ethylbenzene*	<0.050	0.050	09/20/2022	ND	1.83	91.6	2.00	12.8	
Total Xylenes*	<0.150	0.150	09/20/2022	ND	5.73	95.5	6.00	12.8	
Total BTEX	<0.300	0.300	09/20/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	416	16.0	09/19/2022	ND	416	104	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	09/19/2022	ND	187	93.6	200	4.96	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	188	94.1	200	6.83	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 83.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 86.8 % 46.3-178

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Analytical Results For:

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 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 8 @ 2' (H224308-08)

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	09/20/2022	ND	1.87	93.3	2.00	12.4	
Toluene*	<0.050	0.050	09/20/2022	ND	1.88	94.0	2.00	12.6	
Ethylbenzene*	<0.050	0.050	09/20/2022	ND	1.83	91.6	2.00	12.8	
Total Xylenes*	<0.150	0.150	09/20/2022	ND	5.73	95.5	6.00	12.8	
Total BTEX	<0.300	0.300	09/20/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	112	16.0	09/19/2022	ND	416	104	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	09/19/2022	ND	187	93.6	200	4.96	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	188	94.1	200	6.83	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 84.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 86.9 % 46.3-178

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Analytical Results For:

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 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 9 @ 2' (H224308-09)

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	09/20/2022	ND	1.87	93.3	2.00	12.4	
Toluene*	<0.050	0.050	09/20/2022	ND	1.88	94.0	2.00	12.6	
Ethylbenzene*	<0.050	0.050	09/20/2022	ND	1.83	91.6	2.00	12.8	
Total Xylenes*	<0.150	0.150	09/20/2022	ND	5.73	95.5	6.00	12.8	
Total BTEX	<0.300	0.300	09/20/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	144	16.0	09/19/2022	ND	416	104	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	09/19/2022	ND	187	93.6	200	4.96	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	188	94.1	200	6.83	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 86.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 91.0 % 46.3-178

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Analytical Results For:

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 2617 W MARLAND
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 Fax To:

Received:	09/16/2022	Sampling Date:	09/15/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 10 @ 1' (H224308-10)

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	09/20/2022	ND	1.87	93.3	2.00	12.4	
Toluene*	<0.050	0.050	09/20/2022	ND	1.88	94.0	2.00	12.6	
Ethylbenzene*	<0.050	0.050	09/20/2022	ND	1.83	91.6	2.00	12.8	
Total Xylenes*	<0.150	0.150	09/20/2022	ND	5.73	95.5	6.00	12.8	
Total BTEX	<0.300	0.300	09/20/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	576	16.0	09/19/2022	ND	416	104	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	09/19/2022	ND	187	93.6	200	4.96	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	188	94.1	200	6.83	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 61.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 65.0 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 11 @ 1' (H224308-11)

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	09/20/2022	ND	1.87	93.3	2.00	12.4	
Toluene*	<0.050	0.050	09/20/2022	ND	1.88	94.0	2.00	12.6	
Ethylbenzene*	<0.050	0.050	09/20/2022	ND	1.83	91.6	2.00	12.8	
Total Xylenes*	<0.150	0.150	09/20/2022	ND	5.73	95.5	6.00	12.8	
Total BTEX	<0.300	0.300	09/20/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	304	16.0	09/19/2022	ND	416	104	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	09/19/2022	ND	187	93.6	200	4.96	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	188	94.1	200	6.83	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 70.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 75.8 % 46.3-178

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Analytical Results For:

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 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 12 @ 1' (H224308-12)

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	09/20/2022	ND	1.87	93.3	2.00	12.4	
Toluene*	<0.050	0.050	09/20/2022	ND	1.88	94.0	2.00	12.6	
Ethylbenzene*	<0.050	0.050	09/20/2022	ND	1.83	91.6	2.00	12.8	
Total Xylenes*	<0.150	0.150	09/20/2022	ND	5.73	95.5	6.00	12.8	
Total BTEX	<0.300	0.300	09/20/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	304	16.0	09/19/2022	ND	416	104	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	09/19/2022	ND	187	93.6	200	4.96	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	188	94.1	200	6.83	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 87.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 93.6 % 46.3-178

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Analytical Results For:

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Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 13 @ 1' (H224308-13)

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	09/20/2022	ND	1.87	93.3	2.00	12.4	
Toluene*	<0.050	0.050	09/20/2022	ND	1.88	94.0	2.00	12.6	
Ethylbenzene*	<0.050	0.050	09/20/2022	ND	1.83	91.6	2.00	12.8	
Total Xylenes*	<0.150	0.150	09/20/2022	ND	5.73	95.5	6.00	12.8	
Total BTEX	<0.300	0.300	09/20/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	128	16.0	09/19/2022	ND	416	104	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	09/19/2022	ND	187	93.6	200	4.96	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	188	94.1	200	6.83	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 78.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 83.6 % 46.3-178

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Analytical Results For:

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Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 14 @ 1' (H224308-14)

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	09/20/2022	ND	1.87	93.3	2.00	12.4	
Toluene*	<0.050	0.050	09/20/2022	ND	1.88	94.0	2.00	12.6	
Ethylbenzene*	<0.050	0.050	09/20/2022	ND	1.83	91.6	2.00	12.8	
Total Xylenes*	<0.150	0.150	09/20/2022	ND	5.73	95.5	6.00	12.8	
Total BTEX	<0.300	0.300	09/20/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	128	16.0	09/19/2022	ND	416	104	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	09/19/2022	ND	187	93.6	200	4.96	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	188	94.1	200	6.83	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 83.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 88.7 % 46.3-178

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Analytical Results For:

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 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 15 @ 1' (H224308-15)

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	09/20/2022	ND	1.87	93.3	2.00	12.4		
Toluene*	<0.050	0.050	09/20/2022	ND	1.88	94.0	2.00	12.6		
Ethylbenzene*	<0.050	0.050	09/20/2022	ND	1.83	91.6	2.00	12.8		
Total Xylenes*	<0.150	0.150	09/20/2022	ND	5.73	95.5	6.00	12.8		
Total BTEX	<0.300	0.300	09/20/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	240	16.0	09/19/2022	ND	416	104	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	09/19/2022	ND	187	93.6	200	4.96		
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	188	94.1	200	6.83		
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND						

Surrogate: 1-Chlorooctane 82.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 87.0 % 46.3-178

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Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 16 @ 1' (H224308-16)

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	09/21/2022	ND	1.87	93.3	2.00	12.4	
Toluene*	<0.050	0.050	09/21/2022	ND	1.88	94.0	2.00	12.6	
Ethylbenzene*	<0.050	0.050	09/21/2022	ND	1.83	91.6	2.00	12.8	
Total Xylenes*	<0.150	0.150	09/21/2022	ND	5.73	95.5	6.00	12.8	
Total BTEX	<0.300	0.300	09/21/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	176	16.0	09/19/2022	ND	416	104	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	09/19/2022	ND	187	93.6	200	4.96	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	188	94.1	200	6.83	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 76.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 81.0 % 46.3-178

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Analytical Results For:

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 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 17 @ 1' (H224308-17)

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	09/21/2022	ND	1.87	93.3	2.00	12.4	
Toluene*	<0.050	0.050	09/21/2022	ND	1.88	94.0	2.00	12.6	
Ethylbenzene*	<0.050	0.050	09/21/2022	ND	1.83	91.6	2.00	12.8	
Total Xylenes*	<0.150	0.150	09/21/2022	ND	5.73	95.5	6.00	12.8	
Total BTEX	<0.300	0.300	09/21/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	112	16.0	09/19/2022	ND	416	104	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	09/19/2022	ND	187	93.6	200	4.96	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	188	94.1	200	6.83	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 80.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 84.3 % 46.3-178

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Analytical Results For:

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 2617 W MARLAND
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Received:	09/16/2022	Sampling Date:	09/15/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: EW 1 (H224308-18)

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	09/21/2022	ND	1.87	93.3	2.00	12.4		
Toluene*	<0.050	0.050	09/21/2022	ND	1.88	94.0	2.00	12.6		
Ethylbenzene*	<0.050	0.050	09/21/2022	ND	1.83	91.6	2.00	12.8		
Total Xylenes*	<0.150	0.150	09/21/2022	ND	5.73	95.5	6.00	12.8		
Total BTEX	<0.300	0.300	09/21/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	240	16.0	09/19/2022	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	09/19/2022	ND	187	93.6	200	4.96		
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	188	94.1	200	6.83		
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND						

Surrogate: 1-Chlorooctane 82.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 86.6 % 46.3-178

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 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: EW 2 (H224308-19)

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	09/21/2022	ND	1.73	86.7	2.00	10.8	
Toluene*	<0.050	0.050	09/21/2022	ND	1.72	86.0	2.00	11.2	
Ethylbenzene*	<0.050	0.050	09/21/2022	ND	1.68	84.0	2.00	9.91	
Total Xylenes*	<0.150	0.150	09/21/2022	ND	5.24	87.3	6.00	9.98	
Total BTEX	<0.300	0.300	09/21/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	256	16.0	09/19/2022	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	09/19/2022	ND	187	93.6	200	4.96	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	188	94.1	200	6.83	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 85.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 89.7 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: EW 3 (H224308-20)

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	09/21/2022	ND	1.73	86.7	2.00	10.8	
Toluene*	<0.050	0.050	09/21/2022	ND	1.72	86.0	2.00	11.2	
Ethylbenzene*	<0.050	0.050	09/21/2022	ND	1.68	84.0	2.00	9.91	
Total Xylenes*	<0.150	0.150	09/21/2022	ND	5.24	87.3	6.00	9.98	
Total BTEX	<0.300	0.300	09/21/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	128	16.0	09/19/2022	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	09/19/2022	ND	187	93.6	200	4.96	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	188	94.1	200	6.83	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 76.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 80.4 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: EW 4 (H224308-21)

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	09/21/2022	ND	1.73	86.7	2.00	10.8		
Toluene*	<0.050	0.050	09/21/2022	ND	1.72	86.0	2.00	11.2		
Ethylbenzene*	<0.050	0.050	09/21/2022	ND	1.68	84.0	2.00	9.91		
Total Xylenes*	<0.150	0.150	09/21/2022	ND	5.24	87.3	6.00	9.98		
Total BTEX	<0.300	0.300	09/21/2022	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	208	16.0	09/19/2022	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	09/19/2022	ND	187	93.6	200	4.96		
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	188	94.1	200	6.83		
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND						

Surrogate: 1-Chlorooctane 82.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 86.5 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: EW 5 (H224308-22)

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	09/21/2022	ND	1.73	86.7	2.00	10.8		
Toluene*	<0.050	0.050	09/21/2022	ND	1.72	86.0	2.00	11.2		
Ethylbenzene*	<0.050	0.050	09/21/2022	ND	1.68	84.0	2.00	9.91		
Total Xylenes*	<0.150	0.150	09/21/2022	ND	5.24	87.3	6.00	9.98		
Total BTEX	<0.300	0.300	09/21/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	144	16.0	09/19/2022	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	09/19/2022	ND	187	93.6	200	4.96		
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	188	94.1	200	6.83		
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND						

Surrogate: 1-Chlorooctane 80.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 84.1 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: EW 6 (H224308-23)

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	09/21/2022	ND	1.73	86.7	2.00	10.8		
Toluene*	<0.050	0.050	09/21/2022	ND	1.72	86.0	2.00	11.2		
Ethylbenzene*	<0.050	0.050	09/21/2022	ND	1.68	84.0	2.00	9.91		
Total Xylenes*	<0.150	0.150	09/21/2022	ND	5.24	87.3	6.00	9.98		
Total BTEX	<0.300	0.300	09/21/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	09/19/2022	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	09/19/2022	ND	187	93.6	200	4.96		
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	188	94.1	200	6.83		
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND						

Surrogate: 1-Chlorooctane 76.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 80.3 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: WW 1 (H224308-24)

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	09/21/2022	ND	1.73	86.7	2.00	10.8	
Toluene*	<0.050	0.050	09/21/2022	ND	1.72	86.0	2.00	11.2	
Ethylbenzene*	<0.050	0.050	09/21/2022	ND	1.68	84.0	2.00	9.91	
Total Xylenes*	<0.150	0.150	09/21/2022	ND	5.24	87.3	6.00	9.98	
Total BTEX	<0.300	0.300	09/21/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	09/19/2022	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	09/19/2022	ND	187	93.6	200	4.96	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	188	94.1	200	6.83	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 86.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 90.7 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: WW 2 (H224308-25)

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	09/21/2022	ND	1.73	86.7	2.00	10.8	
Toluene*	<0.050	0.050	09/21/2022	ND	1.72	86.0	2.00	11.2	
Ethylbenzene*	<0.050	0.050	09/21/2022	ND	1.68	84.0	2.00	9.91	
Total Xylenes*	<0.150	0.150	09/21/2022	ND	5.24	87.3	6.00	9.98	
Total BTEX	<0.300	0.300	09/21/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	144	16.0	09/19/2022	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	09/19/2022	ND	187	93.6	200	4.96	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	188	94.1	200	6.83	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 83.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 88.1 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/15/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: WW 3 (H224308-26)

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	09/21/2022	ND	1.73	86.7	2.00	10.8	
Toluene*	<0.050	0.050	09/21/2022	ND	1.72	86.0	2.00	11.2	
Ethylbenzene*	<0.050	0.050	09/21/2022	ND	1.68	84.0	2.00	9.91	
Total Xylenes*	<0.150	0.150	09/21/2022	ND	5.24	87.3	6.00	9.98	
Total BTEX	<0.300	0.300	09/21/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	128	16.0	09/19/2022	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	09/19/2022	ND	172	85.9	200	3.47	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	179	89.4	200	2.84	
EXT DRO >C28-C36	15.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 91.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 108 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: WW 4 (H224308-27)

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	09/21/2022	ND	1.73	86.7	2.00	10.8	
Toluene*	<0.050	0.050	09/21/2022	ND	1.72	86.0	2.00	11.2	
Ethylbenzene*	<0.050	0.050	09/21/2022	ND	1.68	84.0	2.00	9.91	
Total Xylenes*	<0.150	0.150	09/21/2022	ND	5.24	87.3	6.00	9.98	
Total BTEX	<0.300	0.300	09/21/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	320	16.0	09/19/2022	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	09/19/2022	ND	172	85.9	200	3.47	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	179	89.4	200	2.84	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 87.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 104 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: WW 5 (H224308-28)

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	09/21/2022	ND	1.73	86.7	2.00	10.8	
Toluene*	<0.050	0.050	09/21/2022	ND	1.72	86.0	2.00	11.2	
Ethylbenzene*	<0.050	0.050	09/21/2022	ND	1.68	84.0	2.00	9.91	
Total Xylenes*	<0.150	0.150	09/21/2022	ND	5.24	87.3	6.00	9.98	
Total BTEX	<0.300	0.300	09/21/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	368	16.0	09/19/2022	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	09/19/2022	ND	172	85.9	200	3.47	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	179	89.4	200	2.84	
EXT DRO >C28-C36	10.1	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 85.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 102 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: WW 6 (H224308-29)

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	09/21/2022	ND	1.73	86.7	2.00	10.8	
Toluene*	<0.050	0.050	09/21/2022	ND	1.72	86.0	2.00	11.2	
Ethylbenzene*	<0.050	0.050	09/21/2022	ND	1.68	84.0	2.00	9.91	
Total Xylenes*	<0.150	0.150	09/21/2022	ND	5.24	87.3	6.00	9.98	
Total BTEX	<0.300	0.300	09/21/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	09/19/2022	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	09/19/2022	ND	172	85.9	200	3.47	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	179	89.4	200	2.84	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 95.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 113 % 46.3-178

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Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/16/2022	Sampling Date:	09/16/2022
Reported:	09/21/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: WW 7 (H224308-30)

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	09/21/2022	ND	1.73	86.7	2.00	10.8	
Toluene*	<0.050	0.050	09/21/2022	ND	1.72	86.0	2.00	11.2	
Ethylbenzene*	<0.050	0.050	09/21/2022	ND	1.68	84.0	2.00	9.91	
Total Xylenes*	<0.150	0.150	09/21/2022	ND	5.24	87.3	6.00	9.98	
Total BTEX	<0.300	0.300	09/21/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	240	16.0	09/19/2022	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	09/19/2022	ND	172	85.9	200	3.47	
DRO >C10-C28*	<10.0	10.0	09/19/2022	ND	179	89.4	200	2.84	
EXT DRO >C28-C36	<10.0	10.0	09/19/2022	ND					

Surrogate: 1-Chlorooctane 83.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 98.0 % 46.3-178

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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



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September 23, 2022

LANCE CRENSHAW

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: AUREUS - ZUMA FRACLINE

Enclosed are the results of analyses for samples received by the laboratory on 09/20/22 16:43.

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

Cardinal Laboratories is 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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 18 @ 3' (H224358-01)

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	09/22/2022	ND	1.99	99.6	2.00	9.22	
Toluene*	<0.050	0.050	09/22/2022	ND	2.00	100	2.00	9.48	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.95	97.3	2.00	9.52	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	6.07	101	6.00	9.73	
Total BTEX	<0.300	0.300	09/22/2022	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	09/22/2022	ND	416	104	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	09/21/2022	ND	193	96.4	200	4.45	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	221	110	200	14.4	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 71.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 81.1 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 19 @ 3' (H224358-02)

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	09/22/2022	ND	1.99	99.6	2.00	9.22		
Toluene*	<0.050	0.050	09/22/2022	ND	2.00	100	2.00	9.48		
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.95	97.3	2.00	9.52		
Total Xylenes*	<0.150	0.150	09/22/2022	ND	6.07	101	6.00	9.73		
Total BTEX	<0.300	0.300	09/22/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	208	16.0	09/22/2022	ND	416	104	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	09/21/2022	ND	193	96.4	200	4.45		
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	221	110	200	14.4		
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND						

Surrogate: 1-Chlorooctane 75.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 85.8 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 20 @ 1.5' (H224358-03)

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	09/22/2022	ND	1.99	99.6	2.00	9.22	
Toluene*	<0.050	0.050	09/22/2022	ND	2.00	100	2.00	9.48	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.95	97.3	2.00	9.52	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	6.07	101	6.00	9.73	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	09/22/2022	ND	416	104	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	09/21/2022	ND	193	96.4	200	4.45	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	221	110	200	14.4	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 75.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 85.0 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 21 @ 1.5' (H224358-04)

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	09/22/2022	ND	1.99	99.6	2.00	9.22		
Toluene*	<0.050	0.050	09/22/2022	ND	2.00	100	2.00	9.48		
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.95	97.3	2.00	9.52		
Total Xylenes*	<0.150	0.150	09/22/2022	ND	6.07	101	6.00	9.73		
Total BTEX	<0.300	0.300	09/22/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	224	16.0	09/22/2022	ND	416	104	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	09/21/2022	ND	193	96.4	200	4.45		
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	221	110	200	14.4		
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND						

Surrogate: 1-Chlorooctane 69.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 78.5 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 22 @ 1' (H224358-05)

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	09/22/2022	ND	1.99	99.6	2.00	9.22	
Toluene*	<0.050	0.050	09/22/2022	ND	2.00	100	2.00	9.48	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.95	97.3	2.00	9.52	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	6.07	101	6.00	9.73	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	09/22/2022	ND	416	104	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	09/21/2022	ND	193	96.4	200	4.45	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	221	110	200	14.4	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 71.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 80.9 % 46.3-178

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Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 23 @ 1' (H224358-06)

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	09/22/2022	ND	1.99	99.6	2.00	9.22		
Toluene*	<0.050	0.050	09/22/2022	ND	2.00	100	2.00	9.48		
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.95	97.3	2.00	9.52		
Total Xylenes*	<0.150	0.150	09/22/2022	ND	6.07	101	6.00	9.73		
Total BTEX	<0.300	0.300	09/22/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	09/22/2022	ND	416	104	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	09/21/2022	ND	193	96.4	200	4.45		
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	221	110	200	14.4		
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND						

Surrogate: 1-Chlorooctane 77.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 88.2 % 46.3-178

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Analytical Results For:

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 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 24 @ 1' (H224358-07)

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	09/22/2022	ND	1.99	99.6	2.00	9.22	
Toluene*	<0.050	0.050	09/22/2022	ND	2.00	100	2.00	9.48	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.95	97.3	2.00	9.52	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	6.07	101	6.00	9.73	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	48.0	16.0	09/22/2022	ND	416	104	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	09/21/2022	ND	193	96.4	200	4.45	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	221	110	200	14.4	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 72.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 83.2 % 46.3-178

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Analytical Results For:

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 2617 W MARLAND
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Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 25 @ 1' (H224358-08)

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	09/22/2022	ND	1.99	99.6	2.00	9.22	
Toluene*	<0.050	0.050	09/22/2022	ND	2.00	100	2.00	9.48	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.95	97.3	2.00	9.52	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	6.07	101	6.00	9.73	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	09/22/2022	ND	416	104	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	09/21/2022	ND	193	96.4	200	4.45	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	221	110	200	14.4	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 77.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 88.5 % 46.3-178

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Analytical Results For:

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 2617 W MARLAND
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Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 26 @ 1' (H224358-09)

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	09/22/2022	ND	1.99	99.6	2.00	9.22	
Toluene*	<0.050	0.050	09/22/2022	ND	2.00	100	2.00	9.48	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.95	97.3	2.00	9.52	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	6.07	101	6.00	9.73	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	09/22/2022	ND	416	104	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	09/21/2022	ND	193	96.4	200	4.45	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	221	110	200	14.4	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 73.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 83.9 % 46.3-178

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Analytical Results For:

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Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 27 @ 1' (H224358-10)

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	09/22/2022	ND	1.99	99.6	2.00	9.22	
Toluene*	<0.050	0.050	09/22/2022	ND	2.00	100	2.00	9.48	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.95	97.3	2.00	9.52	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	6.07	101	6.00	9.73	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	09/22/2022	ND	416	104	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	09/21/2022	ND	193	96.4	200	4.45	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	221	110	200	14.4	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 77.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 90.1 % 46.3-178

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Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 28 @ 1' (H224358-11)

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	09/22/2022	ND	1.99	99.6	2.00	9.22	
Toluene*	<0.050	0.050	09/22/2022	ND	2.00	100	2.00	9.48	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.95	97.3	2.00	9.52	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	6.07	101	6.00	9.73	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	96.0	16.0	09/22/2022	ND	416	104	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	09/21/2022	ND	193	96.4	200	4.45	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	221	110	200	14.4	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 75.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 84.7 % 46.3-178

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Analytical Results For:

Etech Environmental & Safety Solutions
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 2617 W MARLAND
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 Fax To:

Received:	09/20/2022	Sampling Date:	09/20/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 29 @ 2' (H224358-12)

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	09/22/2022	ND	1.99	99.6	2.00	9.22		
Toluene*	<0.050	0.050	09/22/2022	ND	2.00	100	2.00	9.48		
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.95	97.3	2.00	9.52		
Total Xylenes*	<0.150	0.150	09/22/2022	ND	6.07	101	6.00	9.73		
Total BTEX	<0.300	0.300	09/22/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	09/21/2022	ND	416	104	400	0.00	QM-07	

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	09/21/2022	ND	193	96.4	200	4.45		
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	221	110	200	14.4		
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND						

Surrogate: 1-Chlorooctane 81.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 93.9 % 46.3-178

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Analytical Results For:

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

Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 30 @ 1' (H224358-13)

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	09/22/2022	ND	1.94	97.1	2.00	1.40	
Toluene*	<0.050	0.050	09/22/2022	ND	1.94	96.8	2.00	0.644	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.91	95.4	2.00	2.65	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	5.92	98.6	6.00	2.07	
Total BTEX	<0.300	0.300	09/22/2022	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	09/21/2022	ND	416	104	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	09/21/2022	ND	193	96.4	200	4.45	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	221	110	200	14.4	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 79.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 90.6 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/20/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 31 @ 1' (H224358-14)

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	09/22/2022	ND	1.94	97.1	2.00	1.40	
Toluene*	<0.050	0.050	09/22/2022	ND	1.94	96.8	2.00	0.644	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.91	95.4	2.00	2.65	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	5.92	98.6	6.00	2.07	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	224	16.0	09/21/2022	ND	416	104	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	09/21/2022	ND	182	90.9	200	5.74	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	197	98.4	200	5.58	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 88.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 94.4 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/20/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 32 @ 1' (H224358-15)

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	09/22/2022	ND	1.94	97.1	2.00	1.40	
Toluene*	<0.050	0.050	09/22/2022	ND	1.94	96.8	2.00	0.644	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.91	95.4	2.00	2.65	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	5.92	98.6	6.00	2.07	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	144	16.0	09/21/2022	ND	416	104	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	09/21/2022	ND	182	90.9	200	5.74	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	197	98.4	200	5.58	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 93.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 99.7 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/20/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 33 @ 1' (H224358-16)

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	09/22/2022	ND	1.94	97.1	2.00	1.40	
Toluene*	<0.050	0.050	09/22/2022	ND	1.94	96.8	2.00	0.644	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.91	95.4	2.00	2.65	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	5.92	98.6	6.00	2.07	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	288	16.0	09/21/2022	ND	416	104	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	09/21/2022	ND	182	90.9	200	5.74	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	197	98.4	200	5.58	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 93.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 99.0 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/20/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 34 @ 1' (H224358-17)

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	09/22/2022	ND	1.94	97.1	2.00	1.40	
Toluene*	<0.050	0.050	09/22/2022	ND	1.94	96.8	2.00	0.644	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.91	95.4	2.00	2.65	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	5.92	98.6	6.00	2.07	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	176	16.0	09/21/2022	ND	416	104	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	09/21/2022	ND	182	90.9	200	5.74	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	197	98.4	200	5.58	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 95.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 103 % 46.3-178

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Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/20/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 35 @ 1' (H224358-18)

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	09/22/2022	ND	1.94	97.1	2.00	1.40	
Toluene*	<0.050	0.050	09/22/2022	ND	1.94	96.8	2.00	0.644	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.91	95.4	2.00	2.65	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	5.92	98.6	6.00	2.07	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	272	16.0	09/21/2022	ND	416	104	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	09/21/2022	ND	182	90.9	200	5.74	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	197	98.4	200	5.58	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 94.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 101 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/20/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 36 @ 2' (H224358-19)

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	09/22/2022	ND	1.94	97.1	2.00	1.40	
Toluene*	<0.050	0.050	09/22/2022	ND	1.94	96.8	2.00	0.644	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.91	95.4	2.00	2.65	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	5.92	98.6	6.00	2.07	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	192	16.0	09/21/2022	ND	416	104	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	09/21/2022	ND	182	90.9	200	5.74	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	197	98.4	200	5.58	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 86.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 95.5 % 46.3-178

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

Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: SW 1 (H224358-20)

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	09/22/2022	ND	1.94	97.1	2.00	1.40	
Toluene*	<0.050	0.050	09/22/2022	ND	1.94	96.8	2.00	0.644	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.91	95.4	2.00	2.65	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	5.92	98.6	6.00	2.07	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	192	16.0	09/21/2022	ND	416	104	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	09/21/2022	ND	182	90.9	200	5.74	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	197	98.4	200	5.58	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 90.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 94.5 % 46.3-178

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Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: EW 7 (H224358-21)

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	09/22/2022	ND	1.94	97.1	2.00	1.40	
Toluene*	<0.050	0.050	09/22/2022	ND	1.94	96.8	2.00	0.644	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.91	95.4	2.00	2.65	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	5.92	98.6	6.00	2.07	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	128	16.0	09/21/2022	ND	416	104	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	09/21/2022	ND	182	90.9	200	5.74	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	197	98.4	200	5.58	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 94.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 101 % 46.3-178

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

Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: EW 8 (H224358-22)

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	09/22/2022	ND	1.94	97.1	2.00	1.40	
Toluene*	<0.050	0.050	09/22/2022	ND	1.94	96.8	2.00	0.644	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.91	95.4	2.00	2.65	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	5.92	98.6	6.00	2.07	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	09/21/2022	ND	416	104	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	09/21/2022	ND	182	90.9	200	5.74	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	197	98.4	200	5.58	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 91.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 96.9 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: EW 9 (H224358-23)

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	09/22/2022	ND	1.94	97.1	2.00	1.40	
Toluene*	<0.050	0.050	09/22/2022	ND	1.94	96.8	2.00	0.644	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.91	95.4	2.00	2.65	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	5.92	98.6	6.00	2.07	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	176	16.0	09/21/2022	ND	416	104	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	09/21/2022	ND	182	90.9	200	5.74	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	197	98.4	200	5.58	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 94.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 101 % 46.3-178

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

Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/20/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: EW 10 (H224358-24)

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	09/22/2022	ND	1.94	97.1	2.00	1.40		
Toluene*	<0.050	0.050	09/22/2022	ND	1.94	96.8	2.00	0.644		
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.91	95.4	2.00	2.65		
Total Xylenes*	<0.150	0.150	09/22/2022	ND	5.92	98.6	6.00	2.07		
Total BTEX	<0.300	0.300	09/22/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	208	16.0	09/21/2022	ND	416	104	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	09/21/2022	ND	182	90.9	200	5.74		
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	197	98.4	200	5.58		
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND						

Surrogate: 1-Chlorooctane 90.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 95.9 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: EW 11 (H224358-25)

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	09/22/2022	ND	1.94	97.1	2.00	1.40	
Toluene*	<0.050	0.050	09/22/2022	ND	1.94	96.8	2.00	0.644	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.91	95.4	2.00	2.65	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	5.92	98.6	6.00	2.07	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	48.0	16.0	09/21/2022	ND	416	104	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	09/21/2022	ND	182	90.9	200	5.74	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	197	98.4	200	5.58	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 90.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 95.2 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/20/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: EW 12 (H224358-26)

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	09/22/2022	ND	1.94	97.1	2.00	1.40	
Toluene*	<0.050	0.050	09/22/2022	ND	1.94	96.8	2.00	0.644	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.91	95.4	2.00	2.65	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	5.92	98.6	6.00	2.07	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	128	16.0	09/21/2022	ND	416	104	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	09/21/2022	ND	182	90.9	200	5.74	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	197	98.4	200	5.58	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 97.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 105 % 46.3-178

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Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: WW 8 (H224358-27)

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	09/22/2022	ND	1.94	97.1	2.00	1.40	
Toluene*	<0.050	0.050	09/22/2022	ND	1.94	96.8	2.00	0.644	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.91	95.4	2.00	2.65	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	5.92	98.6	6.00	2.07	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	144	16.0	09/21/2022	ND	416	104	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	09/21/2022	ND	182	90.9	200	5.74	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	197	98.4	200	5.58	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 93.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 99.8 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: WW 9 (H224358-28)

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	09/22/2022	ND	1.94	97.1	2.00	1.40	
Toluene*	<0.050	0.050	09/22/2022	ND	1.94	96.8	2.00	0.644	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.91	95.4	2.00	2.65	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	5.92	98.6	6.00	2.07	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	80.0	16.0	09/21/2022	ND	416	104	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	09/21/2022	ND	182	90.9	200	5.74	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	197	98.4	200	5.58	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 86.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 91.5 % 46.3-178

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

Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: WW 10 (H224358-29)

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	09/22/2022	ND	1.94	97.1	2.00	1.40	
Toluene*	<0.050	0.050	09/22/2022	ND	1.94	96.8	2.00	0.644	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.91	95.4	2.00	2.65	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	5.92	98.6	6.00	2.07	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	09/21/2022	ND	416	104	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	09/21/2022	ND	182	90.9	200	5.74	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	197	98.4	200	5.58	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 87.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 94.7 % 46.3-178

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

Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/20/2022	Sampling Date:	09/19/2022
Reported:	09/23/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: WW 11 (H224358-30)

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	09/22/2022	ND	1.94	97.1	2.00	1.40	
Toluene*	<0.050	0.050	09/22/2022	ND	1.94	96.8	2.00	0.644	
Ethylbenzene*	<0.050	0.050	09/22/2022	ND	1.91	95.4	2.00	2.65	
Total Xylenes*	<0.150	0.150	09/22/2022	ND	5.92	98.6	6.00	2.07	
Total BTEX	<0.300	0.300	09/22/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	320	16.0	09/21/2022	ND	416	104	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	09/21/2022	ND	182	90.9	200	5.74	
DRO >C10-C28*	<10.0	10.0	09/21/2022	ND	197	98.4	200	5.58	
EXT DRO >C28-C36	<10.0	10.0	09/21/2022	ND					

Surrogate: 1-Chlorooctane 91.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 96.4 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

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

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Routine

2 of 3

Company Name: Etech Environmental & Safety Solutions, Inc.		BILL TO		ANALYSIS REQUEST																																																																																																																																																																																																																											
Project Manager: Lance Crenshaw		P.O. #:		<table border="1"> <tr><td>Chloride</td><td>TPH (8015M)</td><td>BTEX (8021B)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>										Chloride	TPH (8015M)	BTEX (8021B)																																																																																																																																																																																																															
Chloride	TPH (8015M)	BTEX (8021B)																																																																																																																																																																																																																													
Address: 2617 W Marland		Company: Mewbourne																																																																																																																																																																																																																													
City: Hobbs State: NM Zip: 88240		Attn: Corner																																																																																																																																																																																																																													
Phone #: (575) 264-9884 Fax #:		Address: 4801 Business Park Blvd																																																																																																																																																																																																																													
Project #: 16615 Project Owner: Mewbourne		City: Hobbs																																																																																																																																																																																																																													
Project Name: Aureus-Zuma Fracture		State: NM Zip: 88240																																																																																																																																																																																																																													
Project Location:		Phone #:																																																																																																																																																																																																																													
Sampler Name: Eric Mojica		Fax #:																																																																																																																																																																																																																													

Lab I.D.	Sample I.D.	(C)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.		SAMPLING		Chloride	TPH (8015M)	BTEX (8021B)						
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE	ICE/COOL	OTHER									
H224358																					
11	FS 2801	C	1			✓			✓			✓	✓	✓							
12	FS 2902	C	1			✓			✓			✓	✓	✓							
13	FS 3001	C	1			✓			✓			✓	✓	✓							
14	FS 3101	C	1			✓			✓			✓	✓	✓							
15	FS 3201	C	1			✓			✓			✓	✓	✓							
14	FS 3301	C	1			✓			✓			✓	✓	✓							
17	FS 3401	C	1			✓			✓			✓	✓	✓							
18	FS 3501	C	1			✓			✓			✓	✓	✓							
19	FS 3602	C	1			✓			✓			✓	✓	✓							
20	SWI	C	1			✓			✓			✓	✓	✓							

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Relinquished By: Eric Mojica	Date: 9-20-22 Time: 1643	Received By: Tamara Aldrete	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Date:	Received By:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Time:			REMARKS:	

Delivered By: (Circle One)	Sample Condition	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other: 4.8°C / 4.2°C	Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No	✓

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



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

September 26, 2022

LANCE CRENSHAW

Etech Environmental & Safety Solutions

2617 W MARLAND

HOBBS, NM 88240

RE: AUREUS - ZUMA FRACLINE

Enclosed are the results of analyses for samples received by the laboratory on 09/21/22 15:18.

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

Cardinal Laboratories is 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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/21/2022	Sampling Date:	09/21/2022
Reported:	09/26/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: NW 1 (H224393-01)

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	09/23/2022	ND	1.98	98.9	2.00	0.312	
Toluene*	<0.050	0.050	09/23/2022	ND	2.22	111	2.00	0.477	
Ethylbenzene*	<0.050	0.050	09/23/2022	ND	2.10	105	2.00	0.739	
Total Xylenes*	<0.150	0.150	09/23/2022	ND	6.45	108	6.00	2.12	
Total BTEX	<0.300	0.300	09/23/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	96.0	16.0	09/22/2022	ND	416	104	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	09/22/2022	ND	183	91.3	200	2.81	
DRO >C10-C28*	<10.0	10.0	09/22/2022	ND	196	97.8	200	7.23	
EXT DRO >C28-C36	<10.0	10.0	09/22/2022	ND					

Surrogate: 1-Chlorooctane 87.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 90.8 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/21/2022	Sampling Date:	09/21/2022
Reported:	09/26/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 37 @ 2' (H224393-02)

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	09/23/2022	ND	1.98	98.9	2.00	0.312		
Toluene*	<0.050	0.050	09/23/2022	ND	2.22	111	2.00	0.477		
Ethylbenzene*	<0.050	0.050	09/23/2022	ND	2.10	105	2.00	0.739		
Total Xylenes*	<0.150	0.150	09/23/2022	ND	6.45	108	6.00	2.12		
Total BTEX	<0.300	0.300	09/23/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	128	16.0	09/22/2022	ND	416	104	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	09/22/2022	ND	183	91.3	200	2.81		
DRO >C10-C28*	<10.0	10.0	09/22/2022	ND	196	97.8	200	7.23		
EXT DRO >C28-C36	<10.0	10.0	09/22/2022	ND						

Surrogate: 1-Chlorooctane 86.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 91.9 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/21/2022	Sampling Date:	09/21/2022
Reported:	09/26/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 38 @ 2' (H224393-03)

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	09/23/2022	ND	1.98	98.9	2.00	0.312		
Toluene*	<0.050	0.050	09/23/2022	ND	2.22	111	2.00	0.477		
Ethylbenzene*	<0.050	0.050	09/23/2022	ND	2.10	105	2.00	0.739		
Total Xylenes*	<0.150	0.150	09/23/2022	ND	6.45	108	6.00	2.12		
Total BTEX	<0.300	0.300	09/23/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	80.0	16.0	09/22/2022	ND	416	104	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	09/22/2022	ND	183	91.3	200	2.81		
DRO >C10-C28*	<10.0	10.0	09/22/2022	ND	196	97.8	200	7.23		
EXT DRO >C28-C36	<10.0	10.0	09/22/2022	ND						

Surrogate: 1-Chlorooctane 80.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 86.1 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/21/2022	Sampling Date:	09/21/2022
Reported:	09/26/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: FS 39 @ 2' (H224393-04)

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	09/23/2022	ND	1.98	98.9	2.00	0.312		
Toluene*	<0.050	0.050	09/23/2022	ND	2.22	111	2.00	0.477		
Ethylbenzene*	<0.050	0.050	09/23/2022	ND	2.10	105	2.00	0.739		
Total Xylenes*	<0.150	0.150	09/23/2022	ND	6.45	108	6.00	2.12		
Total BTEX	<0.300	0.300	09/23/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	09/22/2022	ND	416	104	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	09/22/2022	ND	183	91.3	200	2.81		
DRO >C10-C28*	<10.0	10.0	09/22/2022	ND	196	97.8	200	7.23		
EXT DRO >C28-C36	<10.0	10.0	09/22/2022	ND						

Surrogate: 1-Chlorooctane 85.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 90.4 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/21/2022	Sampling Date:	09/21/2022
Reported:	09/26/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: EW 13 (H224393-05)

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	09/23/2022	ND	1.98	98.9	2.00	0.312	
Toluene*	<0.050	0.050	09/23/2022	ND	2.22	111	2.00	0.477	
Ethylbenzene*	<0.050	0.050	09/23/2022	ND	2.10	105	2.00	0.739	
Total Xylenes*	<0.150	0.150	09/23/2022	ND	6.45	108	6.00	2.12	
Total BTEX	<0.300	0.300	09/23/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	09/22/2022	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	09/22/2022	ND	183	91.3	200	2.81	
DRO >C10-C28*	<10.0	10.0	09/22/2022	ND	196	97.8	200	7.23	
EXT DRO >C28-C36	<10.0	10.0	09/22/2022	ND					

Surrogate: 1-Chlorooctane 91.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 97.1 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/21/2022	Sampling Date:	09/21/2022
Reported:	09/26/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: EW 14 (H224393-06)

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	09/23/2022	ND	1.98	98.9	2.00	0.312		
Toluene*	<0.050	0.050	09/23/2022	ND	2.22	111	2.00	0.477		
Ethylbenzene*	<0.050	0.050	09/23/2022	ND	2.10	105	2.00	0.739		
Total Xylenes*	<0.150	0.150	09/23/2022	ND	6.45	108	6.00	2.12		
Total BTEX	<0.300	0.300	09/23/2022	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	09/22/2022	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	09/22/2022	ND	183	91.3	200	2.81		
DRO >C10-C28*	<10.0	10.0	09/22/2022	ND	196	97.8	200	7.23		
EXT DRO >C28-C36	<10.0	10.0	09/22/2022	ND						

Surrogate: 1-Chlorooctane 85.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 94.2 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/21/2022	Sampling Date:	09/20/2022
Reported:	09/26/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: WW 12 (H224393-07)

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	09/23/2022	ND	1.98	98.9	2.00	0.312	
Toluene*	<0.050	0.050	09/23/2022	ND	2.22	111	2.00	0.477	
Ethylbenzene*	<0.050	0.050	09/23/2022	ND	2.10	105	2.00	0.739	
Total Xylenes*	<0.150	0.150	09/23/2022	ND	6.45	108	6.00	2.12	
Total BTEX	<0.300	0.300	09/23/2022	ND					

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

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/22/2022	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	09/22/2022	ND	183	91.3	200	2.81	
DRO >C10-C28*	<10.0	10.0	09/22/2022	ND	196	97.8	200	7.23	
EXT DRO >C28-C36	<10.0	10.0	09/22/2022	ND					

Surrogate: 1-Chlorooctane 89.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 94.6 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Etech Environmental & Safety Solutions
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/21/2022	Sampling Date:	09/21/2022
Reported:	09/26/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: WW 13 (H224393-08)

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	09/23/2022	ND	1.98	98.9	2.00	0.312	
Toluene*	<0.050	0.050	09/23/2022	ND	2.22	111	2.00	0.477	
Ethylbenzene*	<0.050	0.050	09/23/2022	ND	2.10	105	2.00	0.739	
Total Xylenes*	<0.150	0.150	09/23/2022	ND	6.45	108	6.00	2.12	
Total BTEX	<0.300	0.300	09/23/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	09/22/2022	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	09/22/2022	ND	183	91.3	200	2.81	
DRO >C10-C28*	<10.0	10.0	09/22/2022	ND	196	97.8	200	7.23	
EXT DRO >C28-C36	<10.0	10.0	09/22/2022	ND					

Surrogate: 1-Chlorooctane 90.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 95.3 % 46.3-178

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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
 LANCE CRENSHAW
 2617 W MARLAND
 HOBBS NM, 88240
 Fax To:

Received:	09/21/2022	Sampling Date:	09/20/2022
Reported:	09/26/2022	Sampling Type:	Soil
Project Name:	AUREUS - ZUMA FRACLINE	Sampling Condition:	Cool & Intact
Project Number:	16615	Sample Received By:	Tamara Oldaker
Project Location:	MEWBOURNE		

Sample ID: WW 14 (H224393-09)

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	09/23/2022	ND	1.98	98.9	2.00	0.312	
Toluene*	<0.050	0.050	09/23/2022	ND	2.22	111	2.00	0.477	
Ethylbenzene*	<0.050	0.050	09/23/2022	ND	2.10	105	2.00	0.739	
Total Xylenes*	<0.150	0.150	09/23/2022	ND	6.45	108	6.00	2.12	
Total BTEX	<0.300	0.300	09/23/2022	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	09/22/2022	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	09/22/2022	ND	183	91.3	200	2.81	
DRO >C10-C28*	<10.0	10.0	09/22/2022	ND	196	97.8	200	7.23	
EXT DRO >C28-C36	<10.0	10.0	09/22/2022	ND					

Surrogate: 1-Chlorooctane 88.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 93.0 % 46.3-178

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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

Celey D. Keene, Lab Director/Quality Manager

Appendix E

Regulatory Correspondence

From: [Lance Crenshaw](#)
To: [Enviro, OCD, EMNRD](#)
Cc: [Connor Walker](#); [Ben Arguijo](#)
Subject: Excavation Confirmation sampling notification
Date: Tuesday, September 20, 2022 3:53:17 PM

This email serves as notice that Etech intends to collect excavation confirmation soil samples on September 22 through September 26 from the following locations/reportable release sites:

Mewbourne Oil Co – Aureus-Zuma– napp22133659126

If you have any questions or need any additional information, please contact Lance Crenshaw by phone (575-631-2532) or email (lance@etechenv.com)

Lance Crenshaw
Etech Environmental & Safety Solutions
575-631-2532

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

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

CONDITIONS

Action 160084

CONDITIONS

Operator: MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM 88241	OGRID: 14744
	Action Number: 160084
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2213659126 AUREUS – ZUMA FRAC LINE, thank you. This closure is approved.	2/17/2023