State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

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

☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☐ Description of remediation activities

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

Printed Name: _____ Title: _____

Signature: _____ Date: 2-21-22_____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: Bradford Billings Date: 05/31/2022

Printed Name: Bradford Billings Title: Env. Spec.A

CLOSURE REQUEST REPORT

Chevron Corporation
Benson Shugart Waterflood Unit #019
Eddy County, New Mexico
Unit Letter "N", Section 25, Township 18 South, Range 30 East
Latitude 32.713769º North, Longitude 103.926601º West
NMOCD Reference #: nMCS0124835298

Prepared For:

Chevron Corporation
6301 Deauville Blvd.
Midland, TX 79706

Prepared By:

Etech Environmental & Safety Solutions, Inc.
P.O. Box 62228
Midland, Texas 79711

February 21, 2022

Blake Estep
Project Manager

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APPENDICES

INTRODUCTION

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of Chevron Corporation, has prepared this Closure Request Report for the release site known as Benson Shugart Waterflood Unit #019. The legal description of the release site is Unit Letter "N", Section 25, Township 18 South, Range 30 East, in Eddy County, New Mexico. The GPS coordinates are 32.713769º North and 103.926601º West. A "Topographic Map" is provided as Figure 1. Copies of the New Mexico Oil Conservation Division (NMOCD) Release Notification and Corrective Action (Form C-141) are provided in Appendix D.

On July 19, 2001, a reportable release was discovered by Chesapeake at the Benson Shugart Waterflood Unit #019 site (Release Site). The injection line developed a leak due to internal corrosion. Approximately two-hundred fifty (250) barrels of produced water was released with forty (40) barrels recovered, resulting in a net loss of approximately two-hundred ten (210) barrels of produced water.

Photographic documentation of the Benson Shugart Waterflood Unit #019 release site is provided as Appendix B.

NMOCD SITE CLASSIFICATION

A search of the groundwater database maintained by United States Geological Survey (USGS) did not identify any registered water wells within a quarter (1/4) mile of the Benson Shugart Waterflood Unit #019. A further search of the USGS database identified the closest registered water well is USGS Well #:324244103561601 located approximately sixth tenths (0.66) of a mile southwest of the Benson Shugart Waterflood Unit #019. The average depth to groundwater for USGS Well #: 324244103561601 should be encountered at approximately one-hundred eighty-seven (187) feet below ground surface (bgs). No surface water or water wells were observed within one thousand (1,000) feet of the release site. The Benson Shugart Waterflood Unit #019 is considered to be in a high karst area and is unstable. An "Aerial Proximity Map" is provided as Figure 2.

Based on the NMOCD site classification system, the following soil remediation levels were assigned to the Benson Shugart Waterflood Unit #019 site as a result of this criteria:

- Benzene – 10 mg/kg
- BTEX – 50 mg/kg
- TPH – 100 mg/kg
- Chloride – 600 mg/kg

INITIAL SITE ASSESSMENT AND DELINEATION

On January 5, 2022, Etech conducted an assessment and sampling event at the Benson Shugart Waterflood Unit #019 to determine the condition of the soil where it was believed the spill had occurred. Two (2) soil borings were installed, and samples were collected at six (6) inch and forty-eight (48) inch intervals bgs unless refusal was met (refer to Figure 3). Auger Hole 1 (AH-1) refusal was met at a depth of twenty-four (24) inches bgs. Samples were submitted to Xenco Eurofins to be analyzed for total petroleum hydrocarbons (TPH), chlorides, and benzene, toluene, ethylbenzene & xylenes (BTEX) concentrations. A 'Site and Sample Location Map" is provided as Figure 3.

Laboratory results indicated soil samples were below the NMOCD regulatory limits for TPH, chlorides, and BTEX constituents (refer to Table 1).

Analytical reports are provided as Appendix C.

SITE CLOSURE REQUEST

Laboratory analytical results indicate TPH, chloride, and BTEX concentrations were below the NMOCD Closure Criteria and/or the NMOCD Reclamation Standards in each of the submitted soil samples. Based on laboratory analytical results and field observations made during the initial site assessment, the affected area appears to be restored to its original condition, and vegetation growth has been occurring at a steady rate. Etech, on behalf of Chevron Corporation, respectfully requests that the NMOCD District 1 Office grant site closure to the Benson Shugart Waterflood Unit #019 (NMOCD Incident ID: nMCS0124835298).

LIMITATIONS

Etech has prepared this Closure Request Report to the best of its ability. No other warranty, expressed or implied, is made or intended. Etech has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. Etech has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. Etech has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Etech also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report. This report has been prepared for the benefit of Chevron Corporation. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of Etech and/or Chevron Corporation.

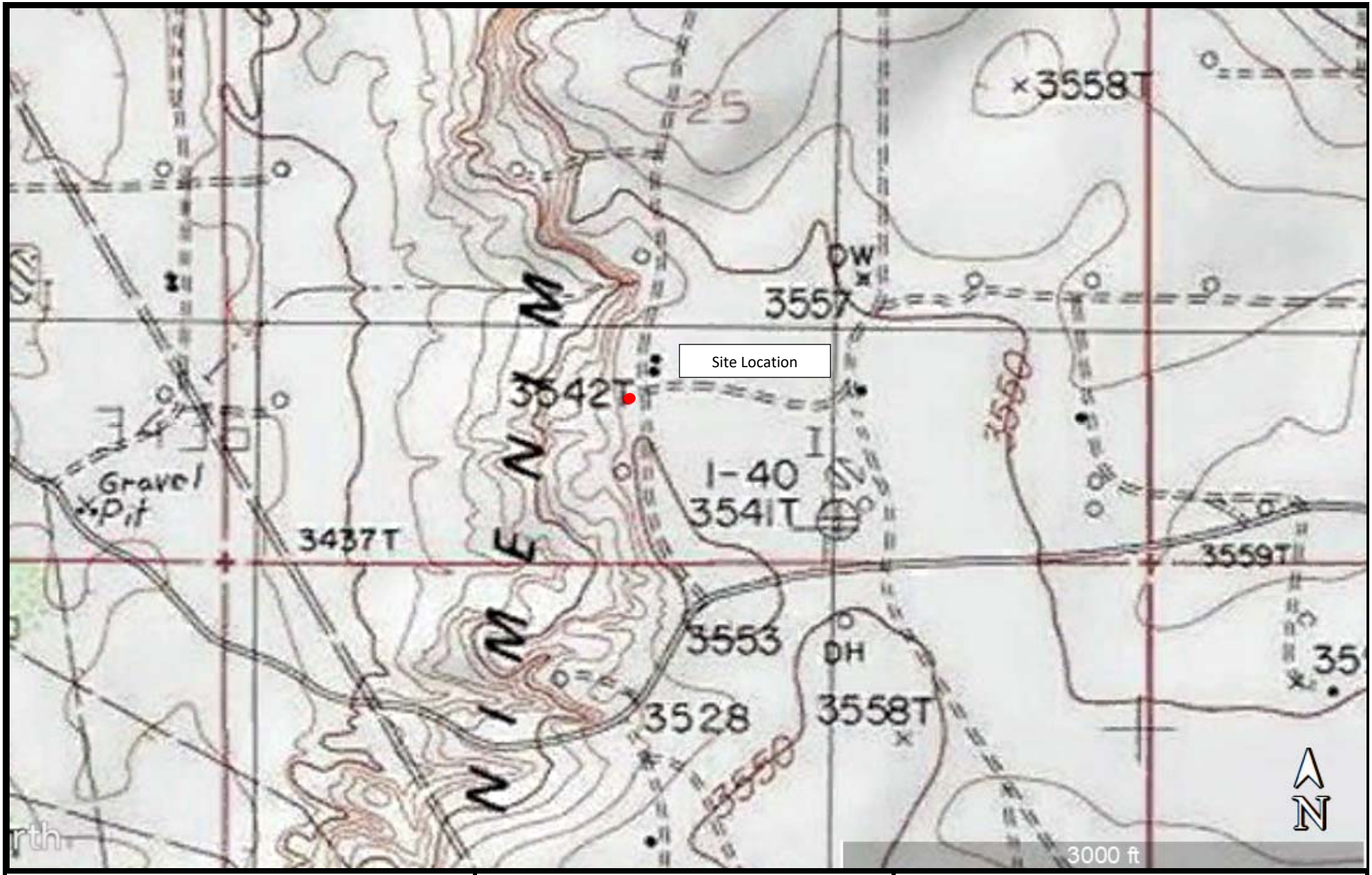
DISTRIBUTION

Copy 1: New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District 1
1624 N. French Drive
Hobbs, New Mexico 88210

Copy 2: Amy Barnhill
Chevron Corporation
6301 Deauville Bulverde
Midland, Texas 79706

Copy 3: Etech Environmental & Safety Solutions, Inc.
P.O. Box 62228
Midland, Texas 79711

FIGURES



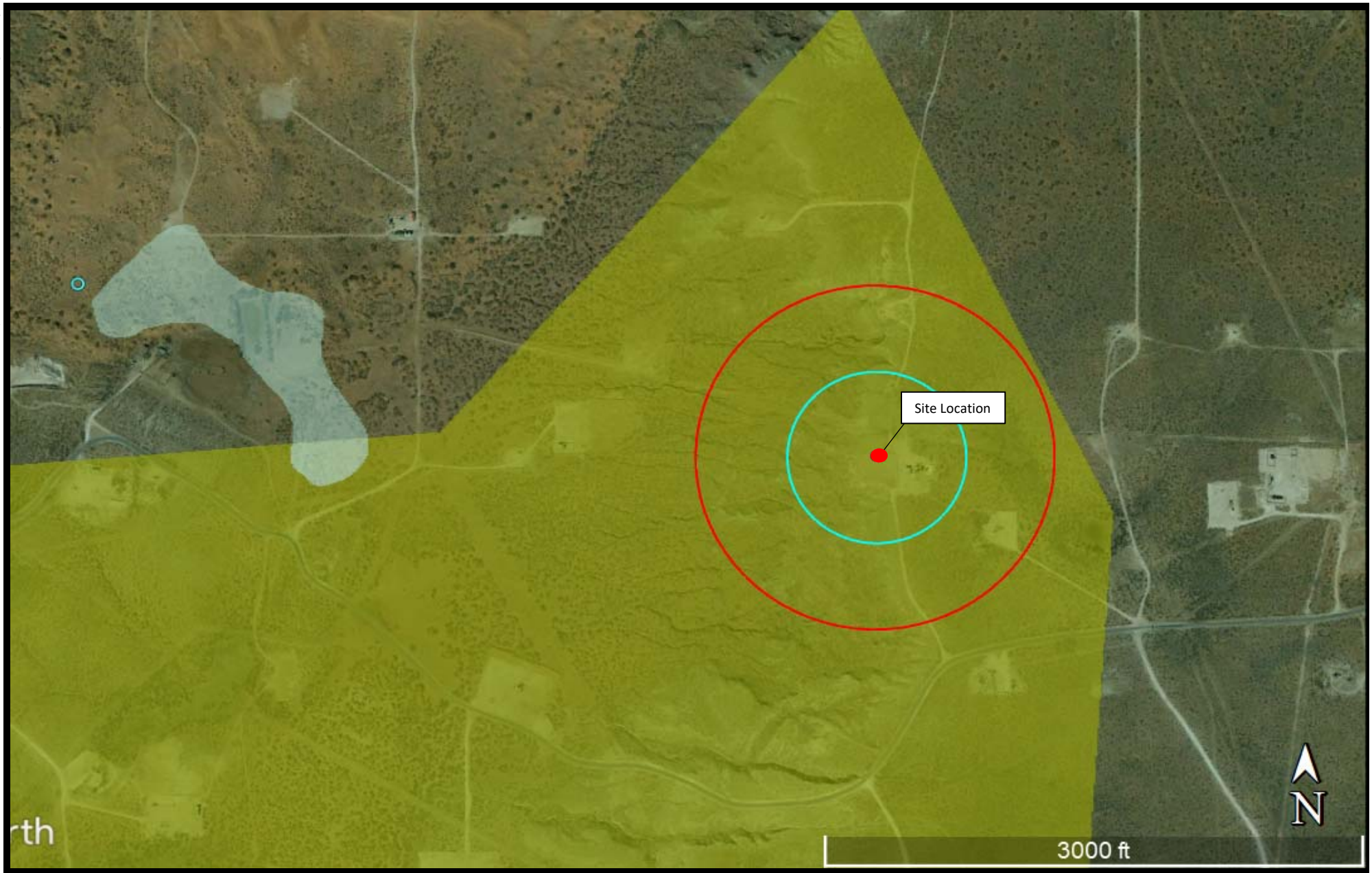
Legend:

- Site Location

Figure 1
Topographic Map
Chevron Environmental Management Company
Benson Shugart Waterflood Unit #019
GPS: 32.71376, -103.9266
Eddy County

eTECH Environmental & Safety Solutions, Inc.

Checked: Date: 2/1/22



Legend:

- Site Location
- Fresh Water Well
- 100-Year Floodplain
- High/Critical Karst
- Non-Industrial Building
- Subsurface Mine

Figure 2
Aerial Proximity Map
Chevron Environmental Management Company
Benson Shugart Waterflood Unit #019
GPS: 32.71376, -103.9266
Eddy County

eTECH Environmental & Safety Solutions, Inc.

Checked: jwl Date: 2/1/22

Environmental & Safety Solutions, Inc.

Figure 3 Site and Sample Location Map	Project Name:	Benson Shugart Waterflood Unit #019	Project No.:	15305
	Date Sampled:	Jl·yðzl·Nè 5, 2022	GPS:	32.713769, -103.926601

TABLES

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

CHEVRON CORPORATION

BENSON SHUGART WATERFLOOD UNIT #019

EDDY COUNTY, NEW MEXICO

All concentrations are reported in mg/Kg

SAMPLE LOCATION	DEPTH	SAMPLE DATE	METHODS: SW 846-8021B						METHOD: SW 8015M					E 300.0
			BENZENE	TOLUENE	ETHYL-BENZENE	m, p - XYLENES	o - XYLENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C_6-C_{12}	TPH DRO C_{12}-C_{28}	TPH ORO C_{28}-C_{35}	TOTAL TPH C_6-C_{35}	CHLORIDE
			10 mg/Kg						50 mg/Kg				100 mg/Kg	600 mg/Kg
AH-1	0-6"	1/5/2022	ND	ND	ND	0.00937	0.00307	0.0124	0.0124	ND	ND	ND	ND	6.22
AH-1	21-24"	1/5/2022	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AH-2	0-6"	1/5/2022	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AH-2	42-48"	1/5/2022	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	211.0

Bold and Yellow Highlighted indicates Analyte Above NMOCD Regulatory Limit

ND - Analyte Not Detected at or above the laboratory reporting limit

** - Sample area was eliminated during further excavation activities.

APPENDICES

Appendix A – Depth to Groundwater Information

New Mexico Office of the State Engineer
Wells with Well Log Information

No wells found.

UTMNAD83 Radius Search (in meters):

Easting (X): 600597.4 **Northing (Y):** 3620065.4 **Radius:** 805

New Mexico Office of the State Engineer

Point of Diversion Summary

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

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	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 Rcv 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**

National Water Information System: Web Interface

Click to hideNews Bulletins

- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

site_no list =

- 324244103561601

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

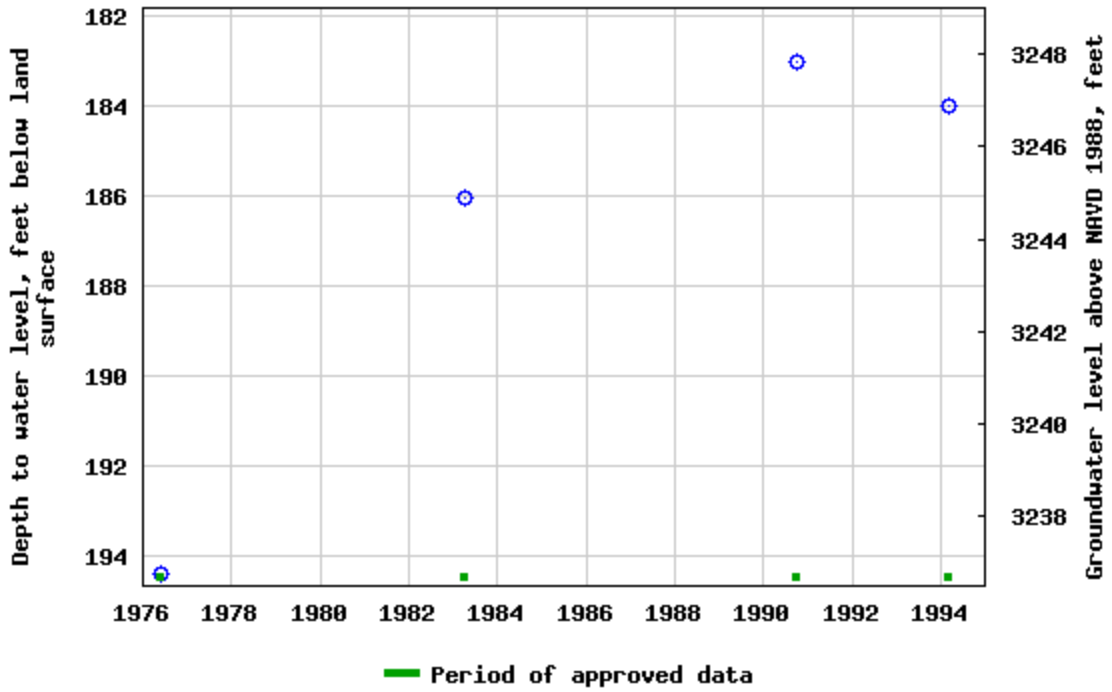
USGS 324244103561601 18S.30E.26.414144

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

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



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

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

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: 2022-02-01 12:57:26 EST
0.56 0.48 nadww01

National Water Information System: Web Interface

Click to hideNews Bulletins

- Explore the *NEW* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News

Groundwater levels for the Nation

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

site_no list =

- 324241103561201

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

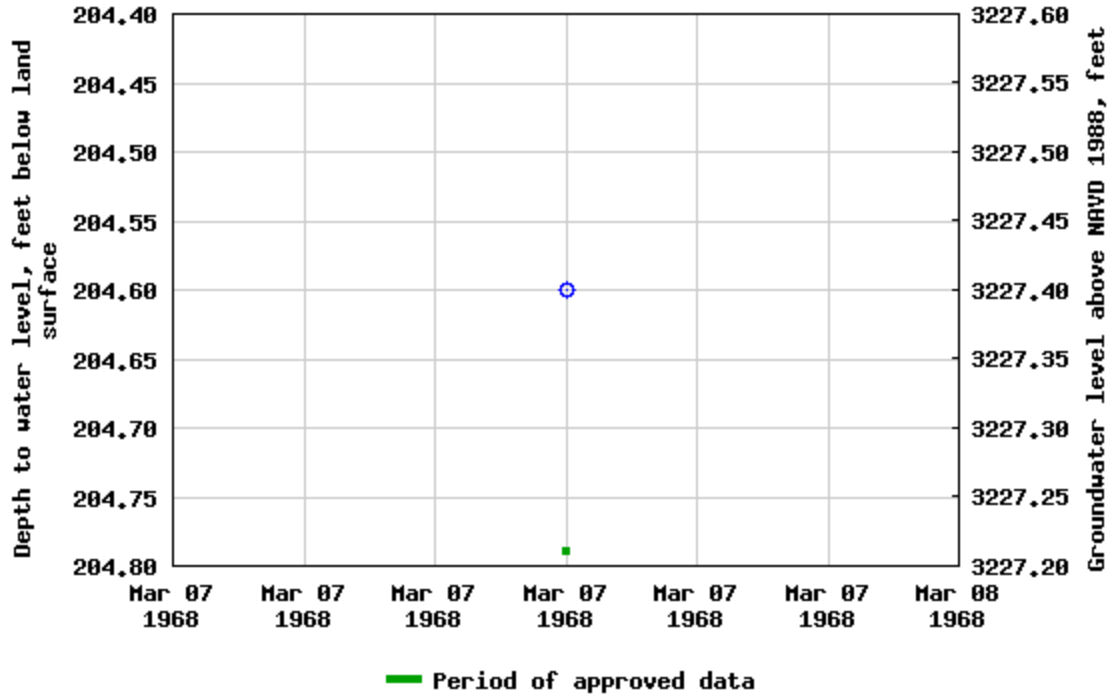
USGS 324241103561201 18S.30E.26.4140

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

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



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

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

Legend:

- Site Location
- USGS Water Well

Figure 4

USGS Well Proximity Map

Chevron Environmental Management Company

Benson Shugart Waterflood Unit #019

GPS: 32.71376, -103.9266

Eddy County

eTECH Environmental & Safety Solutions, Inc.

Drafted: Checked: jwl Date: 2/1/22

Appendix B – Photographic Documentation

Project Name: *Benson Shugart Waterflood Unit #019*
Project No: *15305*

Photographic Documentation

Photo No: **1.**	
Direction Taken: West	
Description: View during assessment and delineation event.	

Photo No: **2.**	
Direction Taken: North	
Description: View during assessment and delineation event.	

Project Name: *Benson Shugart Waterflood Unit #019*
Project No: *15305*

Photographic Documentation

Photo No: **3.**	
Direction Taken: South	
Description: View during assessment and delineation event.	

Photo No: **4.**	
Direction Taken: East	
Description: View during assessment and delineation event.	

Appendix C – Analytical Reports

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 880-9969-1
Client Project/Site: Benson Shugart Waterflood unit #019

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

Attn: Brandon Wilson

JKramer

Authorized for release by:
1/13/2022 8:34:49 PM

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

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood unit #019

Laboratory Job ID: 880-9969-1

Table of Contents

Definitions/Glossary

Client: Etech Environmental & Safety Solutions Job ID: 880-9969-1
Project/Site: Benson Shugart Waterflood unit #019

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
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.
¤	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 #019

Job ID: 880-9969-1

Job ID: 880-9969-1

Laboratory: Eurofins Midland

Narrative

Job Narrative
880-9969-1

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
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-16598 and analytical batch 880-16579 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following sample was outside control limits: Auger Hole 1 (880-9969-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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
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
Job ID: 880-9969-1
Project/Site: Benson Shugart Waterflood unit #019

Client Sample ID: Auger Hole 1
Lab Sample ID: 880-9969-1
Date Collected: 01/05/22 11:34
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		01/12/22 09:21	01/13/22 01:33	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/12/22 09:21	01/13/22 01:33	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/12/22 09:21	01/13/22 01:33	1
m-Xylene & p-Xylene	**0.00937**		0.00401		mg/Kg		01/12/22 09:21	01/13/22 01:33	1
o-Xylene	**0.00307**		0.00200		mg/Kg		01/12/22 09:21	01/13/22 01:33	1
Xylenes, Total	**0.0124**		0.00401		mg/Kg		01/12/22 09:21	01/13/22 01:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*131*	*S1+*	*70 - 130*	*01/12/22 09:21*	*01/13/22 01:33*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*01/12/22 09:21*	*01/13/22 01:33*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	**0.0124**		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	<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 16:30	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/07/22 15:26	01/08/22 16:30	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/07/22 15:26	01/08/22 16:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*69*	*S1-*	*70 - 130*	*01/07/22 15:26*	*01/08/22 16:30*	*1*
o-Terphenyl	*72*		*70 - 130*	*01/07/22 15:26*	*01/08/22 16:30*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6.22**		5.00		mg/Kg			01/12/22 19:52	1

Client Sample ID: Auger Hole 1
Lab Sample ID: 880-9969-2
Date Collected: 01/05/22 11:36
Matrix: Solid
Date Received: 01/07/22 13:05
Sample Depth: 21-24"

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		01/12/22 09:21	01/13/22 01:53	1
Toluene	<0.00202	U	0.00202		mg/Kg		01/12/22 09:21	01/13/22 01:53	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		01/12/22 09:21	01/13/22 01:53	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		01/12/22 09:21	01/13/22 01:53	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		01/12/22 09:21	01/13/22 01:53	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		01/12/22 09:21	01/13/22 01:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*01/12/22 09:21*	*01/13/22 01:53*	*1*

Eurofins Midland

Client Sample Results

Client: Etech Environmental & Safety Solutions
Job ID: 880-9969-1
Project/Site: Benson Shugart Waterflood unit #019

Client Sample ID: Auger Hole 1
Lab Sample ID: 880-9969-2
Date Collected: 01/05/22 11:36
Matrix: Solid
Date Received: 01/07/22 13:05
Sample Depth: 21-24"

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*01/12/22 09:21*	*01/13/22 01:53*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		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 16:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/07/22 15:26	01/08/22 16:51	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/07/22 15:26	01/08/22 16:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*71*		*70 - 130*	*01/07/22 15:26*	*01/08/22 16:51*	*1*
o-Terphenyl	*74*		*70 - 130*	*01/07/22 15:26*	*01/08/22 16:51*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.96	U	4.96		mg/Kg			01/12/22 20:04	1

Client Sample ID: Auger Hole 2
Lab Sample ID: 880-9969-3
Date Collected: 01/05/22 11:38
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	<0.00199	U	0.00199		mg/Kg		01/12/22 09:21	01/13/22 02:14	1
Toluene	<0.00199	U	0.00199		mg/Kg		01/12/22 09:21	01/13/22 02:14	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		01/12/22 09:21	01/13/22 02:14	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		01/12/22 09:21	01/13/22 02:14	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		01/12/22 09:21	01/13/22 02:14	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		01/12/22 09:21	01/13/22 02:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*01/12/22 09:21*	*01/13/22 02:14*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*01/12/22 09:21*	*01/13/22 02:14*	*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	<50.0	U	50.0		mg/Kg			01/12/22 14:00	1

Client Sample Results

Client: Etech Environmental & Safety Solutions Job ID: 880-9969-1
Project/Site: Benson Shugart Waterflood unit #019

Client Sample ID: Auger Hole 2 Lab Sample ID: 880-9969-3

Date Collected: 01/05/22 11:38 **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 17:11	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		01/07/22 15:26	01/08/22 17:11	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		01/07/22 15:26	01/08/22 17:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*74*		*70 - 130*	*01/07/22 15:26*	*01/08/22 17:11*	*1*
o-Terphenyl	*79*		*70 - 130*	*01/07/22 15:26*	*01/08/22 17:11*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.99	U	4.99		mg/Kg			01/12/22 20:16	1

Client Sample ID: Auger Hole 2 Lab Sample ID: 880-9969-4

Date Collected: 01/05/22 11:40 **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		01/12/22 09:21	01/13/22 02:35	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/12/22 09:21	01/13/22 02:35	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/12/22 09:21	01/13/22 02:35	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/12/22 09:21	01/13/22 02:35	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/12/22 09:21	01/13/22 02:35	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/12/22 09:21	01/13/22 02:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*01/12/22 09:21*	*01/13/22 02:35*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*01/12/22 09:21*	*01/13/22 02:35*	*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	<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 17:31	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		01/07/22 15:26	01/08/22 17:31	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		01/07/22 15:26	01/08/22 17:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*72*		*70 - 130*	*01/07/22 15:26*	*01/08/22 17:31*	*1*
o-Terphenyl	*77*		*70 - 130*	*01/07/22 15:26*	*01/08/22 17:31*	*1*

Client Sample Results

Client: Etech Environmental & Safety Solutions
Job ID: 880-9969-1
Project/Site: Benson Shugart Waterflood unit #019

Client Sample ID: Auger Hole 2
Lab Sample ID: 880-9969-4
Date Collected: 01/05/22 11:40
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	211		5.02		mg/Kg			01/13/22 09:21	1

Surrogate Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood unit #019

Job ID: 880-9969-1

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-9967-A-3-D MS	Matrix Spike	91	108
880-9967-A-3-E MSD	Matrix Spike Duplicate	89	104
880-9969-1	Auger Hole 1	131 S1+	105
880-9969-2	Auger Hole 1	108	89
880-9969-3	Auger Hole 2	96	103
880-9969-4	Auger Hole 2	105	95
LCS 880-16598/1-A	Lab Control Sample	88	105
LCSD 880-16598/2-A	Lab Control Sample Dup	94	112
MB 880-16533/5-A	Method Blank	118	96
MB 880-16598/5-A	Method Blank	96	78

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)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(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
880-9969-1	Auger Hole 1	69 S1-	72
880-9969-2	Auger Hole 1	71	74
880-9969-3	Auger Hole 2	74	79
880-9969-4	Auger Hole 2	72	77
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

QC Sample Results

Client: Etech Environmental & Safety Solutions
Job ID: 880-9969-1
Project/Site: Benson Shugart Waterflood unit #019

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-16533/5-A
Matrix: Solid
Analysis Batch: 16579

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16533

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/11/22 13:16	01/12/22 12:02	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/11/22 13:16	01/12/22 12:02	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/11/22 13:16	01/12/22 12:02	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/11/22 13:16	01/12/22 12:02	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/11/22 13:16	01/12/22 12:02	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/11/22 13:16	01/12/22 12:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*118*		*70 - 130*	*01/11/22 13:16*	*01/12/22 12:02*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*01/11/22 13:16*	*01/12/22 12:02*	*1*

Lab Sample ID: MB 880-16598/5-A
Matrix: Solid
Analysis Batch: 16579

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 16598

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		01/12/22 09:21	01/12/22 23:07	1
Toluene	<0.00200	U	0.00200		mg/Kg		01/12/22 09:21	01/12/22 23:07	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		01/12/22 09:21	01/12/22 23:07	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		01/12/22 09:21	01/12/22 23:07	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		01/12/22 09:21	01/12/22 23:07	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		01/12/22 09:21	01/12/22 23:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*	*01/12/22 09:21*	*01/12/22 23:07*	*1*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*	*01/12/22 09:21*	*01/12/22 23:07*	*1*

Lab Sample ID: LCS 880-16598/1-A
Matrix: Solid
Analysis Batch: 16579

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 16598

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.08139		mg/Kg		81	70 - 130
Toluene	0.100	0.07125		mg/Kg		71	70 - 130
Ethylbenzene	0.100	0.07268		mg/Kg		73	70 - 130
m-Xylene & p-Xylene	0.200	0.1533		mg/Kg		77	70 - 130
o-Xylene	0.100	0.07003		mg/Kg		70	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: LCSD 880-16598/2-A
Matrix: Solid
Analysis Batch: 16579

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 16598

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.08916		mg/Kg		89	70 - 130	9	35

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QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood unit #019

Job ID: 880-9969-1

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

Lab Sample ID: LCSD 880-16598/2-A
Matrix: Solid
Analysis Batch: 16579

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 16598

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene			0.100	0.07555		mg/Kg		76	70 - 130	6	35
Ethylbenzene			0.100	0.07376		mg/Kg		74	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1441		mg/Kg		72	70 - 130	6	35
o-Xylene			0.100	0.07508		mg/Kg		75	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

Lab Sample ID: 880-9967-A-3-D MS
Matrix: Solid
Analysis Batch: 16579

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 16598

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00200	U	0.0990	0.08530		mg/Kg		86	70 - 130
Toluene	<0.00200	U	0.0990	0.07409		mg/Kg		75	70 - 130
Ethylbenzene	<0.00200	U F1	0.0990	0.06941	F1	mg/Kg		69	70 - 130
m-Xylene & p-Xylene	<0.00399	U F1	0.198	0.1360	F1	mg/Kg		69	70 - 130
o-Xylene	<0.00200	U	0.0990	0.07162		mg/Kg		72	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: 880-9967-A-3-E MSD
Matrix: Solid
Analysis Batch: 16579

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 16598

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0998	0.08199		mg/Kg		82	70 - 130	4	35
Toluene	<0.00200	U	0.0998	0.07214		mg/Kg		72	70 - 130	3	35
Ethylbenzene	<0.00200	U F1	0.0998	0.06941	F1	mg/Kg		69	70 - 130	0	35
m-Xylene & p-Xylene	<0.00399	U F1	0.200	0.1360	F1	mg/Kg		68	70 - 130	0	35
o-Xylene	<0.00200	U	0.0998	0.07103		mg/Kg		71	70 - 130	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*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

QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood unit #019

Job ID: 880-9969-1

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
OII 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*

QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood unit #019

Job ID: 880-9969-1

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

Lab Sample ID: 880-9968-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 16326 — **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 880-16442/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 16556

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			01/12/22 13:19	1

Lab Sample ID: LCS 880-16442/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 16556

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	249.5		mg/Kg		100	90 - 110

Lab Sample ID: LCSD 880-16442/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 16556

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	242.2		mg/Kg		97	90 - 110	3	20

Lab Sample ID: 880-9955-A-3-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 16556

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	<4.96	U	248	256.3		mg/Kg		102	90 - 110

Lab Sample ID: 880-9955-A-3-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 16556

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	<4.96	U	248	261.4		mg/Kg		104	90 - 110	2	20

QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood unit #019

Job ID: 880-9969-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

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

Lab Sample ID: 880-9969-4 MS
Matrix: Solid
Analysis Batch: 16558

Client Sample ID: Auger Hole 2
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	211		251	464.1		mg/Kg		101	90 - 110		

Lab Sample ID: 880-9969-4 MSD
Matrix: Solid
Analysis Batch: 16558

Client Sample ID: Auger Hole 2
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	211		251	456.4		mg/Kg		98	90 - 110	2	20

QC Association Summary

Client: Etech Environmental & Safety Solutions Job ID: 880-9969-1
Project/Site: Benson Shugart Waterflood unit #019

GC VOA

Prep Batch: 16533

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-16533/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 16579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9969-1	Auger Hole 1	Total/NA	Solid	8021B	16598
880-9969-2	Auger Hole 1	Total/NA	Solid	8021B	16598
880-9969-3	Auger Hole 2	Total/NA	Solid	8021B	16598
880-9969-4	Auger Hole 2	Total/NA	Solid	8021B	16598
MB 880-16533/5-A	Method Blank	Total/NA	Solid	8021B	16533
MB 880-16598/5-A	Method Blank	Total/NA	Solid	8021B	16598
LCS 880-16598/1-A	Lab Control Sample	Total/NA	Solid	8021B	16598
LCSD 880-16598/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	16598
880-9967-A-3-D MS	Matrix Spike	Total/NA	Solid	8021B	16598
880-9967-A-3-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	16598

Prep Batch: 16598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9969-1	Auger Hole 1	Total/NA	Solid	5035	
880-9969-2	Auger Hole 1	Total/NA	Solid	5035	
880-9969-3	Auger Hole 2	Total/NA	Solid	5035	
880-9969-4	Auger Hole 2	Total/NA	Solid	5035	
MB 880-16598/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-16598/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-16598/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-9967-A-3-D MS	Matrix Spike	Total/NA	Solid	5035	
880-9967-A-3-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 16668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9969-1	Auger Hole 1	Total/NA	Solid	Total BTEX	
880-9969-2	Auger Hole 1	Total/NA	Solid	Total BTEX	
880-9969-3	Auger Hole 2	Total/NA	Solid	Total BTEX	
880-9969-4	Auger Hole 2	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 16294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9969-1	Auger Hole 1	Total/NA	Solid	8015NM Prep	
880-9969-2	Auger Hole 1	Total/NA	Solid	8015NM Prep	
880-9969-3	Auger Hole 2	Total/NA	Solid	8015NM Prep	
880-9969-4	Auger Hole 2	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
880-9969-1	Auger Hole 1	Total/NA	Solid	8015B NM	16294

QC Association Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood unit #019

Job ID: 880-9969-1

GC Semi VOA (Continued)

Analysis Batch: 16326 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9969-2	Auger Hole 1	Total/NA	Solid	8015B NM	16294
880-9969-3	Auger Hole 2	Total/NA	Solid	8015B NM	16294
880-9969-4	Auger Hole 2	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
880-9969-1	Auger Hole 1	Total/NA	Solid	8015 NM	
880-9969-2	Auger Hole 1	Total/NA	Solid	8015 NM	
880-9969-3	Auger Hole 2	Total/NA	Solid	8015 NM	
880-9969-4	Auger Hole 2	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 16442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9969-1	Auger Hole 1	Soluble	Solid	DI Leach	
880-9969-2	Auger Hole 1	Soluble	Solid	DI Leach	
880-9969-3	Auger Hole 2	Soluble	Solid	DI Leach	
MB 880-16442/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-16442/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-16442/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-9955-A-3-D MS	Matrix Spike	Soluble	Solid	DI Leach	
880-9955-A-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 16443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9969-4	Auger Hole 2	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	
880-9969-4 MS	Auger Hole 2	Soluble	Solid	DI Leach	
880-9969-4 MSD	Auger Hole 2	Soluble	Solid	DI Leach	

Analysis Batch: 16556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9969-1	Auger Hole 1	Soluble	Solid	300.0	16442
880-9969-2	Auger Hole 1	Soluble	Solid	300.0	16442
880-9969-3	Auger Hole 2	Soluble	Solid	300.0	16442
MB 880-16442/1-A	Method Blank	Soluble	Solid	300.0	16442
LCS 880-16442/2-A	Lab Control Sample	Soluble	Solid	300.0	16442
LCSD 880-16442/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	16442
880-9955-A-3-D MS	Matrix Spike	Soluble	Solid	300.0	16442
880-9955-A-3-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	16442

QC Association Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood unit #019

Job ID: 880-9969-1

HPLC/IC

Analysis Batch: 16558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-9969-4	Auger Hole 2	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
880-9969-4 MS	Auger Hole 2	Soluble	Solid	300.0	16443
880-9969-4 MSD	Auger Hole 2	Soluble	Solid	300.0	16443

Lab Chronicle

Client: Etech Environmental & Safety Solutions
Job ID: 880-9969-1
Project/Site: Benson Shugart Waterflood unit #019

Client Sample ID: Auger Hole 1
Lab Sample ID: 880-9969-1
Date Collected: 01/05/22 11:34
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	16598	01/12/22 09:21	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16579	01/13/22 01:33	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 16:30	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	16442	01/10/22 13:36	CH	XEN MID
Soluble	Analysis	300.0		1			16556	01/12/22 19:52	CH	XEN MID

Client Sample ID: Auger Hole 1
Lab Sample ID: 880-9969-2
Date Collected: 01/05/22 11:36
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			4.96 g	5 mL	16598	01/12/22 09:21	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16579	01/13/22 01:53	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			10.00 g	10 mL	16294	01/07/22 15:26	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16326	01/08/22 16:51	AJ	XEN MID
Soluble	Leach	DI Leach			5.04 g	50 mL	16442	01/10/22 13:36	CH	XEN MID
Soluble	Analysis	300.0		1			16556	01/12/22 20:04	CH	XEN MID

Client Sample ID: Auger Hole 2
Lab Sample ID: 880-9969-3
Date Collected: 01/05/22 11:38
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	16598	01/12/22 09:21	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16579	01/13/22 02:14	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			10.00 g	10 mL	16294	01/07/22 15:26	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16326	01/08/22 17:11	AJ	XEN MID
Soluble	Leach	DI Leach			5.01 g	50 mL	16442	01/10/22 13:36	CH	XEN MID
Soluble	Analysis	300.0		1			16556	01/12/22 20:16	CH	XEN MID

Client Sample ID: Auger Hole 2
Lab Sample ID: 880-9969-4
Date Collected: 01/05/22 11:40
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	16598	01/12/22 09:21	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	16579	01/13/22 02:35	KL	XEN MID
Total/NA	Analysis	Total BTEX		1			16668	01/12/22 13:10	AJ	XEN MID

Lab Chronicle

Client: Etech Environmental & Safety Solutions
Job ID: 880-9969-1
Project/Site: Benson Shugart Waterflood unit #019

Client Sample ID: Auger Hole 2
Lab Sample ID: 880-9969-4

Date Collected: 01/05/22 11:40
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			10.03 g	10 mL	16294	01/07/22 15:26	DM	XEN MID
Total/NA	Analysis	8015B NM		1			16326	01/08/22 17:31	AJ	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	16443	01/10/22 13:40	CH	XEN MID
Soluble	Analysis	300.0		1			16558	01/13/22 09:21	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 Job ID: 880-9969-1
Project/Site: Benson Shugart Waterflood unit #019

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 #019

Job ID: 880-9969-1

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

Sample Summary

Client: Etech Environmental & Safety Solutions
Project/Site: Benson Shugart Waterflood unit #019

Job ID: 880-9969-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
880-9969-1	Auger Hole 1	Solid	01/05/22 11:34	01/07/22 13:05	0-6"
880-9969-2	Auger Hole 1	Solid	01/05/22 11:36	01/07/22 13:05	21-24"
880-9969-3	Auger Hole 2	Solid	01/05/22 11:38	01/07/22 13:05	0-6"
880-9969-4	Auger Hole 2	Solid	01/05/22 11:40	01/07/22 13:05	42-48"

Chain of Custody

XENCO LABORATORIES

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: 9969

www xenco com Page 1 of 1

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 ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting Level II ☐ Level III ☐ PST/UST ☐ RRP ☐ Level IV ☐
Deliverables EDD ☐ ADaPT ☐ Other

Project Name	Benson Shugart Waterflood Unit #019	Turn Around	
Project Number	15305	Routine	X
P O Number	15305	Rush	
Sampler's Name	Blake Estep	Due Date	

SAMPLE RECEIPT				
Temp Blank	Yes (No)	Wet Ice	(Yes) No	
Temperature (°C)	5.3/5.4	Thermometer ID	IR8	
Received Intact.	(Yes) No			
Cooler Custody Seals	Yes No (N/A)	Correction Factor	-.10	
Sample Custody Seals	Yes No (N/A)	Total Containers		

ANALYSIS REQUEST

Work Order Notes

TAT starts the day recevied by the lab if received by 4 30pm

Sample Comments

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH 8015M	BETEX 8021B	Chlorides
Auger Hole 1	S	1/5/2022	11 34	0-6"	1	X	X	X
Auger Hole 1	S	1/5/2022	11 36	21-24"	1	X	X	X
Auger Hole 2	S	1/5/2022	11 38	0-6"	1	X	X	X
Auger Hole 2	S	1/5/2022	11 40	42-48"	1	X	X	X

880-9969 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 Tl 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 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 Blake Estep	[signature]	1-7-22 1305	2		
3			4		
5			6		

Revised Date 051418 Rev 2018.1

Login Sample Receipt Checklist

Client: Etech Environmental & Safety Solutions Job Number: 880-9969-1

Login Number: 9969 **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	

Appendix D – Release Notification and Corrective Action (Form C-141)

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., 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 Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NMCS0124835298
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Chevron USA	OGRID: 4323
Contact Name: Amy Barnhill	Contact Telephone: 432-687-7108
Contact email: ABarnhill@chevron.com	Incident # *(assigned by OCD)*
Contact mailing address: 6301 Deauville Blvd Midland, Tx 79706	

Location of Release Source

Latitude 32.7137642 Longitude -103.92659
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: BENSON SHUGART WATERFLOOD UNIT #019	Site Type: Oil
Date Release Discovered: 7-19-2001	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
N	25	18S	30E	Eddy

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

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 250	Volume Recovered (bbls) 40
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: HOLE IN INJECTION LINE. CLAMPED LINE AND WILL REPLACE. VACUUM STANDING WATER . WILL REPLACE 3500' OF INJECTION LINE UPON BLM APPROVAL. WILL REMOVE SOIL, BACKDRAG AND REPLACE WITH NEW SOIL.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NMCS0124835298
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Over 25 bbls
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? This is an old spill without an initial C-141. The requested information is unavailable.	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☒ The source of the release has been stopped.

☒ The impacted area has been secured to protect human health and the environment.

☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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: Amy Barnhill Title: Water Specialist

Signature: Amy Barnhill Date: 2-17-22

email: ABarnhill@chevron.com Telephone: 432-687-7108

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	NMCS0124835298
District RP	
Facility ID	
Application ID	

Spill Calculations: None available as this is an old spill without an initial C-141.

State of New Mexico
Oil Conservation Division

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?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☐ 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)?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☐ 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?	☐ Yes ☐ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☐ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☐ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☐ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☐ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☐ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☐ No

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

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

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

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

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Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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Printed Name: _____ Title: _____

Signature: _____ Date: 2-21-22_____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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 82981

CONDITIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 82981
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bbillings	None	5/31/2022