



July 15, 2022

Robert Hamlet
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505
PH #: 575-748-1283
Robert.Hamlet@state.nm.us

Re: Soil Remediation Workplan
Chevron USA
Benson Shugart Waterflood Unit #015 Release (nMLB0526441458)
GPS: N 32.71542° W 103.93081°
Unit Letter "L", Section 25, Township 18 South, Range 30 East
Eddy County, New Mexico

Dear Mr. Hamlet,

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of Chevron USA (Chevron), has prepared this Soil Remediation Workplan for the Benson Shugart Waterflood Unit #015 Release Site (Release Site). The legal description of the Release Site is Unit Letter "L", Section 25, Township 18 South, Range 30 East, in Eddy County, New Mexico. The GPS coordinates for the site are N 32.71542° W 103.93081°. A Site Location Map and Aerial Proximity Map are provided as Figure 1 and Figure 2, respectively.

INTRODUCTION

On August 14, 2005, a reportable release occurred at the Release Site. The release was the result of a pipeline failure and impacted the pasture adjacent to the lease road. Approximately two hundred (200) barrels (bbls) of produced water was released with approximately one hundred fifty (150) bbls recovered via vacuum trucks, for a net loss of fifty (50) bbls of produced water. The initial Form C-141 is provided in Appendix A.

NMOCD SITE CLASSIFICATION

NMOCD assessment and cleanup levels for hydrocarbon and produced water releases are based on depth to groundwater and karst status and follow the criteria in the revised August 2018 Title 19 Chapter 15 part 29 New Mexico Administrative Code (19.15.29 NMAC) regulations. Groundwater databases maintained by the New Mexico Office of the State Engineer (NMOSE), New Mexico Bureau of Geology & Mineral Resources (NMBGMR), and United States Geological Survey (USGS) were accessed to determine if any registered water wells were located within a half-mile of the site. The databases identified two (2) registered water wells within a ½-mile radius. No water wells were located within one thousand (1,000) ft of the release. The two wells located within a ½-mile of the site were USGS 324241103561201 & 324244103561601 with depths ranging from one hundred eighty-four (184) ft below ground surface (bgs) to two hundred five (205) ft bgs for an average depth of one hundred ninety-five (195) ft bgs. In addition, the site is listed as being in a high Karst Topography region. See Appendix B for maps, along with water well data, detailing the site relative to groundwater locations. Based on the NMOCD site classification system, the following soil remediation levels were assigned to the Release Site:

- Benzene – 10 mg/Kg (ppm)
- Total BTEX – 50 mg/Kg (ppm)
- Total TPH – 100 mg/Kg (ppm)
- Chloride – 600 mg/Kg (ppm)

INITIAL ASSESSMENT AND DELINEATION ACTIVITIES

On January 5, 2022, Etech was onsite to perform the initial assessment and delineation of the release. The release, located on Bureau of Land Management (BLM) property, measured approximately four hundred twenty-five (425) feet (ft) in length and five (5) to thirty (30) ft wide along the lease road. The surface dimensions covered an area of approximately 5,372 square feet. Four (4) auger holes (Auger Hole 1 through Auger Hole 4) were installed in the inferred spill area to a depth of forty-eight (48) inches bgs. Samples were collected and submitted to Europhins Laboratory in Midland, Texas for analysis of Benzene, Toulene, Ethylbenzene, and Xylenes (BTEX) by EPA method 8021B, Total Petroleum Hydrocarbons (TPH) by EPA method 8015M, and Chlorides by EPA method 300.0. Analytical concentrations for Benzene, Total BTEX, and TPH were below method detection limit (MDL) and/or the New Mexico Oil Conservation Division (NMOCD) remediation standards. The chloride concentrations were above the NMOCD remediation standard of 600 mg/Kg for all soil samples submitted and ranged from 889 mg/Kg for Auger Hole 4 (3.5'-4.0') to 17,100 mg/Kg for Auger Hole 4 (0-0.5'). See Appendix C for attached photos detailing release and impact to pad. See Figure 3 for Site Details Location Map. See Figure 4 for Delineation Plat.

On April 6 & 11, 2022, Etech further delineated the Release Site in an attempt to reach full chloride delineation. Four (4) auger holes (Auger Hole 1 through Auger Hole 4) were installed in the same area as the first delineation to a depth of seventy-two (72) inches bgs. In addition, six (6) auger holes (East, West, South, North) were installed in each cardinal direction in an attempt to determine the boundaries of the release, to a depth of forty-eight (48) inches bgs. Field chloride screening was conducted during delineation event. Samples were collected and submitted to Europhins in Midland, Texas for chloride analysis. The chloride concentrations were below the NMOCD remediation standard of 600 mg/Kg for

all samples analyzed and ranged from <4.95 mg/Kg for South Auger Hole 1 (3.5'-4') to 370 mg/Kg for Auger Hole 1 (5.5'-6') and Auger Hole 2 (5.5'-6'). See Figure 4 for Delineation Plat and Table 1 for analysis. See Appendix D for entire analytical results.

SOIL REMEDIATION WORKPLAN

Etech proposes to complete remediation in accordance with NMOCD rules and regulations which will entail the following:

- Impacted soils will be excavated to appropriate depths based on delineation data and stockpiled on plastic awaiting disposal.
- During excavation activities soils will be field screened utilizing chloride test kits and a PID meter for determination of laboratory sampling and additional excavation, if warranted.
- Upon completion of the excavation, confirmation soil samples will be collected every two hundred (200) square feet from the base and sidewalls (representing no more than 50 linear feet) of the excavated areas. Additional, discrete grab samples will be collected from wet or visibly stained areas inferred to have been affected by the release, as necessary. Samples will be submitted to Permian Basin Environmental Labs of Texas (PBELAB) for analysis of BTEX by EPA Method 8021B, TPH by EPA Method 8015M, and Chlorides by EPA method 300.0.
- The impacted soils will be transported off-site for disposal at an NMOCD approved disposal facility. Estimated 1,350 cubic yards of impacted soils based on delineation results.
- Upon completion of remediation and requisite soil sampling, the site will be backfilled with locally sourced, non-impacted "like" material from an approved off-site facility and brought back to grade.
- A closure report with final C-141 will be submitted to the NMOCD upon completion of remediation activities.

Once the soil remediation work plan has been approved by the NMOCD, Chevron will commence remediation activities. Upon completion of remediation activities, Chevron will complete the activities within ninety (90) days of approval and submit a "*Remediation Summary and Site Closure Request Report*" to the NMOCD.

If you have any questions, or if additional information is required, please feel free to call me at 432-563-2200 (office) or 432-653-9697 (cell).

Thank you,



Jeffrey Kindley, P.G.
Senior Project Manager/Geologist
Etech Environmental & Safety Solutions, Inc.

Attachments:

Figure 1 – Topographic Map

Figure 2 – Aerial Proximity Map

Figure 3 – Site and Sample Location Map

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

Appendix A: Initial Release Notification and Corrective Action Form C-141

Appendix B: Groundwater Data Maps and Supporting Water Well Data

Appendix C: Photographic Documentation

Appendix D: Laboratory Analytical

cc: File

Figure 1

Topographic Map



Legend

 Site Location

Figure 1

Topographic Map

Chevron Environmental Management Company

Benson Shugart Waterflood Unit #015

GPS: 32.715339, -103.930783

Eddy County

ETECH



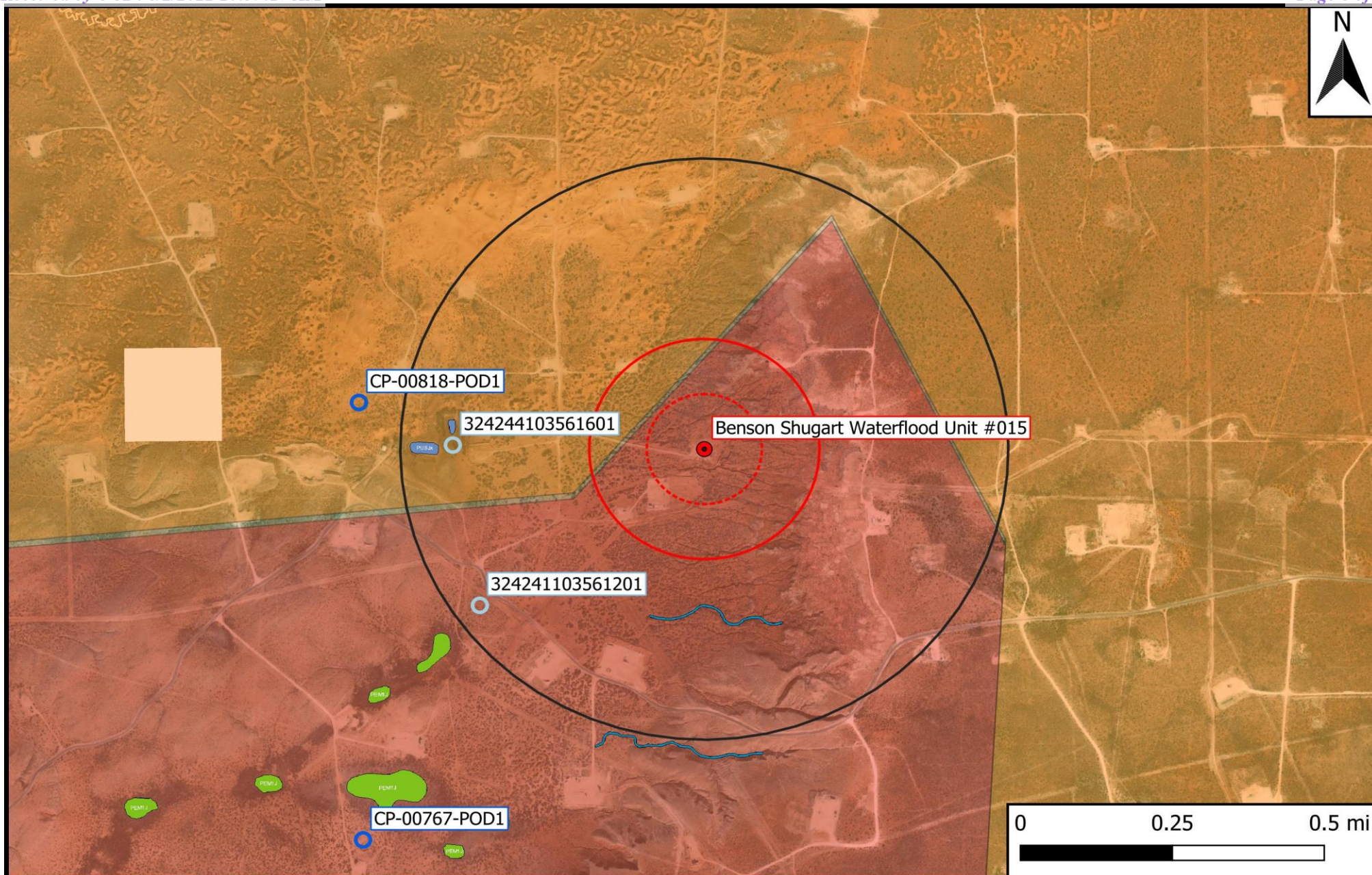
Drafted: mag

Checked: jwl

Date: 6/29/22

Figure 2

Aerial Proximity Map



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

Figure 2
 Aerial Proximity Map
 Chevron Environmental Management Company
 Benson Shugart Waterflood Unit #015
 GPS: 32.715339, -103.930783
 Eddy County



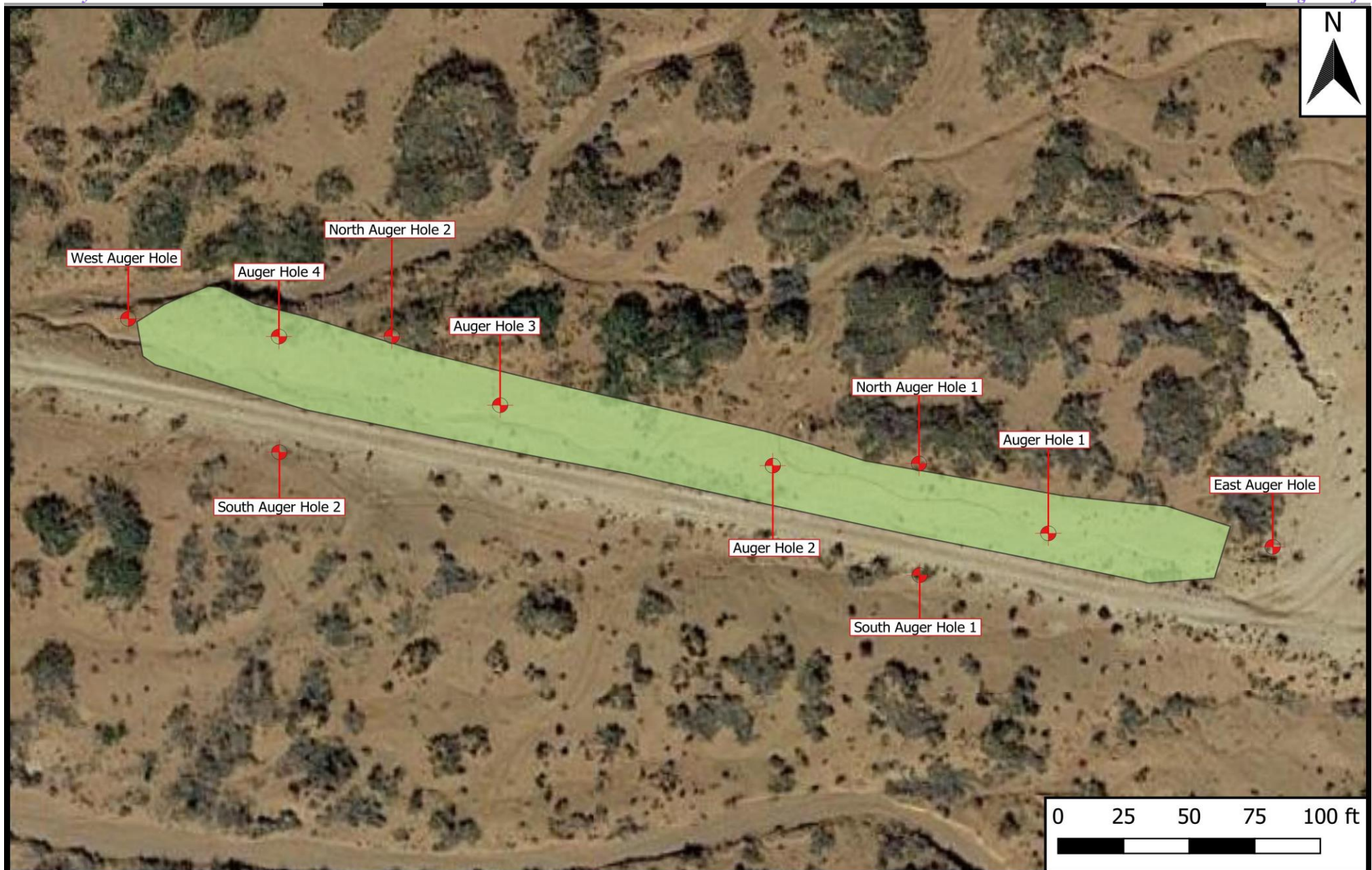
Drafted: mag

Checked: jwl

Date: 6/29/22

Figure 3

Site and Sample Location Map

**Legend**

- Sample Point
- Release Area

Figure 3

Site and Sample Location Map
Chevron Environmental Management Company
Benson Shugart Waterflood Unit #015
GPS: 32.715339, -103.930783
Eddy County



Drafted: mag

Checked: jwl

Date: 6/30/22

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

Table 1
Concentrations of BTEX, TPH, and Chloride in Soil
Chevron Environmental Management Company
Benson Shugart Waterflood Unit #015
NMOCD Ref. #: nMLB0526441458

NMOCD Closure Criteria				10	50	-	-	-	-	100	600
NMOCD Reclamation Standard				10	50	-	-	-	-	100	600
Sample ID	Date	Depth (Feet)	Soil Status	SW 846 8021B		SW 846 8015M Ext.					4500 Cl
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
East Auger Hole	4/6/2022	0-0.5	In-Situ	-	-	-	-	-	-	-	20.4
East Auger Hole	4/6/2022	3.5-4	In-Situ	-	-	-	-	-	-	-	99.5
North Auger Hole 1	4/6/2022	0-0.5	In-Situ	-	-	-	-	-	-	-	15.0
North Auger Hole 1	4/6/2022	3.5-4	In-Situ	-	-	-	-	-	-	-	97.8
North Auger Hole 2	4/6/2022	0-0.5	In-Situ	-	-	-	-	-	-	-	10.4
North Auger Hole 2	4/6/2022	3.5-4	In-Situ	-	-	-	-	-	-	-	314
South Auger Hole	4/6/2022	0-0.5	In-Situ	-	-	-	-	-	-	-	33.7
South Auger Hole	4/6/2022	3.5-4	In-Situ	-	-	-	-	-	-	-	8.16
South Auger Hole 1	4/6/2022	0-0.5	In-Situ	-	-	-	-	-	-	-	23.5
South Auger Hole 1	4/6/2022	3.5-4	In-Situ	-	-	-	-	-	-	-	<4.95
West Auger Hole	4/6/2022	0-0.5	In-Situ	-	-	-	-	-	-	-	16.3
West Auger Hole	4/6/2022	3.5-4	In-Situ	-	-	-	-	-	-	-	20.2
Auger Hole 1	1/5/2022	0-0.5	In-Situ	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	10,000
Auger Hole 1	1/5/2022	3.5-4	In-Situ	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	2,300
Auger Hole 1	4/11/2022	5.5-6	In-Situ	-	-	-	-	-	-	-	370
Auger Hole 2	1/5/2022	0-0.5	In-Situ	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	1,290
Auger Hole 2	1/5/2022	3.5-4	In-Situ	<0.00200	<0.00400	<50.0	<50.0	<50.0	<50.0	<50.0	1,130
Auger Hole 2	4/11/2022	5.5-6	In-Situ	-	-	-	-	-	-	-	370
Auger Hole 3	1/5/2022	0-0.5	In-Situ	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	13,600
Auger Hole 3	1/5/2022	3.5-4	In-Situ	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	1,470
Auger Hole 3	4/11/2022	5.5-6	In-Situ	-	-	-	-	-	-	-	369
Auger Hole 4	1/5/2022	0-0.5	In-Situ	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	17,100
Auger Hole 4	1/5/2022	3.5-4	In-Situ	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	<49.9	889
Auger Hole 4	4/11/2022	5.5-6	In-Situ	-	-	-	-	-	-	-	73.9

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

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

Appendix A

Initial Release Notification and Corrective Action Form C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	CHESAPEAKE	Contact	BRADLEY G. BLEVINS
Address	5014 CARLSBAD HWY HOBBS	Telephone No.	505 391-1462
Facility Name	BENSON SURFACTANT INJECTION #1	Facility Type	LEASE SELECTION
Surface Owner	Mineral Owner		Lease No. NM 61375

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	25	18S	30E					EDDY

Latitude $N30^{\circ}40'49''$ Longitude $W103^{\circ}55'36''$

NATURE OF RELEASE

Type of Release	PRODUCED WATER	Volume of Release	200 RBL	Volume Recovered	150
Source of Release	INJECTION LINE	Date and Hour of Occurrence		Date and Hour of Discovery	8/19/05 1300
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	MIKE BRATCHER		
By Whom?	BRAD	Date and Hour	8/19/05 1300		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

PIPE LINE FAILURE

UTILIZED JAC TRUCKS TO REMOVE FREE PRODUCT AND START EXCAVATION

Describe Area Affected and Cleanup Action Taken.*

50X160 ALONG LEASE ROAD

(WILL NOTIFY BEFORE SAMPLE COLLECTION FOR LAB)

REMOVE SATURATED SOIL TO LINED CONTAINMENT AND SEND TO CRT

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature:	OIL CONSERVATION DIVISION		
Printed Name:	TIM GUM		
Title:	Approved by District Supervisor:	by MB Mike Bratcher	
E-mail Address:	Approval Date:	Expiration Date:	
Date:	Conditions of Approval:	Attached <input checked="" type="checkbox"/>	

* Attach Additional Sheets If Necessary

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	_____ (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input 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 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 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 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 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 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 type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input type="checkbox"/> No

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

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

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

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

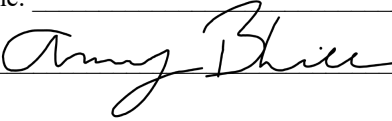
State of New Mexico
Oil Conservation Division

Page 4

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: _____ Title: _____

Signature:  Date: 8-2-22

email: _____ Telephone: _____

OCD Only

Received by: Jocelyn Harimon Date: 08/02/2022

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

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

Printed Name: _____ Title: _____
Signature: Amy Blice Date: 8-2-22
email: _____ Telephone: _____

OCD Only

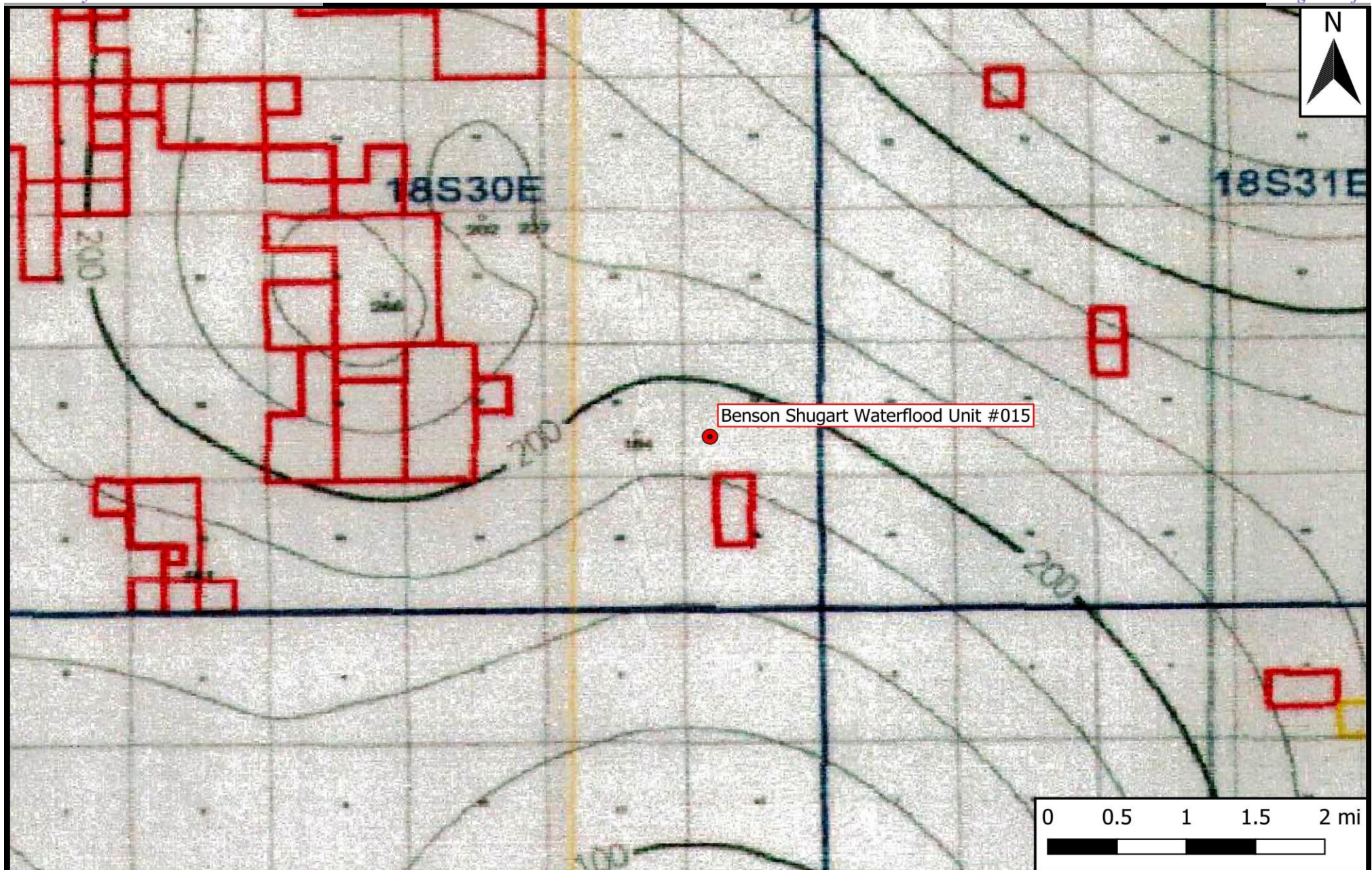
Received by: Jocelyn Harimon Date: _____

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

Signature: Bryan Hall Date: 12/8/2022

Appendix B

Groundwater Data Maps and Supporting Water Well Data



Legend

- Site Location

Figure 4

Inferred Depth to Groundwater Trend Map
Chevron Environmental Management Company
Benson Shugart Waterflood Unit #015
GPS: 32.715339, -103.930783
Eddy County



Drafted: mag

Checked: jwl

Date: 6/29/22



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth	Well	Depth	Water	Column
CP 00818 POD1		CP	LE	1	4	26	18S	30E		599289	3620364*		923		240		
CP 00767 POD1		CP	ED	3	2	35	18S	30E		599300	3619158*		1406		500		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 2

UTM NAD83 Radius Search (in meters):

Easting (X): 600203.74

Northing (Y): 3620235.47

Radius: 1610

*UTM location was derived from PLSS - see Help

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

6/29/22 2:33 PM

WATER COLUMN/ AVERAGE DEPTH TO
WATER



New Mexico Office of the State Engineer

Point of Diversion Summary

		(quarters are 1=NW 2=NE 3=SW 4=SE)				(NAD83 UTM in meters)	
		(quarters are smallest to largest)				X	Y
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng
	CP 00818 POD1	1	4	26	18S	30E	599289 3620364*
Driller License: 122		Driller Company: UNKNOWN					
Driller Name:							
Drill Start Date:		Drill Finish Date:		Plug Date:			
Log File Date:		PCW Rev Date:		Source:		Shallow	
Pump Type:		Pipe Discharge Size:		Estimated Yield:		20 GPM	
Casing Size:	7.00	Depth Well:		240 feet		Depth Water:	

*UTM location was derived from PLSS - see Help

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

6/29/22 2:33 PM

POINT OF DIVERSION SUMMARY



New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tw	Rng	X	Y
CP 00767	POD1	3	2	35	18S	30E	599300	3619158*	

Driller License:

Driller Company:

Driller Name:

Drill Start Date:

Drill Finish Date:

Plug Date:

Log File Date:

PCW Rev Date:

Source:

Pump Type:

Pipe Discharge Size:

Estimated Yield:

Casing Size: 5.50

Depth Well: 500 feet

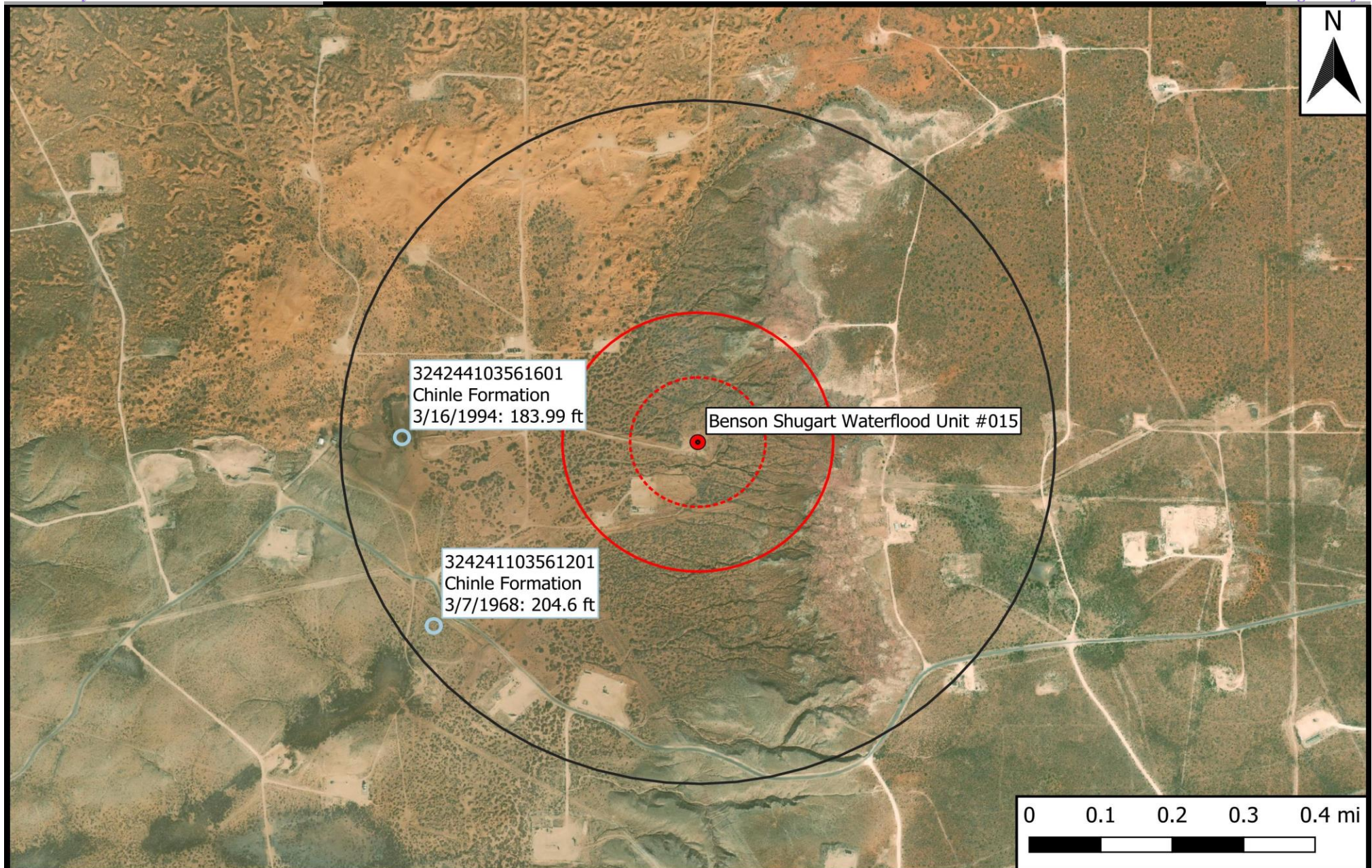
Depth Water:

*UTM location was derived from PLSS - see Help

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

6/29/22 2:33 PM

POINT OF DIVERSION SUMMARY



Legend

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

Figure 5

USGS Well Proximity Map
 Chevron Environmental Management Company
 Benson Shugart Waterflood Unit #015
 GPS: 32.715339, -103.930783
 Eddy County



Drafted: mag

Checked: jwl

Date: 6/29/22



[USGS Home](#)
[Contact USGS](#)
[Search USGS](#)

National Water Information System: Web Interface

USGS Water Resources

Data Category:

Groundwater

Geographic Area:

United States

GO

[Click for News Bulletins](#)

Groundwater levels for the Nation

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

Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 324241103561201

Minimum number of levels = 1

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

USGS 324241103561201 18S.30E.26.4140

Available data for this site

Groundwater: Field measurements

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°42'41", Longitude 103°56'12" NAD27

Land-surface elevation 3,432 feet above NAVD88

The depth of the well is 230 feet below land surface.

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

This well is completed in the Chinle Formation (231CHNL) local aquifer.

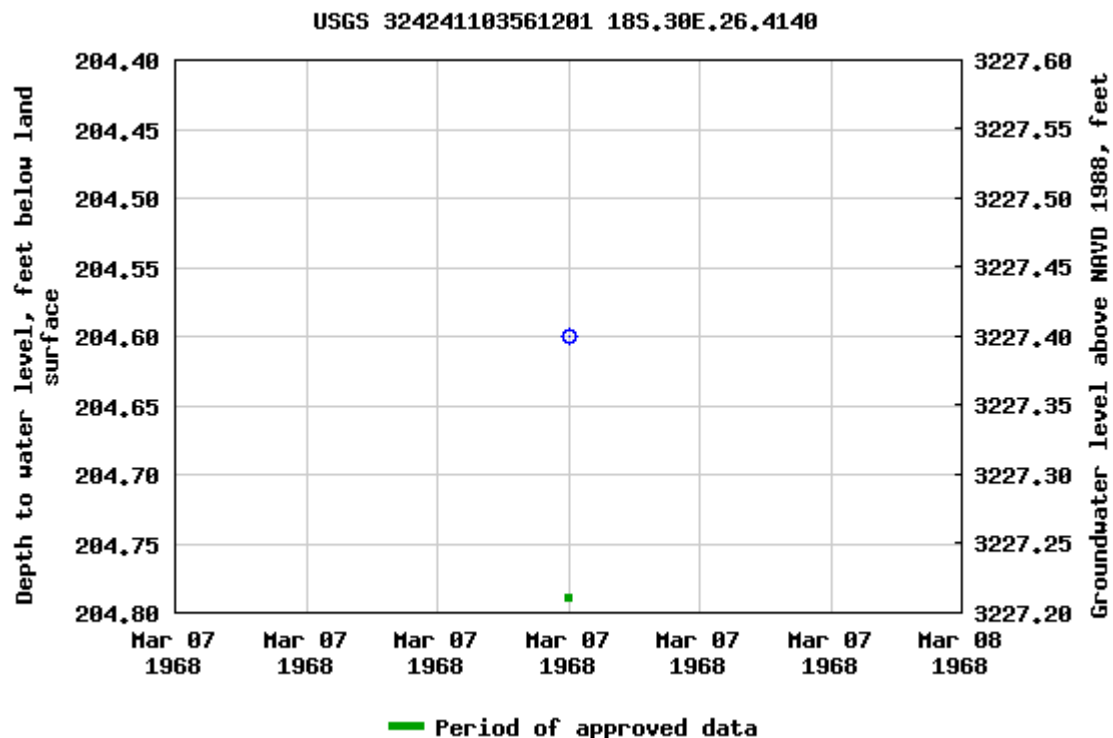
Output formats

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

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Title: Groundwater for USA: Water Levels

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



Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2022-06-29 16:30:55 EDT

0.59 0.51 nadww01



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Groundwater

Geographic Area:

United States

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Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 324244103561601

Minimum number of levels = 1

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USGS 324244103561601 18S.30E.26.414144

Available data for this site

Groundwater: Field measurements

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°42'55.8", Longitude 103°56'16.4" NAD83

Land-surface elevation 3,431 feet above NAVD88

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

This well is completed in the Chinle Formation (231CHNL) local aquifer.

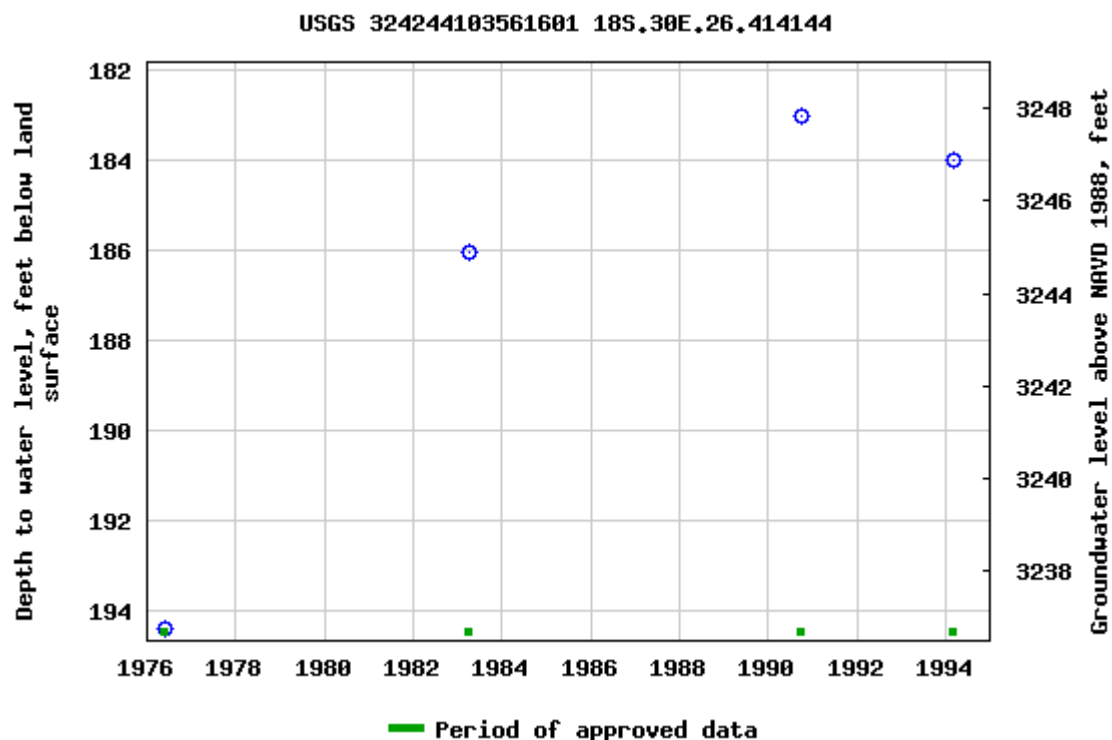
Output formats

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

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Title: Groundwater for USA: Water Levels

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

Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2022-06-29 16:30:56 EDT

0.59 0.53 nadww01



Appendix C

Photographic Documentation

Project Name: Benson Shugart Waterflood Unit #015
Project No: 15306

Photographic Documentation

Photo No: 1.	 <p>1/5/22, 12:25 PM</p>
Direction Taken: West	
Description: View during assessment and delineation event.	

Photo No: 2.	 <p>1/5/22, 12:28 PM</p>
Direction Taken: West	
Description: View during assessment and delineation event.	

Project Name: Benson Shugart Waterflood Unit #015
Project No: 15306

Photographic Documentation

Photo No: 3.	 <p>1/5/22, 12:28 PM</p>
Direction Taken: East	
Description: View during assessment and delineation event.	

Photo No: 4.	 <p>1/5/22, 12:29 PM</p>
Direction Taken: East	
Description: View during assessment and delineation event.	

Appendix D

Laboratory Analytical



Environment Testing America

ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-9972-1

Client Project/Site: Benson Shugart Waterflood Unit #015

For:

Etech Environmental & Safety Solutions
PO BOX 62228
Midland, Texas 79711

Attn: Brandon Wilson

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:
1/13/2022 8:36:58 PM

Jessica Kramer, Project Manager
(432)704-5440
jessica.kramer@eurofinset.com

LINKS

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results through
TotalAccess

Have a Question?



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www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Laboratory Job ID: 880-9972-1

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	12
QC Sample Results	13
QC Association Summary	17
Lab Chronicle	20
Certification Summary	23
Method Summary	24
Sample Summary	25
Chain of Custody	26
Receipt Checklists	27

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Definitions/Glossary

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
SQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

Job ID: 880-9972-1

Laboratory: Eurofins Midland**Narrative**

**Job Narrative
880-9972-1****Receipt**

The samples were received on 1/7/2022 1:05 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.4°C

GC VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

Method 300_ORGFM_28D: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with preparation batch 880-16443 and analytical batch 880-16558 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Chloride in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

Client Sample ID: Auger Hole 1

Lab Sample ID: 880-9972-1

Date Collected: 01/05/22 11:50

Matrix: Solid

Date Received: 01/07/22 13:05

Sample Depth: 0-6"

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:37	01/11/22 00:36	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:37	01/11/22 00:36	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:37	01/11/22 00:36	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		01/07/22 14:37	01/11/22 00:36	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:37	01/11/22 00:36	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		01/07/22 14:37	01/11/22 00:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130	01/07/22 14:37	01/11/22 00:36	1
1,4-Difluorobenzene (Surr)	103		70 - 130	01/07/22 14:37	01/11/22 00:36	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			01/12/22 13:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/12/22 14:00	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		01/07/22 15:26	01/08/22 19:33	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/07/22 15:26	01/08/22 19:33	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/07/22 15:26	01/08/22 19:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	70		70 - 130	01/07/22 15:26	01/08/22 19:33	1
o-Terphenyl	75		70 - 130	01/07/22 15:26	01/08/22 19:33	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10000		49.7		mg/Kg			01/13/22 16:19	10

Client Sample ID: Auger Hole 1

Lab Sample ID: 880-9972-2

Date Collected: 01/05/22 11:52

Matrix: Solid

Date Received: 01/07/22 13:05

Sample Depth: 42-48"

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		01/07/22 14:37	01/11/22 00:56	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/07/22 14:37	01/11/22 00:56	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/07/22 14:37	01/11/22 00:56	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		01/07/22 14:37	01/11/22 00:56	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/07/22 14:37	01/11/22 00:56	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		01/07/22 14:37	01/11/22 00:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	01/07/22 14:37	01/11/22 00:56	1

Eurofins Midland

Client Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

Client Sample ID: Auger Hole 1

Lab Sample ID: 880-9972-2

Date Collected: 01/05/22 11:52

Matrix: Solid

Date Received: 01/07/22 13:05

Sample Depth: 42-48"

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	95		70 - 130	01/07/22 14:37	01/11/22 00:56	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			01/12/22 13:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/12/22 14:00	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		01/07/22 15:26	01/08/22 19:53	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/07/22 15:26	01/08/22 19:53	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/07/22 15:26	01/08/22 19:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	71		70 - 130				01/07/22 15:26	01/08/22 19:53	1
o-Terphenyl	78		70 - 130				01/07/22 15:26	01/08/22 19:53	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2300		25.0		mg/Kg			01/13/22 13:33	5

Client Sample ID: Auger Hole 2

Lab Sample ID: 880-9972-3

Date Collected: 01/05/22 11:54

Matrix: Solid

Date Received: 01/07/22 13:05

Sample Depth: 0-6"

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		01/07/22 14:37	01/11/22 01:17	1
Toluene	<0.00201	U	0.00201		mg/Kg		01/07/22 14:37	01/11/22 01:17	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/07/22 14:37	01/11/22 01:17	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		01/07/22 14:37	01/11/22 01:17	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		01/07/22 14:37	01/11/22 01:17	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		01/07/22 14:37	01/11/22 01:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	01/07/22 14:37	01/11/22 01:17	1
1,4-Difluorobenzene (Surr)	78		70 - 130	01/07/22 14:37	01/11/22 01:17	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			01/12/22 13:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			01/12/22 14:00	1

Eurofins Midland

Client Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

Client Sample ID: Auger Hole 2

Lab Sample ID: 880-9972-3

Date Collected: 01/05/22 11:54

Matrix: Solid

Date Received: 01/07/22 13:05

Sample Depth: 0-6"

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/07/22 15:26	01/08/22 20:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/07/22 15:26	01/08/22 20:13	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/07/22 15:26	01/08/22 20:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	74		70 - 130				01/07/22 15:26	01/08/22 20:13	1
o-Terphenyl	80		70 - 130				01/07/22 15:26	01/08/22 20:13	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1290		4.95		mg/Kg			01/13/22 13:44	1

Client Sample ID: Auger Hole 2

Lab Sample ID: 880-9972-4

Date Collected: 01/05/22 11:56

Matrix: Solid

Date Received: 01/07/22 13:05

Sample Depth: 42-48"

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:37	01/11/22 01:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:37	01/11/22 01:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:37	01/11/22 01:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/07/22 14:37	01/11/22 01:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:37	01/11/22 01:37	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/07/22 14:37	01/11/22 01:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130				01/07/22 14:37	01/11/22 01:37	1
1,4-Difluorobenzene (Surr)	100		70 - 130				01/07/22 14:37	01/11/22 01:37	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			01/12/22 13:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			01/12/22 14:00	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/07/22 15:26	01/08/22 20:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/07/22 15:26	01/08/22 20:33	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/07/22 15:26	01/08/22 20:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	72		70 - 130				01/07/22 15:26	01/08/22 20:33	1
o-Terphenyl	77		70 - 130				01/07/22 15:26	01/08/22 20:33	1

Eurofins Midland

Client Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

Client Sample ID: Auger Hole 2

Lab Sample ID: 880-9972-4

Date Collected: 01/05/22 11:56

Matrix: Solid

Date Received: 01/07/22 13:05

Sample Depth: 42-48"

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1130		5.01		mg/Kg			01/13/22 14:20	1

Client Sample ID: Auger Hole 3

Lab Sample ID: 880-9972-5

Date Collected: 01/05/22 11:58

Matrix: Solid

Date Received: 01/07/22 13:05

Sample Depth: 0-6"

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:37	01/11/22 01:58	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:37	01/11/22 01:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:37	01/11/22 01:58	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		01/07/22 14:37	01/11/22 01:58	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:37	01/11/22 01:58	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		01/07/22 14:37	01/11/22 01:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130				01/07/22 14:37	01/11/22 01:58	1
1,4-Difluorobenzene (Surr)	97		70 - 130				01/07/22 14:37	01/11/22 01:58	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			01/12/22 13:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/12/22 14:00	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		01/07/22 15:26	01/08/22 20:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/07/22 15:26	01/08/22 20:54	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/07/22 15:26	01/08/22 20:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	72		70 - 130				01/07/22 15:26	01/08/22 20:54	1
o-Terphenyl	77		70 - 130				01/07/22 15:26	01/08/22 20:54	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13600		99.8		mg/Kg			01/13/22 16:30	20

Eurofins Midland

Client Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

Client Sample ID: Auger Hole 3

Lab Sample ID: 880-9972-6

Date Collected: 01/05/22 12:00

Matrix: Solid

Date Received: 01/07/22 13:05

Sample Depth: 42-48"

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		01/07/22 14:37	01/11/22 02:18	1
Toluene	<0.00198	U	0.00198		mg/Kg		01/07/22 14:37	01/11/22 02:18	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		01/07/22 14:37	01/11/22 02:18	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		01/07/22 14:37	01/11/22 02:18	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		01/07/22 14:37	01/11/22 02:18	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		01/07/22 14:37	01/11/22 02:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	01/07/22 14:37	01/11/22 02:18	1
1,4-Difluorobenzene (Surr)	95		70 - 130	01/07/22 14:37	01/11/22 02:18	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			01/12/22 13:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			01/12/22 14:00	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/07/22 15:26	01/08/22 21:14	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/07/22 15:26	01/08/22 21:14	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/07/22 15:26	01/08/22 21:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	73		70 - 130	01/07/22 15:26	01/08/22 21:14	1
o-Terphenyl	76		70 - 130	01/07/22 15:26	01/08/22 21:14	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1470		24.8		mg/Kg			01/13/22 15:07	5

Client Sample ID: Auger Hole 4

Lab Sample ID: 880-9972-7

Date Collected: 01/05/22 12:02

Matrix: Solid

Date Received: 01/07/22 13:05

Sample Depth: 0-6"

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		01/07/22 14:37	01/11/22 04:08	1
Toluene	<0.00201	U	0.00201		mg/Kg		01/07/22 14:37	01/11/22 04:08	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		01/07/22 14:37	01/11/22 04:08	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		01/07/22 14:37	01/11/22 04:08	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		01/07/22 14:37	01/11/22 04:08	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		01/07/22 14:37	01/11/22 04:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130	01/07/22 14:37	01/11/22 04:08	1

Eurofins Midland

Client Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

Client Sample ID: Auger Hole 4

Lab Sample ID: 880-9972-7

Date Collected: 01/05/22 12:02

Matrix: Solid

Date Received: 01/07/22 13:05

Sample Depth: 0-6"

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	74		70 - 130	01/07/22 14:37	01/11/22 04:08	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			01/12/22 13:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/12/22 14:00	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		01/07/22 15:26	01/08/22 21:35	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/07/22 15:26	01/08/22 21:35	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/07/22 15:26	01/08/22 21:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	71		70 - 130				01/07/22 15:26	01/08/22 21:35	1
o-Terphenyl	75		70 - 130				01/07/22 15:26	01/08/22 21:35	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17100		99.4		mg/Kg			01/13/22 16:42	20

Client Sample ID: Auger Hole 4

Lab Sample ID: 880-9972-8

Date Collected: 01/05/22 12:04

Matrix: Solid

Date Received: 01/07/22 13:05

Sample Depth: 42-48"

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:37	01/11/22 04:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:37	01/11/22 04:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:37	01/11/22 04:29	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		01/07/22 14:37	01/11/22 04:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:37	01/11/22 04:29	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		01/07/22 14:37	01/11/22 04:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	165	S1+	70 - 130	01/07/22 14:37	01/11/22 04:29	1
1,4-Difluorobenzene (Surr)	80		70 - 130	01/07/22 14:37	01/11/22 04:29	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			01/12/22 13:10	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			01/12/22 14:00	1

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Client Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

Client Sample ID: Auger Hole 4

Lab Sample ID: 880-9972-8

Date Collected: 01/05/22 12:04

Matrix: Solid

Date Received: 01/07/22 13:05

Sample Depth: 42-48"

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		01/07/22 15:26	01/08/22 21:55	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/07/22 15:26	01/08/22 21:55	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/07/22 15:26	01/08/22 21:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	71		70 - 130				01/07/22 15:26	01/08/22 21:55	1
o-Terphenyl	76		70 - 130				01/07/22 15:26	01/08/22 21:55	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	889		4.98		mg/Kg			01/13/22 15:31	1

Surrogate Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	BFB1	DFBZ1				
		(70-130)	(70-130)				
880-9970-A-1-A MS	Matrix Spike	103	94				
880-9970-A-1-B MSD	Matrix Spike Duplicate	106	95				
880-9972-1	Auger Hole 1	111	103				
880-9972-2	Auger Hole 1	117	95				
880-9972-3	Auger Hole 2	119	78				
880-9972-4	Auger Hole 2	115	100				
880-9972-5	Auger Hole 3	120	97				
880-9972-6	Auger Hole 3	114	95				
880-9972-7	Auger Hole 4	99	74				
880-9972-8	Auger Hole 4	165 S1+	80				
LCS 880-16282/1-A	Lab Control Sample	102	98				
LCSD 880-16282/2-A	Lab Control Sample Dup	107	100				
MB 880-16273/5-A	Method Blank	120	108				
MB 880-16282/5-A	Method Blank	120	106				
Surrogate Legend							
BFB = 4-Bromofluorobenzene (Surr)							
DFBZ = 1,4-Difluorobenzene (Surr)							

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	1CO1	OTPH1				
		(70-130)	(70-130)				
880-9968-A-1-C MS	Matrix Spike	76	73				
880-9968-A-1-D MSD	Matrix Spike Duplicate	78	74				
880-9972-1	Auger Hole 1	70	75				
880-9972-2	Auger Hole 1	71	78				
880-9972-3	Auger Hole 2	74	80				
880-9972-4	Auger Hole 2	72	77				
880-9972-5	Auger Hole 3	72	77				
880-9972-6	Auger Hole 3	73	76				
880-9972-7	Auger Hole 4	71	75				
880-9972-8	Auger Hole 4	71	76				
LCS 880-16294/2-A	Lab Control Sample	112	113				
LCSD 880-16294/3-A	Lab Control Sample Dup	112	111				
MB 880-16294/1-A	Method Blank	75	82				
Surrogate Legend							
1CO = 1-Chlorooctane							
OTPH = o-Terphenyl							

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QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-16273/5-A

Matrix: Solid

Analysis Batch: 16341

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16273

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:21	01/10/22 10:50	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:21	01/10/22 10:50	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:21	01/10/22 10:50	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/07/22 14:21	01/10/22 10:50	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:21	01/10/22 10:50	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/07/22 14:21	01/10/22 10:50	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130	01/07/22 14:21	01/10/22 10:50	1
1,4-Difluorobenzene (Surr)	108		70 - 130	01/07/22 14:21	01/10/22 10:50	1

Lab Sample ID: MB 880-16282/5-A

Matrix: Solid

Analysis Batch: 16341

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16282

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:37	01/10/22 22:45	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:37	01/10/22 22:45	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:37	01/10/22 22:45	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/07/22 14:37	01/10/22 22:45	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/07/22 14:37	01/10/22 22:45	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/07/22 14:37	01/10/22 22:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130	01/07/22 14:37	01/10/22 22:45	1
1,4-Difluorobenzene (Surr)	106		70 - 130	01/07/22 14:37	01/10/22 22:45	1

Lab Sample ID: LCS 880-16282/1-A

Matrix: Solid

Analysis Batch: 16341

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16282

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.09284		mg/Kg		93	70 - 130
Toluene	0.100	0.09530		mg/Kg		95	70 - 130
Ethylbenzene	0.100	0.09449		mg/Kg		94	70 - 130
m-Xylene & p-Xylene	0.200	0.1883		mg/Kg		94	70 - 130
o-Xylene	0.100	0.08928		mg/Kg		89	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	98		70 - 130

Lab Sample ID: LCSD 880-16282/2-A

Matrix: Solid

Analysis Batch: 16341

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16282

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	0.100	0.09551		mg/Kg		96	70 - 130	3	35

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QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-16282/2-A

Matrix: Solid

Analysis Batch: 16341

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16282

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	0.100	0.09452		mg/Kg		95	70 - 130	1	35
Ethylbenzene	0.100	0.09939		mg/Kg		99	70 - 130	5	35
m-Xylene & p-Xylene	0.200	0.1946		mg/Kg		97	70 - 130	3	35
o-Xylene	0.100	0.09623		mg/Kg		96	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	107		70 - 130
1,4-Difluorobenzene (Surr)	100		70 - 130

Lab Sample ID: 880-9970-A-1-A MS

Matrix: Solid

Analysis Batch: 16341

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 16282

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0998	0.07914		mg/Kg		79	70 - 130		
Toluene	<0.00200	U	0.0998	0.08145		mg/Kg		82	70 - 130		
Ethylbenzene	<0.00200	U	0.0998	0.08486		mg/Kg		85	70 - 130		
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1614		mg/Kg		81	70 - 130		
o-Xylene	<0.00200	U	0.0998	0.08289		mg/Kg		83	70 - 130		

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		70 - 130
1,4-Difluorobenzene (Surr)	94		70 - 130

Lab Sample ID: 880-9970-A-1-B MSD

Matrix: Solid

Analysis Batch: 16341

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 16282

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.07850		mg/Kg		79	70 - 130	1	35
Toluene	<0.00200	U	0.100	0.08377		mg/Kg		84	70 - 130	3	35
Ethylbenzene	<0.00200	U	0.100	0.08307		mg/Kg		83	70 - 130	2	35
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1604		mg/Kg		80	70 - 130	1	35
o-Xylene	<0.00200	U	0.100	0.08218		mg/Kg		82	70 - 130	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-16294/1-A

Matrix: Solid

Analysis Batch: 16326

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16294

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		01/07/22 15:26	01/08/22 13:27	1

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QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-16294/1-A

Matrix: Solid

Analysis Batch: 16326

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 16294

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/07/22 15:26	01/08/22 13:27	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/07/22 15:26	01/08/22 13:27	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	75		70 - 130				01/07/22 15:26	01/08/22 13:27	1
o-Terphenyl	82		70 - 130				01/07/22 15:26	01/08/22 13:27	1

Lab Sample ID: LCS 880-16294/2-A

Matrix: Solid

Analysis Batch: 16326

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 16294

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	869.2		mg/Kg		87	70 - 130
Diesel Range Organics (Over C10-C28)	1000	908.2		mg/Kg		91	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1-Chlorooctane	112		70 - 130				
o-Terphenyl	113		70 - 130				

Lab Sample ID: LCSD 880-16294/3-A

Matrix: Solid

Analysis Batch: 16326

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 16294

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	850.2		mg/Kg		85	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	861.0		mg/Kg		86	70 - 130	5	20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1-Chlorooctane	112		70 - 130						
o-Terphenyl	111		70 - 130						

Lab Sample ID: 880-9968-A-1-C MS

Matrix: Solid

Analysis Batch: 16326

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 16294

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	996	952.2		mg/Kg		96	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	996	849.7		mg/Kg		81	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
1-Chlorooctane	76		70 - 130						
o-Terphenyl	73		70 - 130						

Eurofins Midland

QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 880-9968-A-1-D MSD

Matrix: Solid

Analysis Batch: 16326

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 16294

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	936.4		mg/Kg		94	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	869.7		mg/Kg		83	70 - 130	2	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	78		70 - 130								
o-Terphenyl	74		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-16443/1-A

Matrix: Solid

Analysis Batch: 16558

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/13/22 08:45	1

Lab Sample ID: LCS 880-16443/2-A

Matrix: Solid

Analysis Batch: 16558

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	250	243.0		mg/Kg		97	90 - 110		

Lab Sample ID: LCSD 880-16443/3-A

Matrix: Solid

Analysis Batch: 16558

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	246.7		mg/Kg		99	90 - 110	2	20

Eurofins Midland

QC Association Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

GC VOA

Prep Batch: 16273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-16273/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 16282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9972-1	Auger Hole 1	Total/NA	Solid	5035	
880-9972-2	Auger Hole 1	Total/NA	Solid	5035	
880-9972-3	Auger Hole 2	Total/NA	Solid	5035	
880-9972-4	Auger Hole 2	Total/NA	Solid	5035	
880-9972-5	Auger Hole 3	Total/NA	Solid	5035	
880-9972-6	Auger Hole 3	Total/NA	Solid	5035	
880-9972-7	Auger Hole 4	Total/NA	Solid	5035	
880-9972-8	Auger Hole 4	Total/NA	Solid	5035	
MB 880-16282/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-16282/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-16282/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-9970-A-1-A MS	Matrix Spike	Total/NA	Solid	5035	
880-9970-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 16341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9972-1	Auger Hole 1	Total/NA	Solid	8021B	16282
880-9972-2	Auger Hole 1	Total/NA	Solid	8021B	16282
880-9972-3	Auger Hole 2	Total/NA	Solid	8021B	16282
880-9972-4	Auger Hole 2	Total/NA	Solid	8021B	16282
880-9972-5	Auger Hole 3	Total/NA	Solid	8021B	16282
880-9972-6	Auger Hole 3	Total/NA	Solid	8021B	16282
880-9972-7	Auger Hole 4	Total/NA	Solid	8021B	16282
880-9972-8	Auger Hole 4	Total/NA	Solid	8021B	16282
MB 880-16273/5-A	Method Blank	Total/NA	Solid	8021B	16273
MB 880-16282/5-A	Method Blank	Total/NA	Solid	8021B	16282
LCS 880-16282/1-A	Lab Control Sample	Total/NA	Solid	8021B	16282
LCSD 880-16282/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	16282
880-9970-A-1-A MS	Matrix Spike	Total/NA	Solid	8021B	16282
880-9970-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	16282

Analysis Batch: 16668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9972-1	Auger Hole 1	Total/NA	Solid	Total BTEX	
880-9972-2	Auger Hole 1	Total/NA	Solid	Total BTEX	
880-9972-3	Auger Hole 2	Total/NA	Solid	Total BTEX	
880-9972-4	Auger Hole 2	Total/NA	Solid	Total BTEX	
880-9972-5	Auger Hole 3	Total/NA	Solid	Total BTEX	
880-9972-6	Auger Hole 3	Total/NA	Solid	Total BTEX	
880-9972-7	Auger Hole 4	Total/NA	Solid	Total BTEX	
880-9972-8	Auger Hole 4	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 16294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9972-1	Auger Hole 1	Total/NA	Solid	8015NM Prep	

Eurofins Midland

QC Association Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

GC Semi VOA (Continued)

Prep Batch: 16294 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9972-2	Auger Hole 1	Total/NA	Solid	8015NM Prep	
880-9972-3	Auger Hole 2	Total/NA	Solid	8015NM Prep	
880-9972-4	Auger Hole 2	Total/NA	Solid	8015NM Prep	
880-9972-5	Auger Hole 3	Total/NA	Solid	8015NM Prep	
880-9972-6	Auger Hole 3	Total/NA	Solid	8015NM Prep	
880-9972-7	Auger Hole 4	Total/NA	Solid	8015NM Prep	
880-9972-8	Auger Hole 4	Total/NA	Solid	8015NM Prep	
MB 880-16294/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-16294/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-16294/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-9968-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-9968-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 16326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9972-1	Auger Hole 1	Total/NA	Solid	8015B NM	16294
880-9972-2	Auger Hole 1	Total/NA	Solid	8015B NM	16294
880-9972-3	Auger Hole 2	Total/NA	Solid	8015B NM	16294
880-9972-4	Auger Hole 2	Total/NA	Solid	8015B NM	16294
880-9972-5	Auger Hole 3	Total/NA	Solid	8015B NM	16294
880-9972-6	Auger Hole 3	Total/NA	Solid	8015B NM	16294
880-9972-7	Auger Hole 4	Total/NA	Solid	8015B NM	16294
880-9972-8	Auger Hole 4	Total/NA	Solid	8015B NM	16294
MB 880-16294/1-A	Method Blank	Total/NA	Solid	8015B NM	16294
LCS 880-16294/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	16294
LCSD 880-16294/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	16294
880-9968-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	16294
880-9968-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	16294

Analysis Batch: 16554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9972-1	Auger Hole 1	Total/NA	Solid	8015 NM	
880-9972-2	Auger Hole 1	Total/NA	Solid	8015 NM	
880-9972-3	Auger Hole 2	Total/NA	Solid	8015 NM	
880-9972-4	Auger Hole 2	Total/NA	Solid	8015 NM	
880-9972-5	Auger Hole 3	Total/NA	Solid	8015 NM	
880-9972-6	Auger Hole 3	Total/NA	Solid	8015 NM	
880-9972-7	Auger Hole 4	Total/NA	Solid	8015 NM	
880-9972-8	Auger Hole 4	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 16443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9972-1	Auger Hole 1	Soluble	Solid	DI Leach	
880-9972-2	Auger Hole 1	Soluble	Solid	DI Leach	
880-9972-3	Auger Hole 2	Soluble	Solid	DI Leach	
880-9972-4	Auger Hole 2	Soluble	Solid	DI Leach	
880-9972-5	Auger Hole 3	Soluble	Solid	DI Leach	
880-9972-6	Auger Hole 3	Soluble	Solid	DI Leach	
880-9972-7	Auger Hole 4	Soluble	Solid	DI Leach	

Eurofins Midland

QC Association Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

HPLC/IC (Continued)

Leach Batch: 16443 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9972-8	Auger Hole 4	Soluble	Solid	DI Leach	
MB 880-16443/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-16443/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-16443/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 16558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9972-1	Auger Hole 1	Soluble	Solid	300.0	16443
880-9972-2	Auger Hole 1	Soluble	Solid	300.0	16443
880-9972-3	Auger Hole 2	Soluble	Solid	300.0	16443
880-9972-4	Auger Hole 2	Soluble	Solid	300.0	16443
880-9972-5	Auger Hole 3	Soluble	Solid	300.0	16443
880-9972-6	Auger Hole 3	Soluble	Solid	300.0	16443
880-9972-7	Auger Hole 4	Soluble	Solid	300.0	16443
880-9972-8	Auger Hole 4	Soluble	Solid	300.0	16443
MB 880-16443/1-A	Method Blank	Soluble	Solid	300.0	16443
LCS 880-16443/2-A	Lab Control Sample	Soluble	Solid	300.0	16443
LCSD 880-16443/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	16443

Lab Chronicle

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

Client Sample ID: Auger Hole 1

Lab Sample ID: 880-9972-1

Date Collected: 01/05/22 11:50

Matrix: Solid

Date Received: 01/07/22 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	16282	01/07/22 14:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16341	01/11/22 00:36	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 13:10	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			16554	01/12/22 14:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	16294	01/07/22 15:26	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16326	01/08/22 19:33	AJ	XEN MID
Soluble	Leach	DI Leach			5.03 g	50 mL	16443	01/10/22 13:40	CH	XEN MID
Soluble	Analysis	300.0		10			16558	01/13/22 16:19	SC	XEN MID

Client Sample ID: Auger Hole 1

Lab Sample ID: 880-9972-2

Date Collected: 01/05/22 11:52

Matrix: Solid

Date Received: 01/07/22 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	16282	01/07/22 14:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16341	01/11/22 00:56	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 13:10	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			16554	01/12/22 14:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	16294	01/07/22 15:26	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16326	01/08/22 19:53	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	16443	01/10/22 13:40	CH	XEN MID
Soluble	Analysis	300.0		5			16558	01/13/22 13:33	SC	XEN MID

Client Sample ID: Auger Hole 2

Lab Sample ID: 880-9972-3

Date Collected: 01/05/22 11:54

Matrix: Solid

Date Received: 01/07/22 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	16282	01/07/22 14:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16341	01/11/22 01:17	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 13:10	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			16554	01/12/22 14:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	16294	01/07/22 15:26	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16326	01/08/22 20:13	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	16443	01/10/22 13:40	CH	XEN MID
Soluble	Analysis	300.0		1			16558	01/13/22 13:44	SC	XEN MID

Client Sample ID: Auger Hole 2

Lab Sample ID: 880-9972-4

Date Collected: 01/05/22 11:56

Matrix: Solid

Date Received: 01/07/22 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	16282	01/07/22 14:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16341	01/11/22 01:37	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 13:10	AJ	XEN MID

Eurofins Midland

Lab Chronicle

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

Client Sample ID: Auger Hole 2

Lab Sample ID: 880-9972-4

Date Collected: 01/05/22 11:56

Matrix: Solid

Date Received: 01/07/22 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			16554	01/12/22 14:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	16294	01/07/22 15:26	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16326	01/08/22 20:33	AJ	XEN MID
Soluble	Leach	DI Leach			4.99 g	50 mL	16443	01/10/22 13:40	CH	XEN MID
Soluble	Analysis	300.0		1			16558	01/13/22 14:20	SC	XEN MID

Client Sample ID: Auger Hole 3

Lab Sample ID: 880-9972-5

Date Collected: 01/05/22 11:58

Matrix: Solid

Date Received: 01/07/22 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	16282	01/07/22 14:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16341	01/11/22 01:58	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 13:10	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			16554	01/12/22 14:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	16294	01/07/22 15:26	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16326	01/08/22 20:54	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	16443	01/10/22 13:40	CH	XEN MID
Soluble	Analysis	300.0		20			16558	01/13/22 16:30	SC	XEN MID

Client Sample ID: Auger Hole 3

Lab Sample ID: 880-9972-6

Date Collected: 01/05/22 12:00

Matrix: Solid

Date Received: 01/07/22 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	16282	01/07/22 14:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16341	01/11/22 02:18	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 13:10	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			16554	01/12/22 14:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	16294	01/07/22 15:26	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16326	01/08/22 21:14	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	16443	01/10/22 13:40	CH	XEN MID
Soluble	Analysis	300.0		5			16558	01/13/22 15:07	SC	XEN MID

Client Sample ID: Auger Hole 4

Lab Sample ID: 880-9972-7

Date Collected: 01/05/22 12:02

Matrix: Solid

Date Received: 01/07/22 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	16282	01/07/22 14:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16341	01/11/22 04:08	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 13:10	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			16554	01/12/22 14:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	16294	01/07/22 15:26	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16326	01/08/22 21:35	AJ	XEN MID

Eurofins Midland

Lab Chronicle

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

Client Sample ID: Auger Hole 4

Lab Sample ID: 880-9972-7

Date Collected: 01/05/22 12:02

Matrix: Solid

Date Received: 01/07/22 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	16443	01/10/22 13:40	CH	XEN MID
Soluble	Analysis	300.0		20			16558	01/13/22 16:42	SC	XEN MID

Client Sample ID: Auger Hole 4

Lab Sample ID: 880-9972-8

Date Collected: 01/05/22 12:04

Matrix: Solid

Date Received: 01/07/22 13:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	16282	01/07/22 14:37	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16341	01/11/22 04:29	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 13:10	AJ	XEN MID
Total/NA	Analysis	8015 NM		1			16554	01/12/22 14:00	AJ	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	16294	01/07/22 15:26	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16326	01/08/22 21:55	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	16443	01/10/22 13:40	CH	XEN MID
Soluble	Analysis	300.0		1			16558	01/13/22 15:31	SC	XEN MID

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Midland

Sample Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-9972-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-9972-1	Auger Hole 1	Solid	01/05/22 11:50	01/07/22 13:05	0-6"
880-9972-2	Auger Hole 1	Solid	01/05/22 11:52	01/07/22 13:05	42-48"
880-9972-3	Auger Hole 2	Solid	01/05/22 11:54	01/07/22 13:05	0-6"
880-9972-4	Auger Hole 2	Solid	01/05/22 11:56	01/07/22 13:05	42-48"
880-9972-5	Auger Hole 3	Solid	01/05/22 11:58	01/07/22 13:05	0-6"
880-9972-6	Auger Hole 3	Solid	01/05/22 12:00	01/07/22 13:05	42-48"
880-9972-7	Auger Hole 4	Solid	01/05/22 12:02	01/07/22 13:05	0-6"
880-9972-8	Auger Hole 4	Solid	01/05/22 12:04	01/07/22 13:05	42-48"



Chain of Custody

Houston TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio TX (210) 509-3334

Midland TX (432-704-5440) EL Paso, TX (915) 585-3443 Lubbock TX (806) 794-1296

Hobbs NM (575-392-7550) Phoenix AZ (480-355-0900) Atlanta GA (770-449-8800) Tampa FL (813-620-2000)

Work Order No: 9972

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1/13/2022

Project Manager	Brandon Wilson	Bill to (if different)	
Company Name	Etech Environmental	Company Name	
Address	13000 W CR 100	Address	
City, State ZIP	Odessa, Tx. 79765	City, State ZIP	
Phone	432-563-2200	Email	brandon@etechenv.com, blake@etechenv.com

Work Order Comments	
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> RRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other	

Project Name		Benson Shugart Waterflood Unit #015		Turn Around		ANALYSIS REQUEST																Work Order Notes							
Project Number		15306		Routine		<input checked="" type="checkbox"/>																							
P O Number		15306		Rush																									
Sampler's Name		Blake Estep		Due Date																									
SAMPLE RECEIPT		Temp Blank.		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Wet Ice		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																					
Temperature (°C)		53/54		Thermometer ID																									
Received Intact.		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Correction Factor																									
Cooler Custody Seals		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		Total Containers																									
Sample Custody Seals		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A																											
Sample Identification		Matrix		Date Sampled		Time Sampled		Depth		Number of Containers																		TAT starts the day received by the lab, if received by 4 30pm	
																												Sample Comments	
Auger Hole 1		S		1/5/2022		11 50		0-6"		1																			
Auger Hole 1		S		1/5/2022		11 52		42-48"		1																			
Auger Hole 2		S		1/5/2022		11 54		0-6"		1																			
Auger Hole 2		S		1/5/2022		11 56		42-48"		1																			
Auger Hole 3		S		1/5/2022		11 58		0-6"		1																			
Auger Hole 3		S		1/5/2022		12 00		42-48"		1																			
Auger Hole 4		S		1/5/2022		12 02		0-6"		1																			
Auger Hole 4		S		1/5/2022		12 04		42-48"		1																			



880-9972 Chain of Custody

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 7470 / 7471 Hg

Notice. Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by (Signature)	Received by (Signature)	Date/Time	Relinquished by (Signature)	Received by (Signature)	Date/Time
1 <i>Blake Estep</i>	<i>John Doe</i>	1-7-22 1305	2		
3			4		
5			6		

Login Sample Receipt Checklist

Client: Etech Environmental & Safety Solutions

Job Number: 880-9972-1

Login Number: 9972

List Source: Eurofins Midland

List Number: 1

Creator: Rodriguez, Leticia

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	



Environment Testing America

ANALYTICAL REPORT

Eurofins Midland
1211 W. Florida Ave
Midland, TX 79701
Tel: (432)704-5440

Laboratory Job ID: 880-13750-1

Client Project/Site: Benson Shugart Waterflood Unit #015

For:

Etech Environmental & Safety Solutions
PO BOX 62228
Midland, Texas 79711

Attn: Brandon Wilson

A handwritten signature in black ink that reads "Jessica Kramer".

Authorized for release by:
4/20/2022 7:34:13 PM

Jessica Kramer, Project Manager
(432)704-5440

Jessica.Kramer@et.eurofinsus.com

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results through

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www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Laboratory Job ID: 880-13750-1

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
QC Sample Results	8
QC Association Summary	10
Lab Chronicle	12
Certification Summary	15
Method Summary	16
Sample Summary	17
Chain of Custody	18
Receipt Checklists	20

1
2
3
4
5
6
7
8
9
10
11
12
13

Definitions/Glossary

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-13750-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-13750-1

Job ID: 880-13750-1

Laboratory: Eurofins Midland

Narrative

Job Narrative 880-13750-1

Receipt

The samples were received on 4/14/2022 4:29 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.2°C

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-13750-1

Client Sample ID: East Auger Hole

Lab Sample ID: 880-13750-1

Date Collected: 04/06/22 10:30

Matrix: Solid

Date Received: 04/14/22 16:29

Sample Depth: 0-6"

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20.4		4.97		mg/Kg			04/19/22 15:01	1

Client Sample ID: East Auger Hole

Lab Sample ID: 880-13750-2

Date Collected: 04/06/22 10:32

Matrix: Solid

Date Received: 04/14/22 16:29

Sample Depth: 42-48"

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	99.5		5.00		mg/Kg			04/19/22 15:07	1

Client Sample ID: North Auger Hole 1

Lab Sample ID: 880-13750-3

Date Collected: 04/06/22 10:34

Matrix: Solid

Date Received: 04/14/22 16:29

Sample Depth: 0-6"

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15.0		4.99		mg/Kg			04/19/22 15:27	1

Client Sample ID: North Auger Hole 1

Lab Sample ID: 880-13750-4

Date Collected: 04/06/22 10:36

Matrix: Solid

Date Received: 04/14/22 16:29

Sample Depth: 42-48"

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	97.8		4.96		mg/Kg			04/19/22 15:33	1

Client Sample ID: North Auger Hole 2

Lab Sample ID: 880-13750-5

Date Collected: 04/06/22 10:38

Matrix: Solid

Date Received: 04/14/22 16:29

Sample Depth: 0-6"

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10.4		5.02		mg/Kg			04/19/22 15:52	1

Client Sample ID: North Auger Hole 2

Lab Sample ID: 880-13750-6

Date Collected: 04/06/22 10:40

Matrix: Solid

Date Received: 04/14/22 16:29

Sample Depth: 42-48"

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	314		5.04		mg/Kg			04/19/22 15:58	1

Eurofins Midland

Client Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-13750-1

Client Sample ID: West Auger Hole

Lab Sample ID: 880-13750-7

Date Collected: 04/06/22 10:42

Matrix: Solid

Date Received: 04/14/22 16:29

Sample Depth: 0-6"

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	16.3		4.97		mg/Kg			04/19/22 16:05	1

Client Sample ID: West Auger Hole

Lab Sample ID: 880-13750-8

Date Collected: 04/06/22 10:44

Matrix: Solid

Date Received: 04/14/22 16:29

Sample Depth: 42-48"

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20.2		4.97		mg/Kg			04/19/22 16:11	1

Client Sample ID: South Auger Hole 1

Lab Sample ID: 880-13750-9

Date Collected: 04/06/22 10:46

Matrix: Solid

Date Received: 04/14/22 16:29

Sample Depth: 0-6"

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.95	U	4.95		mg/Kg			04/19/22 16:17	1

Client Sample ID: South Auger Hole 1

Lab Sample ID: 880-13750-10

Date Collected: 04/06/22 10:48

Matrix: Solid

Date Received: 04/14/22 16:29

Sample Depth: 42-48"

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23.5		4.99		mg/Kg			04/19/22 16:24	1

Client Sample ID: South Auger Hole

Lab Sample ID: 880-13750-11

Date Collected: 04/06/22 10:50

Matrix: Solid

Date Received: 04/14/22 16:29

Sample Depth: 0-6"

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	33.7		5.03		mg/Kg			04/19/22 16:30	1

Client Sample ID: South Auger Hole

Lab Sample ID: 880-13750-12

Date Collected: 04/06/22 10:52

Matrix: Solid

Date Received: 04/14/22 16:29

Sample Depth: 66-72"

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.16		4.99		mg/Kg			04/18/22 13:01	1

Eurofins Midland

Client Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-13750-1

Client Sample ID: Auger Hole 1

Lab Sample ID: 880-13750-13

Date Collected: 04/11/22 10:00

Matrix: Solid

Date Received: 04/14/22 16:29

Sample Depth: 66-72"

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	370		5.02		mg/Kg			04/18/22 13:09	1

Client Sample ID: Auger Hole 2

Lab Sample ID: 880-13750-14

Date Collected: 04/11/22 10:02

Matrix: Solid

Date Received: 04/14/22 16:29

Sample Depth: 66-72"

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	370		4.99		mg/Kg			04/18/22 13:18	1

Client Sample ID: Auger Hole 3

Lab Sample ID: 880-13750-15

Date Collected: 04/11/22 10:04

Matrix: Solid

Date Received: 04/14/22 16:29

Sample Depth: 66-72"

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	369		4.95		mg/Kg			04/18/22 13:27	1

Client Sample ID: Auger Hole 4

Lab Sample ID: 880-13750-16

Date Collected: 04/11/22 10:06

Matrix: Solid

Date Received: 04/14/22 16:29

Sample Depth: 66-72"

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	73.9		5.03		mg/Kg			04/18/22 13:36	1

QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-13750-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-23649/1-A

Matrix: Solid

Analysis Batch: 23722

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			04/18/22 08:55	1

Lab Sample ID: LCS 880-23649/2-A

Matrix: Solid

Analysis Batch: 23722

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	261.6		mg/Kg		105	90 - 110

Lab Sample ID: LCSD 880-23649/3-A

Matrix: Solid

Analysis Batch: 23722

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	242.7		mg/Kg		97	90 - 110	7	20

Lab Sample ID: 880-13752-A-1-B MS

Matrix: Solid

Analysis Batch: 23722

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	<5.03	U	252	258.7		mg/Kg		101	90 - 110

Lab Sample ID: 880-13752-A-1-C MSD

Matrix: Solid

Analysis Batch: 23722

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	<5.03	U	252	258.5		mg/Kg		101	90 - 110	0	20

Lab Sample ID: MB 880-23643/1-A

Matrix: Solid

Analysis Batch: 23776

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			04/19/22 13:20	1

Lab Sample ID: LCS 880-23643/2-A

Matrix: Solid

Analysis Batch: 23776

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	228.6		mg/Kg		91	90 - 110

Lab Sample ID: LCSD 880-23643/3-A

Matrix: Solid

Analysis Batch: 23776

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	233.3		mg/Kg		93	90 - 110	2	20

Eurofins Midland

QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-13750-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 880-13750-2 MS

Matrix: Solid

Analysis Batch: 23776

Client Sample ID: East Auger Hole

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	99.5		250	350.4		mg/Kg		100	90 - 110

Lab Sample ID: 880-13750-2 MSD

Matrix: Solid

Analysis Batch: 23776

Client Sample ID: East Auger Hole

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	99.5		250	332.0		mg/Kg		93	90 - 110	5	20

QC Association Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-13750-1

HPLC/IC

Leach Batch: 23643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-13750-1	East Auger Hole	Soluble	Solid	DI Leach	
880-13750-2	East Auger Hole	Soluble	Solid	DI Leach	
880-13750-3	North Auger Hole 1	Soluble	Solid	DI Leach	
880-13750-4	North Auger Hole 1	Soluble	Solid	DI Leach	
880-13750-5	North Auger Hole 2	Soluble	Solid	DI Leach	
880-13750-6	North Auger Hole 2	Soluble	Solid	DI Leach	
880-13750-7	West Auger Hole	Soluble	Solid	DI Leach	
880-13750-8	West Auger Hole	Soluble	Solid	DI Leach	
880-13750-9	South Auger Hole 1	Soluble	Solid	DI Leach	
880-13750-10	South Auger Hole 1	Soluble	Solid	DI Leach	
880-13750-11	South Auger Hole	Soluble	Solid	DI Leach	
MB 880-23643/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-23643/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-23643/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-13750-2 MS	East Auger Hole	Soluble	Solid	DI Leach	
880-13750-2 MSD	East Auger Hole	Soluble	Solid	DI Leach	

Leach Batch: 23649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-13750-12	South Auger Hole	Soluble	Solid	DI Leach	
880-13750-13	Auger Hole 1	Soluble	Solid	DI Leach	
880-13750-14	Auger Hole 2	Soluble	Solid	DI Leach	
880-13750-15	Auger Hole 3	Soluble	Solid	DI Leach	
880-13750-16	Auger Hole 4	Soluble	Solid	DI Leach	
MB 880-23649/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-23649/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-23649/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-13752-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-13752-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 23722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-13750-12	South Auger Hole	Soluble	Solid	300.0	23649
880-13750-13	Auger Hole 1	Soluble	Solid	300.0	23649
880-13750-14	Auger Hole 2	Soluble	Solid	300.0	23649
880-13750-15	Auger Hole 3	Soluble	Solid	300.0	23649
880-13750-16	Auger Hole 4	Soluble	Solid	300.0	23649
MB 880-23649/1-A	Method Blank	Soluble	Solid	300.0	23649
LCS 880-23649/2-A	Lab Control Sample	Soluble	Solid	300.0	23649
LCSD 880-23649/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	23649
880-13752-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	23649
880-13752-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	23649

Analysis Batch: 23776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-13750-1	East Auger Hole	Soluble	Solid	300.0	23643
880-13750-2	East Auger Hole	Soluble	Solid	300.0	23643
880-13750-3	North Auger Hole 1	Soluble	Solid	300.0	23643
880-13750-4	North Auger Hole 1	Soluble	Solid	300.0	23643
880-13750-5	North Auger Hole 2	Soluble	Solid	300.0	23643
880-13750-6	North Auger Hole 2	Soluble	Solid	300.0	23643

Eurofins Midland

QC Association Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-13750-1

HPLC/IC (Continued)

Analysis Batch: 23776 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-13750-7	West Auger Hole	Soluble	Solid	300.0	23643
880-13750-8	West Auger Hole	Soluble	Solid	300.0	23643
880-13750-9	South Auger Hole 1	Soluble	Solid	300.0	23643
880-13750-10	South Auger Hole 1	Soluble	Solid	300.0	23643
880-13750-11	South Auger Hole	Soluble	Solid	300.0	23643
MB 880-23643/1-A	Method Blank	Soluble	Solid	300.0	23643
LCS 880-23643/2-A	Lab Control Sample	Soluble	Solid	300.0	23643
LCSD 880-23643/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	23643
880-13750-2 MS	East Auger Hole	Soluble	Solid	300.0	23643
880-13750-2 MSD	East Auger Hole	Soluble	Solid	300.0	23643

Lab Chronicle

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-13750-1

Client Sample ID: East Auger Hole

Lab Sample ID: 880-13750-1

Date Collected: 04/06/22 10:30

Matrix: Solid

Date Received: 04/14/22 16:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	23643	04/15/22 11:50	SC	XEN MID
Soluble	Analysis	300.0		1			23776	04/19/22 15:01	SC	XEN MID

Client Sample ID: East Auger Hole

Lab Sample ID: 880-13750-2

Date Collected: 04/06/22 10:32

Matrix: Solid

Date Received: 04/14/22 16:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	23643	04/15/22 11:50	SC	XEN MID
Soluble	Analysis	300.0		1			23776	04/19/22 15:07	SC	XEN MID

Client Sample ID: North Auger Hole 1

Lab Sample ID: 880-13750-3

Date Collected: 04/06/22 10:34

Matrix: Solid

Date Received: 04/14/22 16:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	23643	04/15/22 11:50	SC	XEN MID
Soluble	Analysis	300.0		1			23776	04/19/22 15:27	SC	XEN MID

Client Sample ID: North Auger Hole 1

Lab Sample ID: 880-13750-4

Date Collected: 04/06/22 10:36

Matrix: Solid

Date Received: 04/14/22 16:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	23643	04/15/22 11:50	SC	XEN MID
Soluble	Analysis	300.0		1			23776	04/19/22 15:33	SC	XEN MID

Client Sample ID: North Auger Hole 2

Lab Sample ID: 880-13750-5

Date Collected: 04/06/22 10:38

Matrix: Solid

Date Received: 04/14/22 16:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	23643	04/15/22 11:50	SC	XEN MID
Soluble	Analysis	300.0		1			23776	04/19/22 15:52	SC	XEN MID

Client Sample ID: North Auger Hole 2

Lab Sample ID: 880-13750-6

Date Collected: 04/06/22 10:40

Matrix: Solid

Date Received: 04/14/22 16:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.96 g	50 mL	23643	04/15/22 11:50	SC	XEN MID
Soluble	Analysis	300.0		1			23776	04/19/22 15:58	SC	XEN MID

Eurofins Midland

Lab Chronicle

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-13750-1

Client Sample ID: West Auger Hole

Lab Sample ID: 880-13750-7

Date Collected: 04/06/22 10:42

Matrix: Solid

Date Received: 04/14/22 16:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	23643	04/15/22 11:50	SC	XEN MID
Soluble	Analysis	300.0		1			23776	04/19/22 16:05	SC	XEN MID

Client Sample ID: West Auger Hole

Lab Sample ID: 880-13750-8

Date Collected: 04/06/22 10:44

Matrix: Solid

Date Received: 04/14/22 16:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.03 g	50 mL	23643	04/15/22 11:50	SC	XEN MID
Soluble	Analysis	300.0		1			23776	04/19/22 16:11	SC	XEN MID

Client Sample ID: South Auger Hole 1

Lab Sample ID: 880-13750-9

Date Collected: 04/06/22 10:46

Matrix: Solid

Date Received: 04/14/22 16:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	23643	04/15/22 11:50	SC	XEN MID
Soluble	Analysis	300.0		1			23776	04/19/22 16:17	SC	XEN MID

Client Sample ID: South Auger Hole 1

Lab Sample ID: 880-13750-10

Date Collected: 04/06/22 10:48

Matrix: Solid

Date Received: 04/14/22 16:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	23643	04/15/22 11:50	SC	XEN MID
Soluble	Analysis	300.0		1			23776	04/19/22 16:24	SC	XEN MID

Client Sample ID: South Auger Hole

Lab Sample ID: 880-13750-11

Date Collected: 04/06/22 10:50

Matrix: Solid

Date Received: 04/14/22 16:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.97 g	50 mL	23643	04/15/22 11:50	SC	XEN MID
Soluble	Analysis	300.0		1			23776	04/19/22 16:30	SC	XEN MID

Client Sample ID: South Auger Hole

Lab Sample ID: 880-13750-12

Date Collected: 04/06/22 10:52

Matrix: Solid

Date Received: 04/14/22 16:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	23649	04/15/22 12:06	SC	XEN MID
Soluble	Analysis	300.0		1			23722	04/18/22 13:01	CH	XEN MID

Eurofins Midland

Lab Chronicle

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-13750-1

Client Sample ID: Auger Hole 1

Date Collected: 04/11/22 10:00

Date Received: 04/14/22 16:29

Lab Sample ID: 880-13750-13

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.98 g	50 mL	23649	04/15/22 12:06	SC	XEN MID
Soluble	Analysis	300.0		1			23722	04/18/22 13:09	CH	XEN MID

Client Sample ID: Auger Hole 2

Date Collected: 04/11/22 10:02

Date Received: 04/14/22 16:29

Lab Sample ID: 880-13750-14

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.01 g	50 mL	23649	04/15/22 12:06	SC	XEN MID
Soluble	Analysis	300.0		1			23722	04/18/22 13:18	CH	XEN MID

Client Sample ID: Auger Hole 3

Date Collected: 04/11/22 10:04

Date Received: 04/14/22 16:29

Lab Sample ID: 880-13750-15

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	23649	04/15/22 12:06	SC	XEN MID
Soluble	Analysis	300.0		1			23722	04/18/22 13:27	CH	XEN MID

Client Sample ID: Auger Hole 4

Date Collected: 04/11/22 10:06

Date Received: 04/14/22 16:29

Lab Sample ID: 880-13750-16

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.97 g	50 mL	23649	04/15/22 12:06	SC	XEN MID
Soluble	Analysis	300.0		1			23722	04/18/22 13:36	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Midland

Accreditation/Certification Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-13750-1

Laboratory: Eurofins Midland

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	06-30-22

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Method Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-13750-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

Protocol References:

- ASTM = ASTM International
- MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

Laboratory References:

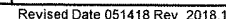
- XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood Unit #015

Job ID: 880-13750-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-13750-1	East Auger Hole	Solid	04/06/22 10:30	04/14/22 16:29	0-6"
880-13750-2	East Auger Hole	Solid	04/06/22 10:32	04/14/22 16:29	42-48"
880-13750-3	North Auger Hole 1	Solid	04/06/22 10:34	04/14/22 16:29	0-6"
880-13750-4	North Auger Hole 1	Solid	04/06/22 10:36	04/14/22 16:29	42-48"
880-13750-5	North Auger Hole 2	Solid	04/06/22 10:38	04/14/22 16:29	0-6"
880-13750-6	North Auger Hole 2	Solid	04/06/22 10:40	04/14/22 16:29	42-48"
880-13750-7	West Auger Hole	Solid	04/06/22 10:42	04/14/22 16:29	0-6"
880-13750-8	West Auger Hole	Solid	04/06/22 10:44	04/14/22 16:29	42-48"
880-13750-9	South Auger Hole 1	Solid	04/06/22 10:46	04/14/22 16:29	0-6"
880-13750-10	South Auger Hole 1	Solid	04/06/22 10:48	04/14/22 16:29	42-48"
880-13750-11	South Auger Hole	Solid	04/06/22 10:50	04/14/22 16:29	0-6"
880-13750-12	South Auger Hole	Solid	04/06/22 10:52	04/14/22 16:29	66-72"
880-13750-13	Auger Hole 1	Solid	04/11/22 10:00	04/14/22 16:29	66-72"
880-13750-14	Auger Hole 2	Solid	04/11/22 10:02	04/14/22 16:29	66-72"
880-13750-15	Auger Hole 3	Solid	04/11/22 10:04	04/14/22 16:29	66-72"
880-13750-16	Auger Hole 4	Solid	04/11/22 10:06	04/14/22 16:29	66-72"





Work Order No: 13750

Hobbs NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta GA (770-449-8800) Tampa FL (813-620-2000)

www.xenco.com

Page 2 of 2



Project Manager	Brandon Wilson	Bill to (if different)	
Company Name	Etech Environmental	Company Name	
Address	13000 W CR 100	Address	
City, State ZIP	Odessa, Texas 79765	City, State ZIP	
Phone	432-563-2200	Email	brandon@etechenv.com, blake@etechenv.com

Work Order Comments				
Program:	UST/PST <input type="checkbox"/>	PRP <input type="checkbox"/>	Brownfields <input type="checkbox"/>	RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:				
Reporting Level II <input type="checkbox"/>	Level III <input type="checkbox"/>	PST/UST <input type="checkbox"/>	TRRP <input type="checkbox"/>	Level IV <input type="checkbox"/>
Deliverables	EDD <input type="checkbox"/>	ADaPT <input type="checkbox"/>	Other: <input type="checkbox"/>	

[illegible]

Total 200.7 / 6010	200.8 / 6020:	8RCRA 13PPM Texas 11	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	SiO2	Na	Sr	Tl	Sn	U	V	Zn	
<i>Circle Method(s) and Metal(s) to be analyzed</i>		TCLP / SPLP 6010	8RCRA	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Mn	Mo	Ni	Se	Ag	Tl	U											1631 / 245.1 / 7470 / 7471	Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by (Signature)	Received by (Signature)	Date/Time	Relinquished by (Signature)	Received by (Signature)	Date/Time
1 		4/14/22	2		
3		11:29	4		
5			6		

Login Sample Receipt Checklist

Client: Etech Environmental & Safety Solutions

Job Number: 880-13750-1

Login Number: 13750

List Source: Eurofins Midland

List Number: 1

Creator: Rodriguez, Leticia

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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 130579

CONDITIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 130579
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	Remediation and closure of the site must also comply with 19.15.29.13 NMAC.	12/8/2022
bhall	Please submit a complete report through the OCD Permitting website by 03/10/2023.	12/8/2022