Form C-141
Page 5

State of New Mexico
Oil Conservation Division

Incident ID	NRM2001060253
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: Laci Luig Title: Environmental Specialist

Signature: Laci Luig Date:

email: LLUIG@CIMAREX.COM Telephone: (432) 571-7810

OCD Only

Received by: Ramona Marcus Date: 10/5/2021

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

Signature: Chad Hensley Date: 11/08/2021

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	NRM2001060253
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Cimarex Energy	OGRID 162683
Contact Name Christine Alderman	Contact Telephone 432-853-7059
Contact email calderman@cimarex.com	Incident # *(assigned by OCD)*
Contact mailing address 600 N Marienfeld Ste 60, Midland, TX 79701	

Location of Release Source

Latitude 32.06508 Longitude -103.68667
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Hallertau 5 Fed #4	Site Type production battery
Date Release Discovered 11/12/2019	API# *(if applicable)* 30-025-40254

Unit Letter	Section	Township	Range	County
M	05	26S	32E	Lea

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) 200 bbls	Volume Recovered (bbls) 120 bbls
	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

The 4" poly transfer line had parted at a weld.

A vacuum truck recovered 120 bbls of produced water. The impacted area measured on the north 200' x 12' x 6" along the lease road, and measured approximately 177' x 22' x 6" into the pasture.

State of New Mexico
Oil Conservation Division

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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? Volume was >25 bbls.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Yes.
11/13/2019 @ 3:54 pm to Amos, Horn, Griswold, and District 1 spill email
Christine Alderman

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: Christine Alderman Title: ESH Supervisor

Signature: Christine Alderman Date: 11/18/2019

email: calderman@cimarex.com Telephone: 432-853-7059

OCD Only

Received by: Ramona Marcus Date: 10/5/2021

NRM2001060253

****** LIQUID SPILLS - VOLUME CALCULATIONS ******

Location of spill: Hallertau 5 Federal #4 Date of Spill: 11/12/2019

If the leak/spill is associated with production equipment, i.e. - wellhead, stuffing box, flowline, tank battery, production vessel, transfer pump, or storage tank place an "X" here: ☐

Input Data:

If spill volumes from measurement, i.e. metering, tank volumes, etc.are known enter the volumes here: OIL: 0.0000 BBL WATER: 200.0000 BBL

If "known" spill volumes are given, input data for the following "Area Calculations" is optional. The above will override the calculated volumes.

Total Area Calculations

Total Surface Area	width		length		wet soil depth	oil (%)
Rectangle Area #1	200 ft	X	12 ft	X	6 in	0%
Rectangle Area #2	177 ft	X	22 ft	X	6 in	0%
Rectangle Area #3	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #4	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #5	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #6	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #7	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #8	0 ft	X	0 ft	X	0 in	0%

Standing Liquid Calculations

Standing Liquid Area	width		length		liquid depth	oil (%)
Rectangle Area #1	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #2	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #3	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #4	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #5	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #6	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #7	0 ft	X	0 ft	X	0 in	0%
Rectangle Area #8	0 ft	X	0 ft	X	0 in	0%

okay

Production Data NOT Required

Average Daily Production: Oil 0 BBL Water 0 BBL

Did leak occur before the separator?: ☐ YES ☐ N/A *(place an "X")*

Amount of Free Liquid Recovered: 120 BBL ERROR - Recovered volume greater than spilled volume

Percentage of Oil in Free Liquid Recovered: 0% (percentage)

Liquid holding factor *: 0.14 gal per gal

Use the following when the spill wets the grains of the soil.
* sand = .08 gallon liquid per gallon volume of soil.
* gravelly (caliche) loam = .14 gallon liquid per gallon volume of soil.
* sandy clay loam soil = .14 gallon liquid per gallon volume of soil.
* clay loam = .16 gallon liquid per gallon volume of soil.

Use the following when the liquid completely fills the pore space of the soil:
Occures when the spill soaked soil is contained by barriers, natural (or not).
* gravelly (caliche) loam = .25 gallon liquid per gallon volume of soil.
* sandy loam = .5 gallon liquid per gallon volume of soil.

Saturated Soil Volume Calculations:

		H2O	OIL
Total Solid/Liquid Volume:	6,294 sq. ft.	3,147 cu. ft.	cu. ft.

Free Liquid Volume Calculations:

		H2O	OIL
Total Free Liquid Volume:	sq. ft.	.000 cu. ft.	.000 cu. ft.

Estimated Volumes Spilled

	H2O	OIL
Liquid in Soil:	78.5 BBL	0.0 BBL
Free Liquid:	0.0 BBL	0.0 BBL
Totals:	78.465 BBL	0.000 BBL
Total Liquid Spill Liquid:	200.000 BBL	0.000 BBL

Estimated Production Volumes Lost

	H2O	OIL
Estimated Production Spilled:	######### BBL	0.000000 BBL

Estimated Surface Damage

Surface Area: 6,294 sq. ft.

Surface Area: .1445 acre

Recovered Volumes

Estimated oil recovered: 0.0 BBL check - okay

Estimated water recovered: 120.0 BBL check - okay

Estimated Weights, and Volumes

Saturated Soil =	352,464 lbs	3,147 cu.ft.	117 cu.yds.
Total Liquid =	200 BBL	8,400.00 gallon	69,888 lbs

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	
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Printed Name: _____ Title: _____

Signature: Kaci Lo Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Ramona Marcus Date: 10/5/2021

Incident ID	NRM2001060253
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
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- ☐ Extents of contamination must be fully delineated.
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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: _____ Title: _____

Signature: Laci Lõ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Ramona Marcus Date: 10/5/2021

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

Signature: _____ Date: _____

SITE INFORMATION

Report Type: Work Plan nRM2001060253

General Site Information:						
Site:	**Hallertau 5 Fed #4**					
Company:	**Cimarex Energy**					
Section, Township and Range	**Unit M**	**Sec. 05**	**T 26S**	**R 32E**		
Lease Number:						
County:	**Lea County**					
GPS:	**32.06508º N**			**-103.68667º W**		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	From the intersection of HWY 128 & CR 1 (J-1) travel south on 1 for 10.42 miles. Turn right onto lease road, follow for 0.69 miles to location.					

Release Data:	
Date Released:	11/12/2019
Type Release:	Produced Water
Source of Contamination:	Failed Weld
Fluid Released:	200 bbls
Fluids Recovered:	120 bbls

Official Communication:			
Name:	Laci Luig		Brittany Long
Company:	Cimarex Energy		Tetra Tech
Address:	600 N. Marienfield St.		901 W. Wall St.
	Ste 600		Ste 100
City:	Midland Texas, 79701		Midland, Texas, 79701
Phone number:	(432) 571-7810		(432) 741-5813
Fax:			
Email:	Lluig@cimarex.com		Brittany.Long@TetraTech.com

Site Characterization	
Depth to Groundwater:	*>100' Below Surface*
Karst Potential:	*Medium*

Recommended Remedial Action Levels (RRALs)				
Benzene	***Total BTEX***	***TPH (GRO+DRO)***	***TPH (GRO+DRO+MRO)***	***Chlorides***
10 mg/kg	*50 mg/kg*	*1,000 mg/kg*	*2,500 mg/kg*	*10,000 mg/kg*

TETRA TECH

October 1, 2021

Mike Bratcher
Environmental Engineer Specialist
Oil Conservation Division, District 2
811 S. First Street
Artesia, New Mexico 88210

Re: Work Plan for the Cimarex Energy, Hallertau 5 Fed #4, Unit M, Section 05, Township 26 South, Range 32 East, Lea County, New Mexico. NRM2001060253

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by Cimarex Energy to assess and remediate a release that occurred at the Hallertau 5 Fed #4, Unit M, Section 05, Township 26 South, Range 32 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.06508º, W 103.68667º. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on November 12, 2019, due to a weld failure on a 4" poly transfer line. A total of 200 barrels of produced water was released, and approximately 120 barrels of the produced water were recovered. The release impacted an area measuring approximately 190'x 100'. The C-141 Form is included in Appendix A.

Site Characterization

A site characterization was performed for the site, and no watercourses, lakebeds, sinkholes, playa lakes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the specified distances. However, the site is in a medium karst potential area.

The nearest well is listed in the USGS National Water Information Database website in Section 06, approximately 1.95 miles from of the site, and has a reported depth to groundwater of 155 feet below ground surface. Site characterization data is included in Appendix B.

Tetra Tech
901 West Wall, Suite 100, Midland, TX 79701
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

TETRA TECH

Regulatory

A risk-based evaluation was performed for the site following the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, updated August 14, 2018. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based on the site characterization, beyond the top 4.0' of soil, the proposed RRAL for TPH is 1,000 mg/kg (GRO+DRO) and 2,500 mg/kg (GRO+DRO+MRO). Additionally, based on the site characterization, beyond the top 4.0' of soil, the proposed RRAL for chlorides is 10,000 mg/kg.

Soil Assessment and Analytical Results

2019 Soil Assessment

On November 20, 2019, Tetra Tech personnel were on site to evaluate and sample the release area. Three trenches (Trench-1 through Trench-3) were installed to a depth of 4.0' below surface in the spill area to assess and define the extents of the release. Initial response and remediation took place in these areas based on field screening and lab results of trenches (Trench-1 through Trench-3). Select samples were submitted to PBE Laboratory and analyzed chloride by EPA method 300.0 due to the only constituent of concern being chlorides. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The sample locations are shown in Figure 3.

Referring to Table 1, chloride concentrations above RRALs were detected in the areas of trenches (Trench-1 through Trench-3), at depths of 4.0' below surface, with concentrations ranging from 12,300 mg/kg to 28,000 mg/kg.

2021 Soil Assessment

On July 27, 2021, Tetra Tech personnel were onsite to evaluate, sample, and field screen the remediated area, to collect current and representative data. Bottom hole and sidewall samples were collected throughout the remediation and field screened for chlorides with an ExStick. Field screening results showed current chloride concentrations above RRALs throughout the remediated area, and initiated further remediation activities. The field screening concentrations and locations are shown in Appendix C.

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Remediation and Reclamation Activities

Initial Response and Remediation

Based on the site assessment, Tetra Tech personnel were onsite November 21, 2019, to supervise the initial response and remediation activities and collect sidewall samples. The impacted areas were excavated to total depths ranging from 2.0' to 4.0' below surface. The excavation depths and sample locations are shown on Figure 3.

A total of eleven (11) sidewall samples (E1 SW, E2 SW, N1 SW, N2 SW, N3 SW, W1 SW, W2 SW, W3 SW) were collected to assess the remedial area. The samples were submitted to the PBE laboratory to be analyzed for Chloride by EPA Method 300.0. The sampling results are summarized in Table 2. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix D. The excavation depths and sample locations are shown in Figure 3.

Referring to Table 2, the sidewalls (N1 SW and W1 SW) showed chloride concentrations above the 600 mg/kg threshold.

2021 Remediation Activities

Based on the site assessment and initial response activities and data, Tetra Tech personnel were onsite August 24, 2021, August 26, 2021, and August 31, 2021 to supervise additional remediation activities and collect confirmation samples. The impacted areas were excavated to total depths ranging from 3.0' to 20.0' below surface. The excavation area and depths are shown on Figure 4.

Confirmation bottom hole and sidewall samples were collected every 200 square feet and field screened. Based on field screening concentrations, Cimarex chose to submit select samples to determine if false chloride concentrations were being detected by field screening equipment. The bottom hole samples (BH-3 and BH-4) and sidewall samples (SW-5, SW-7, SW-10, and SW-12) were submitted to the Eurofins Laboratories to be analyzed for TPH method 8015 modified, BTEX method 8021B, and Chloride by EPA Method 300.0. The sampling results are summarized in Table 3. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The excavation depths and sample locations are shown in Figure 4.

Referring to Table 2, all final confirmation samples collected showed benzene, total BTEX, and TPH concentrations below the laboratory reporting limits. However, the sidewall samples (SW-7, SW-10, and SW-12) showed chloride concentrations above RRALs.

Approximately 2,097 cubic yards of material was excavated and transported offsite for proper disposal.

Work Plan

Based on the laboratory results, field data, and remediation activities performed, Cimarex proposed to install a groundwater determination bore at 55', within ½ mile of the

TETRA TECH

site, to provide current groundwater depth information and raise RRALs. Additionally Cimarex proposes to remediate the top 4.0' of soil to the recommended RRALs, and the remaining impact to the proposed RRALs. The C-141 is enclosed in Appendix A. If you have any questions or comments concerning the assessment or remediation activities for this site, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Brittany Long,
Project Manager

Clair Gonzales,
Senior Project Manager

TETRA TECH

Figures

SITE LOCATION

N
W
E
S

0 2.5 5 Miles

Approximate Scale in Miles

Source: ESRI Basemap - Streets, 2021.

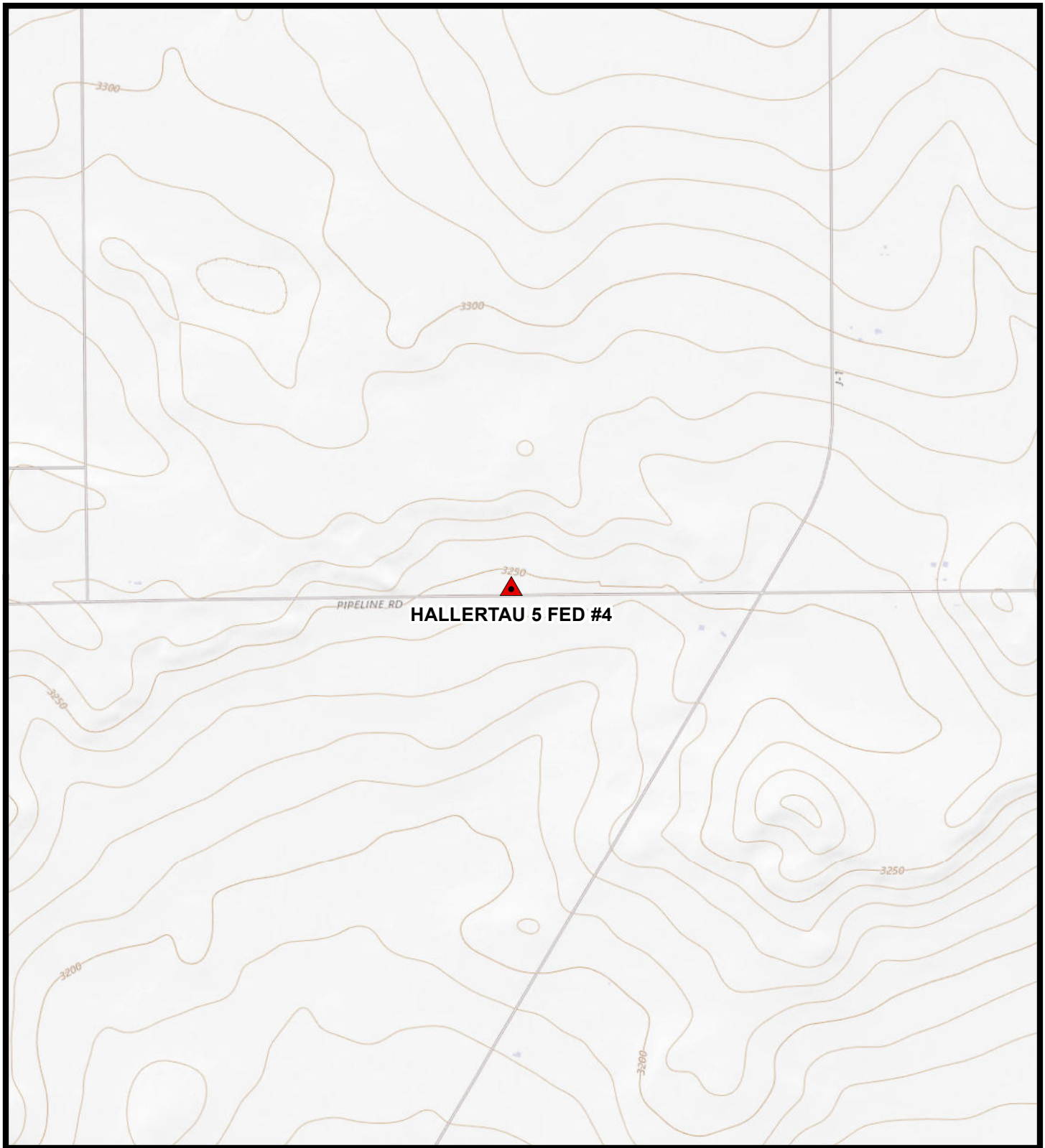
OVERVIEW MAP
HALLERTAU 5 FED #4
Property Located at coordinates 32.06508°, -103.68667°
LEA COUNTY, NEW MEXICO

CIMAREX

Project #:
212C-MD-02564

FIGURE
1

C:\GIS\Cimarex\212C-MD-02564_Hallertau5\212C-MD-02564_HALLERTAU5_FIG1.mxd 9/23/2021 joel.peters



SITE LOCATION

N
W
E
S

0 1,000 2,000 Feet

Approximate Scale in Feet

Source: USGS, The National Map, Topo Base, 2021.

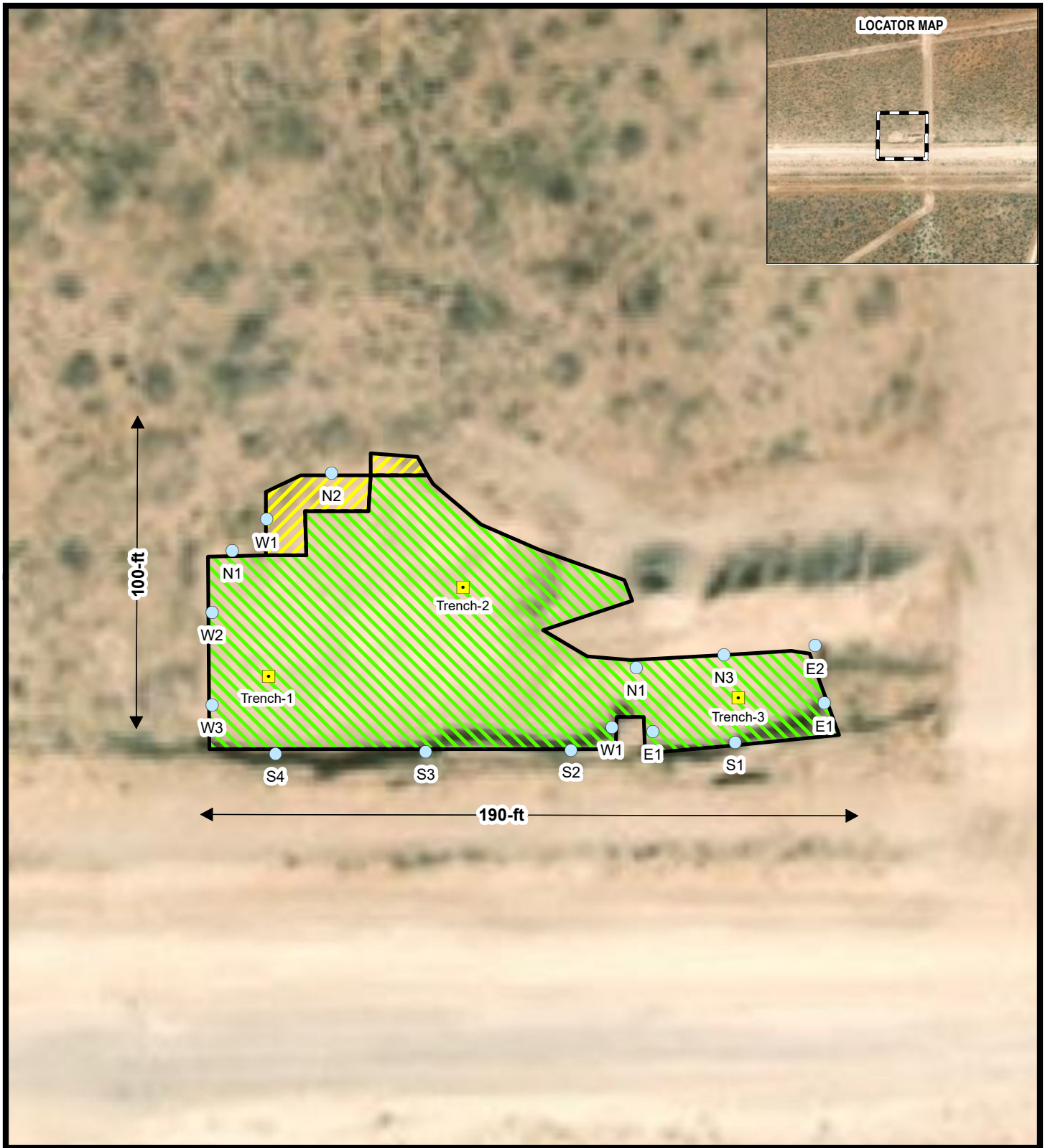
TOPOGRAPHIC MAP
HALLERTAU 5 FED #4
Property Located at coordinates 32.06508°, -103.68667°
LEA COUNTY, NEW MEXICO

CIMAREX

Project #:
212C-MD-02564

FIGURE
2

C:\GIS\Cimarex\212C-MD-02564_Hallertau5\212C-MD-02564_HALLERTAU5_FIG2.mxd 9/23/2021 joel.peters



TRENCH SAMPLE LOCATION

2019 SIDEWALL DESIGNATION

2' EXCAVATED DEPTH AREA

4' EXCAVATED DEPTH AREA

N
W
E
S

0 20 40 Feet

Approximate Scale in Feet

Source: ESRI Basemap - Imagery, 2020.

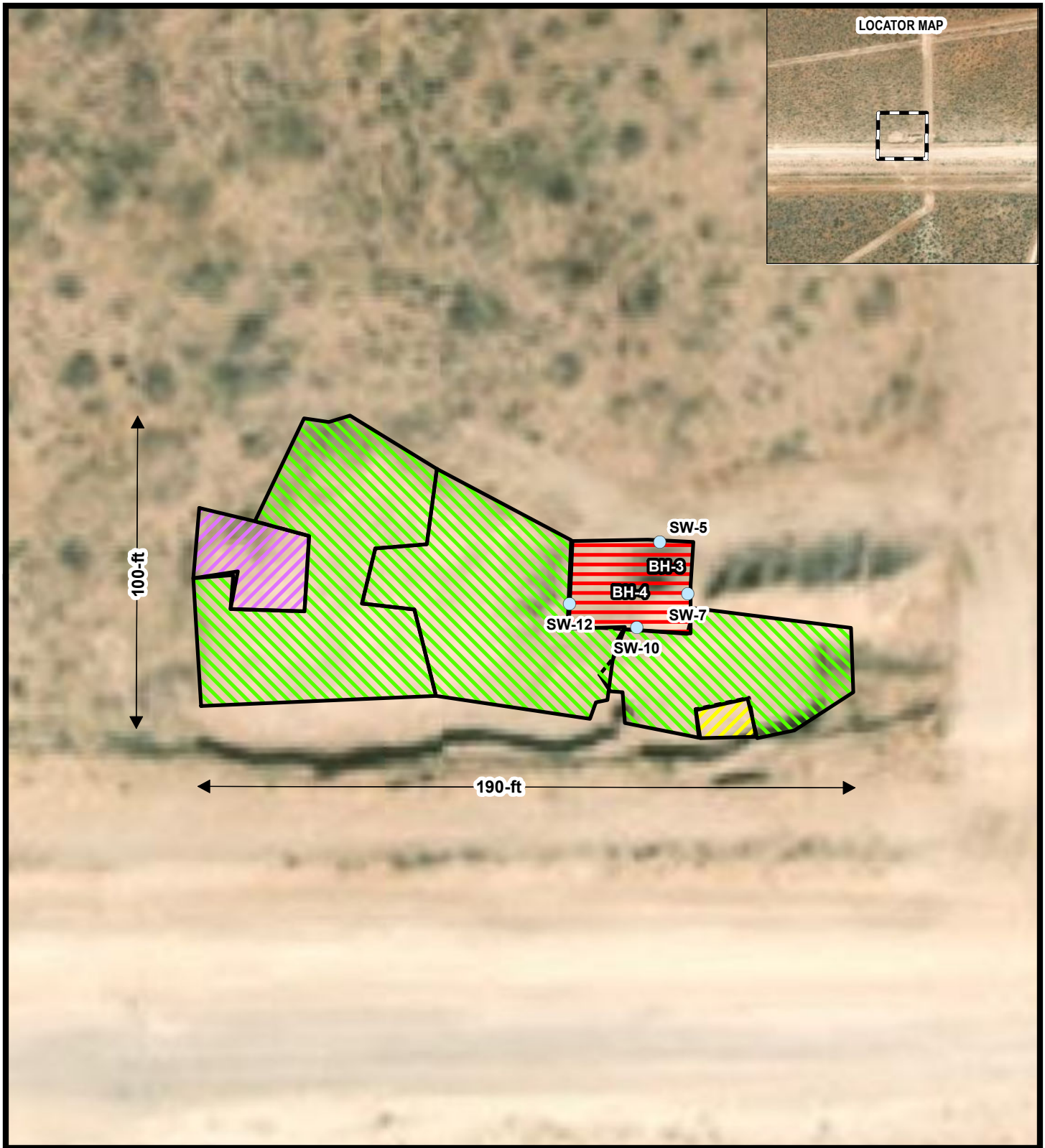
EXCAVATION AREA AND DEPTH MAP
HALLERTAU 5 FED #4
Property Located at coordinates 32.06508°, -103.68667°
LEA COUNTY, NEW MEXICO

CIMAREX

Project #:
212C-MD-02564

FIGURE
3

C:\GIS\Cimarex\212C-MD-02564_Hallertau5\212C-MD-02564_HALLERTAU5_FIG3.mxd 10/1/2021 joel.peters



BH BOTTOM HOLE SAMPLE LOCATION

SIDEWALL DESIGNATION

3' EXCAVATED DEPTH AREA

4' EXCAVATED DEPTH AREA

5' EXCAVATED DEPTH AREA

20' EXCAVATED DEPTH AREA

Source: ESRI Basemap - Imagery, 2020.

N W E S

0 20 40 Feet

Approximate Scale in Feet

EXCAVATION AREA AND DEPTH MAP
HALLERTAU 5 FED #4
Property Located at coordinates 32.06508°, -103.68667°
LEA COUNTY, NEW MEXICO

CIMAREX

Project #:
212C-MD-02564

FIGURE
4

C:\GIS\Cimarex\212C-MD-02564_Hallertau5\212C-MD-02564_HALLERTAU5_FIG3.mxd 9/23/2021 joel.peters

TETRA TECH

Tables

Table 1
Cimarex
Hallertau 5 Fed #4
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		Chloride (mg/kg)
			In-Situ	Removed	
Background Trench	11/20/2019	1'	X		6.02
	"	2'	X		11.1
	"	3'	X		152
	"	4'	X		11.0
Trench 1	11/20/2019	4'	X		**12,300**
Trench 2	11/20/2019	4'	X		**28,000**
Trench 3	11/20/2019	4'	X		**16,700**

Table 2
Cimarex
Hallertau 5 Fed #4
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		Chloride (mg/kg)
			In-Situ	Removed	
E1' SW	11/21/2019	-	X		60.1
E1 SW	"	-	X		17.0
E2 SW	"	-	X		71.1
N1' SW	11/21/2019	-	X		83.5
N1 SW	"	-	X		**6,480**
N2 SW	"	-	X		6.37
N3 SW	"	-	X		15.2
W1' SW	11/21/2019	-	X		**831**
W1 SW	"	-	X		48.7
W2 SW	"	-	X		73.4
W3 SW	"	-	X		54.3

Table 3
Cimarex Energy
Hallertau Pipeline Release
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	MRO	Total						
Bottom Hole-3	8/31/2021	20'	X		<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	**807**
Bottom Hole-4	8/31/2021	20'	X		<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	<0.00200	<0.00400	<0.00400	**2250**
Sidewall-5	8/31/2021	-	X		<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	<0.00200	<0.00399	<0.00399	343
Sidewall-7	8/31/2021	-	X		<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	**4350**
Sidewall-10	8/31/2021	-	X		<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	<0.00200	<0.00400	<0.00400	**4340**
Sidewall-12	8/31/2021	-	X		<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	<0.00199	<0.00398	<0.00398	**6020**

(-) Not Analyzed
Exceedances

TETRA TECH

Photographic Documentation

Cimarex Energy
Hallertau 5 Fed #4
Lea County, New Mexico

TETRA TECH

View of Remediation Activities – View Northwest

View of Remediation Activities – View West

Cimarex Energy
Hallertau 5 Fed #4
Lea County, New Mexico

TETRA TECH

View of Remediation Activities – View Northeast

View of Remediation Activities – View Northeast

TETRA TECH

Appendix A

C-141 Document

TETRA TECH

Appendix B

Site Characterization Documents

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	Twn	Rng	X	Y
NA	C 04209 POD1	2	3	3	06	26S	32E	620903	3548619

Driller License: 1706 **Driller Company:** ELITE DRILLERS CORPORATION

Driller Name: BRYCE WALLACE

Drill Start Date:	04/28/2018	**Drill Finish Date:**	05/01/2018	**Plug Date:**	
Log File Date:	05/21/2018	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	25 GPM
Casing Size:	6.00	**Depth Well:**	360 feet	**Depth Water:**	155 feet

Water Bearing Stratifications:	Top	Bottom	Description
	15	350	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	200	360

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 New Mexico

Click to hide state-specific text

Important: Next Generation Monitoring Location Page

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 320134103384101

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 320134103384101 26S.32E.21.32311

Lea County, New Mexico
Latitude 32°01'35.2", Longitude 103°41'01.8" NAD83
Land-surface elevation 3,130 feet above NAVD88
The depth of the well is 405 feet below land surface.
The depth of the hole is 405 feet below land surface.
This well is completed in the Pecos River Basin alluvial aquifer (N100PCSRVR) national aquifer.
This well is completed in the Dockum Group (231DCKM) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measu
1993-06-16		D	62610		2723.41	NGVD29	1	L		
1993-06-16		D	62611		2725.00	NAVD88	1	L		
1993-06-16		D	72019	405.00			1	L		
2013-01-16	19:10 UTC	m	62610		2906.47	NGVD29	3	S	USGS	
2013-01-16	19:10 UTC	m	62611		2908.06	NAVD88	3	S	USGS	
2013-01-16	19:10 UTC	m	72019	221.94			3	S	USGS	

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level date-time accuracy	m	Date is accurate to the Minute
Parameter code	62610	Groundwater level above NGVD 1929, feet

Section	Code	Description
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Status	3	True value is above reported value due to local conditions
Method of measurement	L	Interpreted from geophysical logs.
Method of measurement	S	Steel-tape measurement.
Measuring agency		Not determined
Measuring agency	USGS	U.S. Geological Survey
Source of measurement		Not determined
Source of measurement	S	Measured by personnel of reporting agency.
Water-level approval status	A	Approved for publication -- Processing and review completed.

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

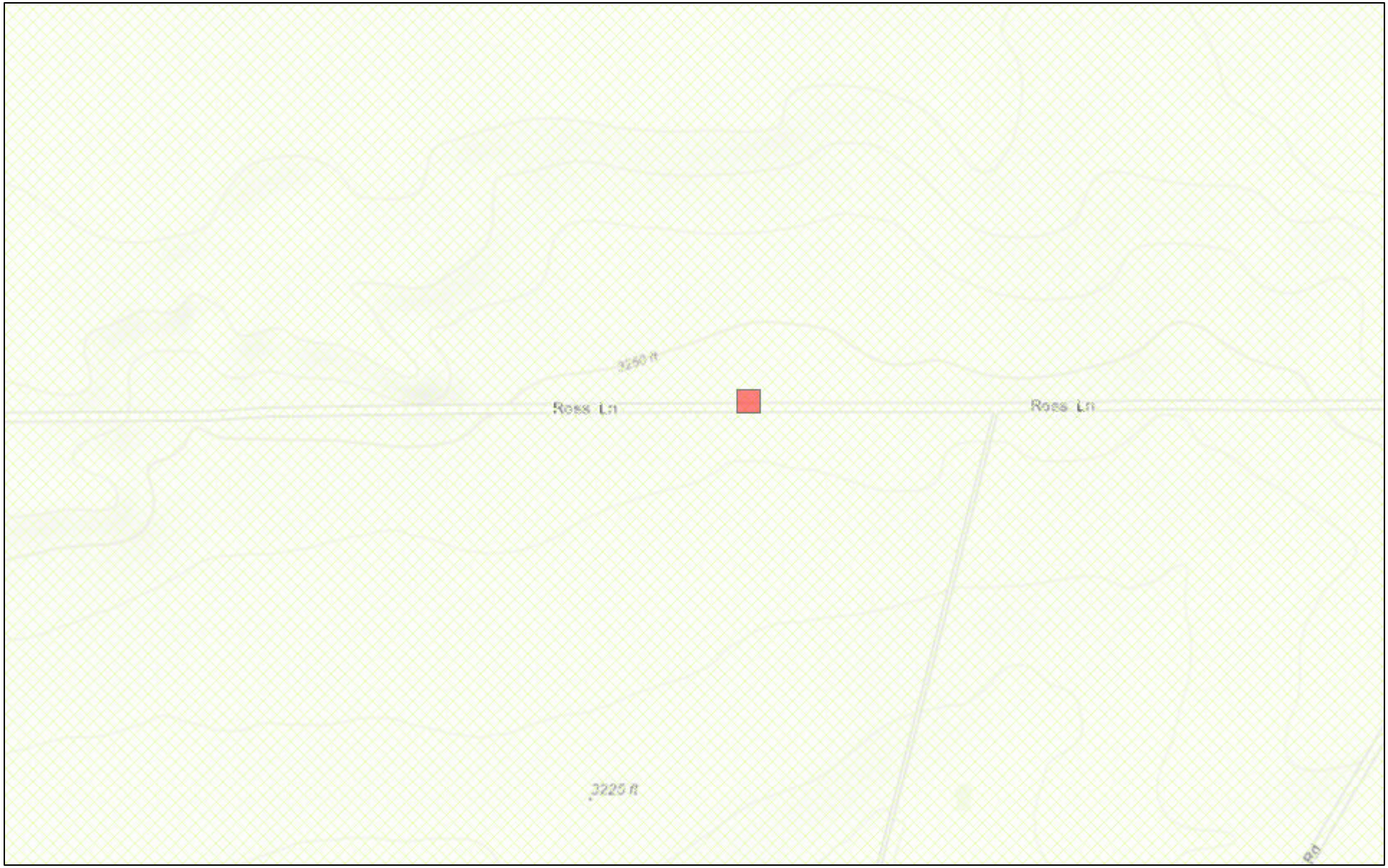
Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological Survey

Title: Groundwater for New Mexico: Water Levels
URL: https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?

Page Contact Information: New Mexico Water Data Maintainer
Page Last Modified: 2021-09-09 00:04:08 EDT
0.3 0.26 nadww01

New Mexico NFHL Data



September 23, 2021

1:9,028

0 0.075 0.15 0.3 mi

0 0.1 0.2 0.4 km

FEMA
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS,

nmflood.org is made possible through a collaboration with NMDHSEM, EDAC, and FEMA
This is a non-regulatory product for informational use only. Please consult your local floodplain administrator for further information.

Medium Karst

imarex Energy
allertau 5 Fed #4

Legend

- 32.06508, -103.68667
- High
- Low
- Medium

1

32.06508, -103.68667

Google Earth

3 mi

N

Water Well Data
Average Depth to Groundwater (ft)
Cimarex Hallertau 5 Fed #4
Lea County, New Mexico

25 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21 390 290	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

26 South 31 East

6	5	4	3	2	1 335 287
7	8 295 275	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

25 South 32 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32 290	33	34	35	36

26 South 32 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21 333 180	22	23	24
30	29	28	27	26	25
31 295	32	33	34	35	36

25 South 33 East

6	5 118	4	3 172	2	1
7	8	9	10	11 140	12 200
18	17	16	15	14	13 185
19	20 200	21 120	22	23	24
30	29	28	27 125	26 110	25
31 190	32	33	34	35	36

26 South 33 East

6	5	4	3 180	2	1
7	8	9 106	10 124	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27 80	26	25
31	32	33	34	35	36

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)

Geology and Groundwater Resources of Eddy County, NM (Report 3)

34 NMOCD - Groundwater Data

123 Tetra Tech installed temporary wells and field water level

143 NMOCD Groundwater map well location

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Appendix C

Field Data

Sample ID	Salinity (ppm/*ppt)	Notes
Bottom Hole		
1	89.3	
2	160	
3	109	
4	8.75*	
5	2.77*	
6	2.23*	
7	3.22*	
8	198	
9	141	
10	225	
11	6.44*	
12	1.66*	
13	253	
14	Over limit >10,000	Two Readings Taken
15	130	
16	6.27*	
17	101	
18	56.9	
19	55.5	
20	163	
21	91	
22	458	
23	966	
24	142	
25	8.36*	
26	732	
27	103	
28	97	
Sidewall Samples		
1	243	
2	10.80*	
3	175	
4	9.10*	
5	9.98*	
6	68.4	
7	39.2	
8	35.6	
9	55.9	
10	38.4	
11	27.7	
14	31.9	
17	24.1	
20	89.1	
21	35.9	
24	25.4	

Sample ID	Salinity (ppm/*ppt)	Notes
25	43.4	
26	91.8	
27	20.4	
28	35.8	
32	5.68*	
33	4.01*	
36	4.25*	

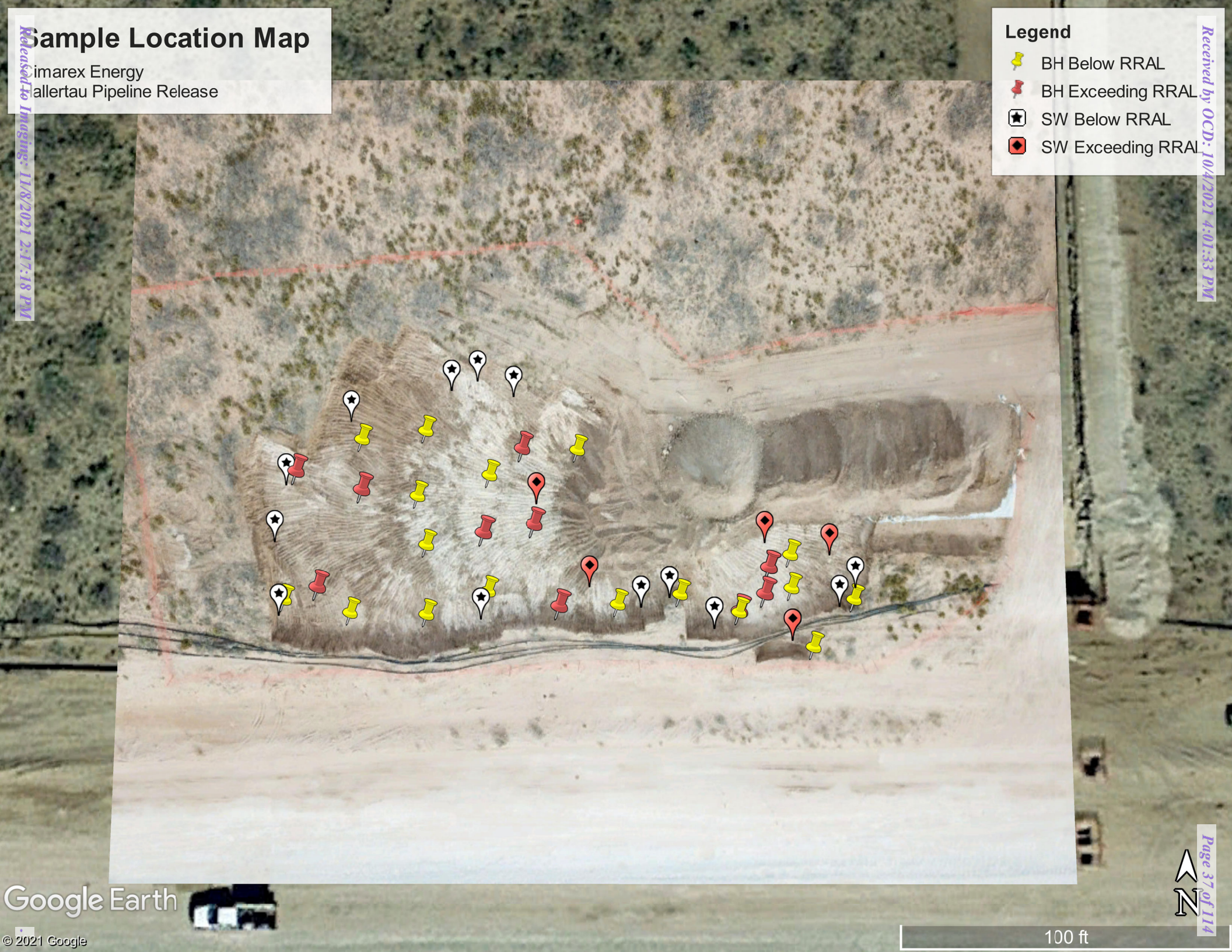
Notes: * Concentration in ppt

Sample Location Map

imarex Energy
allertau Pipeline Release

Legend

- BH Below RRAL
- BH Exceeding RRAL
- SW Below RRAL
- SW Exceeding RRAL



Google Earth

N

100 ft

TETRA TECH

Appendix D

Laboratory Reports

PERMIAN BASIN
ENVIRONMENTAL LAB, LP
1400 Rankin Hwy
Midland, TX 79701

PBELAB

Analytical Report

Prepared for:

John Kell

Tetra Tech

901 W Wall Street, Ste 100

Midland, TX 79705

Project: Hallertau Flowline Release

Project Number: Pending

Location: Lea County, NM

Lab Order Number: 9K20016

NELAP ACCREDITED TNI LABORATORY

NELAP/TCEQ # T104704516-17-8

Report Date: 11/22/19

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Hallertau Flowline Release
Project Number: Pending
Project Manager: John Kell

Fax: (432) 686-8085

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BG Trench @ 1'	9K20016-01	Soil	11/20/19 00:00	11-20-2019 16:22
BG Trench @ 2'	9K20016-02	Soil	11/20/19 00:00	11-20-2019 16:22
BG Trench @ 3'	9K20016-03	Soil	11/20/19 00:00	11-20-2019 16:22
BG Trench @ 4'	9K20016-04	Soil	11/20/19 00:00	11-20-2019 16:22
T-1 @ 4'	9K20016-05	Soil	11/20/19 00:00	11-20-2019 16:22
T-2 @ 4'	9K20016-06	Soil	11/20/19 00:00	11-20-2019 16:22
T-3 @ 4'	9K20016-07	Soil	11/20/19 00:00	11-20-2019 16:22

Tetra Tech	Project: Hallertau Flowline Release	Fax: (432) 686-8085
901 W Wall Street, Ste 100	Project Number: Pending	
Midland TX, 79705	Project Manager: John Kell	

BG Trench @ 1'

9K20016-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**6.02**	1.06	mg/kg dry	1	P9K2111	11/21/19	11/22/19	EPA 300.0	
% Moisture	**6.0**	0.1	%	1	P9K2101	11/21/19	11/21/19	ASTM D2216	

Tetra Tech	Project: Hallertau Flowline Release	Fax: (432) 686-8085
901 W Wall Street, Ste 100	Project Number: Pending	
Midland TX, 79705	Project Manager: John Kell	

BG Trench @ 2'

9K20016-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**11.1**	1.04	mg/kg dry	1	P9K2111	11/21/19	11/22/19	EPA 300.0	
% Moisture	**4.0**	0.1	%	1	P9K2101	11/21/19	11/21/19	ASTM D2216	

Tetra Tech	Project: Hallertau Flowline Release	Fax: (432) 686-8085
901 W Wall Street, Ste 100	Project Number: Pending	
Midland TX, 79705	Project Manager: John Kell	

BG Trench @ 3'

9K20016-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**152**	1.04	mg/kg dry	1	P9K2111	11/21/19	11/22/19	EPA 300.0	
% Moisture	**4.0**	0.1	%	1	P9K2101	11/21/19	11/21/19	ASTM D2216	

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Hallertau Flowline Release
Project Number: Pending
Project Manager: John Kell

Fax: (432) 686-8085

BG Trench @ 4'

9K20016-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**11.0**	1.05	mg/kg dry	1	P9K2111	11/21/19	11/22/19	EPA 300.0	
% Moisture	**5.0**	0.1	%	1	P9K2101	11/21/19	11/21/19	ASTM D2216	

Tetra Tech	Project: Hallertau Flowline Release	Fax: (432) 686-8085
901 W Wall Street, Ste 100	Project Number: Pending	
Midland TX, 79705	Project Manager: John Kell	

T-1 @ 4'

9K20016-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**12300**	57.5	mg/kg dry	50	P9K2111	11/21/19	11/22/19	EPA 300.0	
% Moisture	**13.0**	0.1	%	1	P9K2101	11/21/19	11/21/19	ASTM D2216	

Tetra Tech	Project: Hallertau Flowline Release	Fax: (432) 686-8085
901 W Wall Street, Ste 100	Project Number: Pending	
Midland TX, 79705	Project Manager: John Kell	

T-2 @ 4'

9K20016-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**28000**	58.8	mg/kg dry	50	P9K2111	11/21/19	11/22/19	EPA 300.0	
% Moisture	**15.0**	0.1	%	1	P9K2101	11/21/19	11/21/19	ASTM D2216	

Tetra Tech	Project: Hallertau Flowline Release	Fax: (432) 686-8085
901 W Wall Street, Ste 100	Project Number: Pending	
Midland TX, 79705	Project Manager: John Kell	

T-3 @ 4'

9K20016-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**16700**	60.2	mg/kg dry	50	P9K2111	11/21/19	11/22/19	EPA 300.0	
% Moisture	**17.0**	0.1	%	1	P9K2101	11/21/19	11/21/19	ASTM D2216	

Tetra Tech	Project: Hallertau Flowline Release	Fax: (432) 686-8085
901 W Wall Street, Ste 100	Project Number: Pending	
Midland TX, 79705	Project Manager: John Kell	

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9K2101 - * DEFAULT PREP *** **										
Blank (P9K2101-BLK1)				Prepared & Analyzed: 11/21/19						
% Moisture	ND	0.1	%							
Duplicate (P9K2101-DUP1)	**Source: 9K19010-18**			Prepared & Analyzed: 11/21/19						
% Moisture	17.0	0.1	%		17.0			0.00	20	
Duplicate (P9K2101-DUP2)	**Source: 9K20003-19**			Prepared & Analyzed: 11/21/19						
% Moisture	11.0	0.1	%		12.0			8.70	20	
Duplicate (P9K2101-DUP3)	**Source: 9K20006-01**			Prepared & Analyzed: 11/21/19						
% Moisture	2.0	0.1	%		4.0			66.7	20	
Duplicate (P9K2101-DUP4)	**Source: 9K20012-01**			Prepared & Analyzed: 11/21/19						
% Moisture	16.0	0.1	%		11.0			37.0	20	
Batch P9K2111 - * DEFAULT PREP *** **										
Blank (P9K2111-BLK1)				Prepared: 11/21/19 Analyzed: 11/22/19						
Chloride	ND	0.100	mg/kg wet							
LCS (P9K2111-BS1)				Prepared: 11/21/19 Analyzed: 11/22/19						
Chloride	ND	1.00	mg/kg wet	400			80-120			
LCS Dup (P9K2111-BSD1)				Prepared: 11/21/19 Analyzed: 11/22/19						
Chloride	ND	1.00	mg/kg wet	400			80-120		20	
Calibration Blank (P9K2111-CCB1)				Prepared: 11/21/19 Analyzed: 11/22/19						
Chloride	0.00		mg/kg wet							

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Hallertau Flowline Release
Project Number: Pending
Project Manager: John Kell

Fax: (432) 686-8085

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9K2111 - * DEFAULT PREP *** **										
Calibration Blank (P9K2111-CCB2)				Prepared: 11/21/19 Analyzed: 11/22/19						
Chloride	0.00		mg/kg wet							
Calibration Check (P9K2111-CCV1)				Prepared: 11/21/19 Analyzed: 11/22/19						
Chloride	0.00		mg/kg	20.0			0-200			
Calibration Check (P9K2111-CCV2)				Prepared: 11/21/19 Analyzed: 11/22/19						
Chloride	0.00		mg/kg	20.0			0-200			
Calibration Check (P9K2111-CCV3)				Prepared: 11/21/19 Analyzed: 11/22/19						
Chloride	0.00		mg/kg	20.0			0-200			
Matrix Spike (P9K2111-MS1)		**Source: 9K14022-03**		Prepared: 11/21/19 Analyzed: 11/22/19						
Chloride	ND	1.12	mg/kg dry	562	ND		80-120			
Matrix Spike (P9K2111-MS2)		**Source: 9K21001-03**		Prepared: 11/21/19 Analyzed: 11/22/19						
Chloride	ND	1.00	mg/kg wet	2500	ND		80-120			
Matrix Spike Dup (P9K2111-MSD1)		**Source: 9K14022-03**		Prepared: 11/21/19 Analyzed: 11/22/19						
Chloride	ND	1.12	mg/kg dry	562	ND		80-120		20	
Matrix Spike Dup (P9K2111-MSD2)		**Source: 9K21001-03**		Prepared: 11/21/19 Analyzed: 11/22/19						
Chloride	ND	1.00	mg/kg wet	2500	ND		80-120		20	

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Hallertau Flowline Release
Project Number: Pending
Project Manager: John Kell

Fax: (432) 686-8085

Notes and Definitions

ROI	Received on Ice
BULK	Samples received in Bulk soil containers
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Brent Barron Date: 11/22/2019

Brent Barron, Laboratory Director/Technical Director

Analysis Request of Chain of Custody Record

Page 1 of 1

Page 13 of 13

Tetra Tech, Inc.

901 W. Wall Street, Ste 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

9K20016

Client Name: Cimarex
Site Manager: John Kell
Project Name: Hallertau Flowline Release
Project Location: (county, state) Lea Co., New Mexico
Project #: TBD
Invoice to: Cimarex Attn: Christine Alderman
Receiving Laboratory: PBE Lab
Sampler Signature: John Kell
Comments:

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	TIME	MATRIX WATER	SOIL		PRESERVATIVE METHOD HCL	HNO_3	ICE		# CONTAINERS	FILTERED (Y/N)
	BG Trench @ 1'	11.20.2019	-		x				x		1	
	BG Trench @ 2'	11.20.2019	-		x				x		1	
	BG Trench @ 3'	11.20.2019	-		x				x		1	
	BG Trench @ 4'	11.20.2019	-		x				x		1	
	T-1 @ 4'	11.20.2019	-		x				x		1	
	T-2 @ 4'	11.20.2019	-		x				x		1	
	T-3 @ 4'	11.20.2019	-		x				x		1	

ANALYSIS REQUEST (Circle or Specify Method No.)

SAMPLE IDENTIFICATION	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance		SAR		Hold
BG Trench @ 1'															X							
BG Trench @ 2'															X							
BG Trench @ 3'															X							
BG Trench @ 4'															X							
T-1 @ 4'															X							
T-2 @ 4'															X							
T-3 @ 4'															X							

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
J. Kell	11.20.19	1620			
			[signature]	11.20.19	4:22

LAB USE ONLY
Sample Temperature
CH 22
33.43

REMARKS:
☒ RUSH: Same Day (24 hr) 48 hr 72 hr
☐ Rush Charges Authorized
☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: ____________

ORIGINAL COPY

PERMIAN BASIN
ENVIRONMENTAL LAB, LP
1400 Rankin Hwy
Midland, TX 79701

PBELAB

Analytical Report

Prepared for:

John Kell

Tetra Tech

901 W Wall Street, Ste 100

Midland, TX 79705

Project: Hallertau Pipeline Release

Project Number: 212C-MD-02007

Location: Lea County, NM

Lab Order Number: 9L03002

NELAP/TCEQ # T104704516-17-8

Report Date: 12/11/19

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Hallertau Pipeline Release
Project Number: 212C-MD-02007
Project Manager: John Kell

Fax: (432) 686-8085

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
E' 1SW	9L03002-01	Soil	11/21/19 00:00	12-03-2019 08:50
E1SW	9L03002-02	Soil	11/21/19 00:00	12-03-2019 08:50
E2SW	9L03002-03	Soil	11/21/19 00:00	12-03-2019 08:50
N' 1SW	9L03002-04	Soil	11/21/19 00:00	12-03-2019 08:50
N1SW	9L03002-05	Soil	11/21/19 00:00	12-03-2019 08:50
N2SW	9L03002-06	Soil	11/21/19 00:00	12-03-2019 08:50
N3SW	9L03002-07	Soil	11/21/19 00:00	12-03-2019 08:50
W' 1SW	9L03002-08	Soil	11/21/19 00:00	12-03-2019 08:50
W1SW	9L03002-09	Soil	11/21/19 00:00	12-03-2019 08:50
W2SW	9L03002-10	Soil	11/21/19 00:00	12-03-2019 08:50
W3SW	9L03002-11	Soil	11/21/19 00:00	12-03-2019 08:50

Tetra Tech	Project: Hallertau Pipeline Release	Fax: (432) 686-8085
901 W Wall Street, Ste 100	Project Number: 212C-MD-02007	
Midland TX, 79705	Project Manager: John Kell	

E' 1SW

9L03002-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**60.1**	1.05	mg/kg dry	1	P9L0703	12/07/19	12/09/19	EPA 300.0	
% Moisture	**5.0**	0.1	%	1	P9L0404	12/04/19	12/04/19	ASTM D2216	

Tetra Tech	Project: Hallertau Pipeline Release	Fax: (432) 686-8085
901 W Wall Street, Ste 100	Project Number: 212C-MD-02007	
Midland TX, 79705	Project Manager: John Kell	

E1SW

9L03002-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**17.0**	1.05	mg/kg dry	1	P9L0703	12/07/19	12/09/19	EPA 300.0	
% Moisture	**5.0**	0.1	%	1	P9L0404	12/04/19	12/04/19	ASTM D2216	

Tetra Tech	Project: Hallertau Pipeline Release	Fax: (432) 686-8085
901 W Wall Street, Ste 100	Project Number: 212C-MD-02007	
Midland TX, 79705	Project Manager: John Kell	

E2SW

9L03002-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**71.1**	1.02	mg/kg dry	1	P9L0703	12/07/19	12/09/19	EPA 300.0	
% Moisture	**2.0**	0.1	%	1	P9L0404	12/04/19	12/04/19	ASTM D2216	

Tetra Tech	Project: Hallertau Pipeline Release	Fax: (432) 686-8085
901 W Wall Street, Ste 100	Project Number: 212C-MD-02007	
Midland TX, 79705	Project Manager: John Kell	

N' 1SW

9L03002-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**83.5**	1.05	mg/kg dry	1	P9L0703	12/07/19	12/09/19	EPA 300.0	
% Moisture	**5.0**	0.1	%	1	P9L0404	12/04/19	12/04/19	ASTM D2216	

Tetra Tech	Project: Hallertau Pipeline Release	Fax: (432) 686-8085
901 W Wall Street, Ste 100	Project Number: 212C-MD-02007	
Midland TX, 79705	Project Manager: John Kell	

N1SW

9L03002-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**6480**	10.9	mg/kg dry	10	P9L0703	12/07/19	12/09/19	EPA 300.0	
% Moisture	**8.0**	0.1	%	1	P9L0404	12/04/19	12/04/19	ASTM D2216	

Tetra Tech	Project: Hallertau Pipeline Release	Fax: (432) 686-8085
901 W Wall Street, Ste 100	Project Number: 212C-MD-02007	
Midland TX, 79705	Project Manager: John Kell	

N2SW

9L03002-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**6.37**	1.15	mg/kg dry	1	P9L0703	12/07/19	12/09/19	EPA 300.0	
% Moisture	**13.0**	0.1	%	1	P9L0404	12/04/19	12/04/19	ASTM D2216	

Tetra Tech	Project: Hallertau Pipeline Release	Fax: (432) 686-8085
901 W Wall Street, Ste 100	Project Number: 212C-MD-02007	
Midland TX, 79705	Project Manager: John Kell	

N3SW

9L03002-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**15.2**	1.04	mg/kg dry	1	P9L0703	12/07/19	12/09/19	EPA 300.0	
% Moisture	**4.0**	0.1	%	1	P9L0404	12/04/19	12/04/19	ASTM D2216	

Tetra Tech	Project: Hallertau Pipeline Release	Fax: (432) 686-8085
901 W Wall Street, Ste 100	Project Number: 212C-MD-02007	
Midland TX, 79705	Project Manager: John Kell	

W' 1SW

9L03002-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**831**	1.08	mg/kg dry	1	P9L0703	12/07/19	12/09/19	EPA 300.0	
% Moisture	**7.0**	0.1	%	1	P9L0404	12/04/19	12/04/19	ASTM D2216	

Tetra Tech	Project: Hallertau Pipeline Release	Fax: (432) 686-8085
901 W Wall Street, Ste 100	Project Number: 212C-MD-02007	
Midland TX, 79705	Project Manager: John Kell	

W1SW

9L03002-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**48.7**	1.10	mg/kg dry	1	P9L0703	12/07/19	12/09/19	EPA 300.0	
% Moisture	**9.0**	0.1	%	1	P9L0404	12/04/19	12/04/19	ASTM D2216	

Tetra Tech	Project: Hallertau Pipeline Release	Fax: (432) 686-8085
901 W Wall Street, Ste 100	Project Number: 212C-MD-02007	
Midland TX, 79705	Project Manager: John Kell	

W2SW

9L03002-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**73.4**	1.05	mg/kg dry	1	P9L0703	12/07/19	12/09/19	EPA 300.0	
% Moisture	**5.0**	0.1	%	1	P9L0404	12/04/19	12/04/19	ASTM D2216	

Tetra Tech	Project: Hallertau Pipeline Release	Fax: (432) 686-8085
901 W Wall Street, Ste 100	Project Number: 212C-MD-02007	
Midland TX, 79705	Project Manager: John Kell	

W3SW

9L03002-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Permian Basin Environmental Lab, L.P.									
General Chemistry Parameters by EPA / Standard Methods									
Chloride	**54.3**	1.04	mg/kg dry	1	P9L0703	12/07/19	12/09/19	EPA 300.0	
% Moisture	**4.0**	0.1	%	1	P9L0404	12/04/19	12/04/19	ASTM D2216	

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Hallertau Pipeline Release
Project Number: 212C-MD-02007
Project Manager: John Kell

Fax: (432) 686-8085

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9L0404 - * DEFAULT PREP *** **										
Blank (P9L0404-BLK1)				Prepared & Analyzed: 12/04/19						
% Moisture	ND	0.1	%							
Duplicate (P9L0404-DUP1)		**Source: 9L03002-08**		Prepared & Analyzed: 12/04/19						
% Moisture	8.0	0.1	%		7.0			13.3	20	
Duplicate (P9L0404-DUP2)		**Source: 9L03003-24**		Prepared & Analyzed: 12/04/19						
% Moisture	9.0	0.1	%		11.0			20.0	20	
Duplicate (P9L0404-DUP3)		**Source: 9L03003-35**		Prepared & Analyzed: 12/04/19						
% Moisture	7.0	0.1	%		10.0			35.3	20	
Batch P9L0703 - * DEFAULT PREP *** **										
Blank (P9L0703-BLK1)				Prepared: 12/07/19 Analyzed: 12/09/19						
Chloride	ND	0.100	mg/kg wet							
Calibration Blank (P9L0703-CCB1)				Prepared: 12/07/19 Analyzed: 12/09/19						
Chloride	0.00		mg/kg wet							
Calibration Blank (P9L0703-CCB2)				Prepared: 12/07/19 Analyzed: 12/09/19						
Chloride	0.00		mg/kg wet							
Calibration Check (P9L0703-CCV1)				Prepared: 12/07/19 Analyzed: 12/09/19						
Chloride	19.5		mg/kg	20.0		97.5	0-200			
Calibration Check (P9L0703-CCV2)				Prepared: 12/07/19 Analyzed: 12/09/19						
Chloride	19.2		mg/kg	20.0		96.2	0-200			

Tetra Tech
901 W Wall Street, Ste 100
Midland TX, 79705

Project: Hallertau Pipeline Release
Project Number: 212C-MD-02007
Project Manager: John Kell

Fax: (432) 686-8085

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Permian Basin Environmental Lab, L.P.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P9L0703 - * DEFAULT PREP *** **										
Calibration Check (P9L0703-CCV3)				Prepared: 12/07/19 Analyzed: 12/09/19						
Chloride	19.1		mg/kg	20.0		95.5	0-200			
Matrix Spike (P9L0703-MS1)		Source: 9L02005-02		Prepared: 12/07/19 Analyzed: 12/09/19						
Chloride	3230	12.3	mg/kg dry	1230	2190	84.4	80-120			
Matrix Spike (P9L0703-MS2)		Source: 9L03002-05		Prepared: 12/07/19 Analyzed: 12/09/19						
Chloride	7650	10.9	mg/kg dry	1090	6480	108	80-120			

Tetra Tech	Project: Hallertau Pipeline Release	Fax: (432) 686-8085
901 W Wall Street, Ste 100	Project Number: 212C-MD-02007	
Midland TX, 79705	Project Manager: John Kell	

Notes and Definitions

ROI	Received on Ice
BULK	Samples received in Bulk soil containers
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Brent Barron Date: 12/11/2019

Brent Barron, Laboratory Director/Technical Director

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-686-7235.

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

9L03002

Client Name:	Cimarex	**Site Manager:**	John Kell
Project Name:	Hallertau Pipeline Release		
Project Location: (county, state)	Lea Co., New Mexico	**Project #:**	212C-MD-02007
Invoice to:	Cimarex Attn:Christine Alderman		
Receiving Laboratory:	PBE Labs	**Sampler Signature:**	Tony Legarda
Comments:			

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - DRO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				Hold
1	E' 1SW	11/21/2019	-		X			X	1																x							
2	E1SW	11/21/2019	-		X			X	1																x							
3	E2SW	11/21/2019	-		X			X	1																x							
4	N' 1SW	11/21/2019	-		X			X	1																x							
5	N1SW	11/21/2019	-		X			X	1																x							
6	N2SW	11/21/2019	-		X			X	1																x							
7	N3SW	11/21/2019	-		X			X	2																x							
8	W' 1SW	11/21/2019	-		X			X	3																x							
9	W1SW	11/21/2019	-		X			X	4																x							
10	W2SW	11/21/2019	-		X			X	5																x							
11	W3SW	11/21/2019	-		X			X	6																x							

Relinquished by:	Date:	Time:	Received by: Date: Time:
J. Kell	12.3.19	0850	
Relinquished by:	Date:	Time:	Received by: Date: Time:
Relinquished by:	Date:	Time:	Received by: Date: Time:
			Kristen Clem 12.3.19 0850

LAB USE ONLY
Sample Temperature
C#1 LZ
2.7

REMARKS:

☐ RUSH: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Xenco, Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-1197-1
Laboratory Sample Delivery Group: Lea County NM
Client Project/Site: Cimarex - Hallertan Pipeline

For:
Tetra Tech, Inc.
901 W Wall
Ste 100
Midland, Texas 79701

Attn: Brittany Long

JKramer

Authorized for release by:
9/2/2021 3:03:22 PM

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

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: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Laboratory Job ID: 890-1197-1
SDG: Lea County NM

Table of Contents

Definitions/Glossary

Client: Tetra Tech, Inc. Job ID: 890-1197-1
Project/Site: Cimarex - Hallertan Pipeline SDG: Lea County NM

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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.
¤	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: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Job ID: 890-1197-1
SDG: Lea County NM

Job ID: 890-1197-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1197-1

Receipt
The samples were received on 9/1/2021 8:00 AM. 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 5.8°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
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Job ID: 890-1197-1
SDG: Lea County NM

Client Sample ID: BH-3

Date Collected: 08/31/21 00:00
Date Received: 09/01/21 08:00

Lab Sample ID: 890-1197-1
Matrix: Solid

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		09/01/21 15:30	09/02/21 03:12	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/01/21 15:30	09/02/21 03:12	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/01/21 15:30	09/02/21 03:12	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/01/21 15:30	09/02/21 03:12	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/01/21 15:30	09/02/21 03:12	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/01/21 15:30	09/02/21 03:12	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		09/01/21 15:30	09/02/21 03:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*09/01/21 15:30*	*09/02/21 03:12*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*09/01/21 15:30*	*09/02/21 03:12*	*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		09/01/21 15:44	09/02/21 01:22	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/01/21 15:44	09/02/21 01:22	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/01/21 15:44	09/02/21 01:22	1
Total TPH	<50.0	U	50.0		mg/Kg		09/01/21 15:44	09/02/21 01:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*09/01/21 15:44*	*09/02/21 01:22*	*1*
o-Terphenyl	*84*		*70 - 130*	*09/01/21 15:44*	*09/02/21 01:22*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**807**		5.04		mg/Kg			09/01/21 22:53	1

Client Sample ID: BH-4

Date Collected: 08/31/21 00:00
Date Received: 09/01/21 08:00

Lab Sample ID: 890-1197-2
Matrix: Solid

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		09/01/21 15:30	09/02/21 04:34	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/01/21 15:30	09/02/21 04:34	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/01/21 15:30	09/02/21 04:34	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/01/21 15:30	09/02/21 04:34	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/01/21 15:30	09/02/21 04:34	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/01/21 15:30	09/02/21 04:34	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		09/01/21 15:30	09/02/21 04:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*09/01/21 15:30*	*09/02/21 04:34*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*09/01/21 15:30*	*09/02/21 04:34*	*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		09/01/21 15:44	09/02/21 01:42	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Job ID: 890-1197-1
SDG: Lea County NM

Client Sample ID: BH-4

Date Collected: 08/31/21 00:00
Date Received: 09/01/21 08:00

Lab Sample ID: 890-1197-2

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/01/21 15:44	09/02/21 01:42	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/01/21 15:44	09/02/21 01:42	1
Total TPH	<50.0	U	50.0		mg/Kg		09/01/21 15:44	09/02/21 01:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*92*		*70 - 130*	*09/01/21 15:44*	*09/02/21 01:42*	*1*
o-Terphenyl	*96*		*70 - 130*	*09/01/21 15:44*	*09/02/21 01:42*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2250**		24.9		mg/Kg			09/01/21 22:58	5

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Job ID: 890-1197-1
SDG: Lea County NM

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)
880-5663-A-1-B MS	Matrix Spike	112	105
880-5663-A-1-C MSD	Matrix Spike Duplicate	109	106
890-1197-1	BH-3	117	97
890-1197-2	BH-4	100	87
LCS 880-7338/1-A	Lab Control Sample	111	104
LCS 880-7386/1-A	Lab Control Sample	112	95
LCSD 880-7338/2-A	Lab Control Sample Dup	107	105
LCSD 880-7386/2-A	Lab Control Sample Dup	109	105
MB 880-7338/5-A	Method Blank	102	98
MB 880-7386/5-A	Method Blank	106	100

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

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		
890-1202-A-1-B MSD	Matrix Spike Duplicate		

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)
890-1197-1	BH-3	83	84
890-1197-2	BH-4	92	96
890-1200-A-1-E MS	Matrix Spike	77	76
890-1200-A-1-F MSD	Matrix Spike Duplicate	78	76
LCS 880-7409/2-A	Lab Control Sample	92	89
LCSD 880-7409/3-A	Lab Control Sample Dup	87	86
MB 880-7409/1-A	Method Blank	82	91

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Job ID: 890-1197-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-7338/5-A
Matrix: Solid
Analysis Batch: 7383

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7338

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/01/21 09:30	09/01/21 12:55	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/01/21 09:30	09/01/21 12:55	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/01/21 09:30	09/01/21 12:55	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/01/21 09:30	09/01/21 12:55	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/01/21 09:30	09/01/21 12:55	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/01/21 09:30	09/01/21 12:55	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		09/01/21 09:30	09/01/21 12:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*09/01/21 09:30*	*09/01/21 12:55*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*09/01/21 09:30*	*09/01/21 12:55*	*1*

Lab Sample ID: LCS 880-7338/1-A
Matrix: Solid
Analysis Batch: 7383

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7338

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.07874		mg/Kg		79	70 - 130		
Toluene			0.100	0.07626		mg/Kg		76	70 - 130		
Ethylbenzene			0.100	0.07838		mg/Kg		78	70 - 130		
m-Xylene & p-Xylene			0.200	0.1610		mg/Kg		80	70 - 130		
o-Xylene			0.100	0.08115		mg/Kg		81	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-7338/2-A
Matrix: Solid
Analysis Batch: 7383

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 7338

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.07580		mg/Kg		76	70 - 130	4	35
Toluene			0.100	0.07204		mg/Kg		72	70 - 130	6	35
Ethylbenzene			0.100	0.07514		mg/Kg		75	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.1537		mg/Kg		77	70 - 130	5	35
o-Xylene			0.100	0.07813		mg/Kg		78	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 880-5663-A-1-B MS
Matrix: Solid
Analysis Batch: 7383

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 7338

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00199	U F1	0.100	0.07493		mg/Kg		74	70 - 130		

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QC Sample Results

Client: Tetra Tech, Inc. Job ID: 890-1197-1
Project/Site: Cimarex - Hallertan Pipeline SDG: Lea County NM

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

Lab Sample ID: 880-5663-A-1-B MS **Client Sample ID: Matrix Spike**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 7383 **Prep Batch: 7338**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00199	U F1	0.100	0.07267		mg/Kg		72	70 - 130
Ethylbenzene	<0.00199	U F1	0.100	0.07320		mg/Kg		73	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.201	0.1510		mg/Kg		75	70 - 130
o-Xylene	<0.00199	U F1	0.100	0.07692		mg/Kg		77	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 880-5663-A-1-C MSD **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 7383 **Prep Batch: 7338**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U F1	0.101	0.06840	F1	mg/Kg		67	70 - 130	9	35
Toluene	<0.00199	U F1	0.101	0.06533	F1	mg/Kg		65	70 - 130	11	35
Ethylbenzene	<0.00199	U F1	0.101	0.06645	F1	mg/Kg		66	70 - 130	10	35
m-Xylene & p-Xylene	<0.00398	U F1	0.202	0.1366	F1	mg/Kg		68	70 - 130	10	35
o-Xylene	<0.00199	U F1	0.101	0.06947	F1	mg/Kg		69	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: MB 880-7386/5-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 7383 **Prep Batch: 7386**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/01/21 15:30	09/01/21 23:47	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/01/21 15:30	09/01/21 23:47	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/01/21 15:30	09/01/21 23:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/01/21 15:30	09/01/21 23:47	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/01/21 15:30	09/01/21 23:47	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/01/21 15:30	09/01/21 23:47	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		09/01/21 15:30	09/01/21 23:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*09/01/21 15:30*	*09/01/21 23:47*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*09/01/21 15:30*	*09/01/21 23:47*	*1*

Lab Sample ID: LCS 880-7386/1-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 7383 **Prep Batch: 7386**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.07667		mg/Kg		77	70 - 130
Toluene	0.100	0.07511		mg/Kg		75	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Job ID: 890-1197-1
SDG: Lea County NM

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

Lab Sample ID: LCS 880-7386/1-A
Matrix: Solid
Analysis Batch: 7383

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7386

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	0.100	0.07912		mg/Kg		79	70 - 130
m-Xylene & p-Xylene	0.200	0.1667		mg/Kg		83	70 - 130
o-Xylene	0.100	0.09024		mg/Kg		90	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: LCSD 880-7386/2-A
Matrix: Solid
Analysis Batch: 7383

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 7386

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.07618		mg/Kg		76	70 - 130	1	35
Toluene	0.100	0.07362		mg/Kg		74	70 - 130	2	35
Ethylbenzene	0.100	0.07632		mg/Kg		76	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.1589		mg/Kg		79	70 - 130	5	35
o-Xylene	0.100	0.08299		mg/Kg		83	70 - 130	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 890-1202-A-1-B MSD
Matrix: Solid
Analysis Batch: 7383

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 7386

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.0998	0.05170		mg/Kg					
Toluene	<0.00198	U	0.0998	0.04259		mg/Kg					
Ethylbenzene	<0.00198	U	0.0998	0.03835		mg/Kg					
m-Xylene & p-Xylene	<0.00396	U	0.200	0.07838		mg/Kg					
o-Xylene	<0.00198	U	0.0998	0.04016		mg/Kg					

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

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

Lab Sample ID: MB 880-7409/1-A
Matrix: Solid
Analysis Batch: 7361

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7409

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		09/01/21 15:44	09/01/21 21:54	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/01/21 15:44	09/01/21 21:54	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: Tetra Tech, Inc. Job ID: 890-1197-1
Project/Site: Cimarex - Hallertan Pipeline SDG: Lea County NM

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

Lab Sample ID: MB 880-7409/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 7361 **Prep Batch: 7409**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/01/21 15:44	09/01/21 21:54	1
Total TPH	<50.0	U	50.0		mg/Kg		09/01/21 15:44	09/01/21 21:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*82*		*70 - 130*	*09/01/21 15:44*	*09/01/21 21:54*	*1*
o-Terphenyl	*91*		*70 - 130*	*09/01/21 15:44*	*09/01/21 21:54*	*1*

Lab Sample ID: LCS 880-7409/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 7361 **Prep Batch: 7409**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	1000	969.5		mg/Kg		97	70 - 130
Diesel Range Organics (Over C10-C28)	1000	826.0		mg/Kg		83	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*92*		*70 - 130*
o-Terphenyl	*89*		*70 - 130*

Lab Sample ID: LCSD 880-7409/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 7361 **Prep Batch: 7409**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	930.2		mg/Kg		93	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	1000	792.8		mg/Kg		79	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*87*		*70 - 130*
o-Terphenyl	*86*		*70 - 130*

Lab Sample ID: 890-1200-A-1-E MS **Client Sample ID: Matrix Spike**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 7361 **Prep Batch: 7409**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	995	915.9		mg/Kg		92	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	995	729.9		mg/Kg		72	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*77*		*70 - 130*
o-Terphenyl	*76*		*70 - 130*

QC Sample Results

Client: Tetra Tech, Inc. Job ID: 890-1197-1
Project/Site: Cimarex - Hallertan Pipeline SDG: Lea County NM

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

Lab Sample ID: 890-1200-A-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 7361 — **Prep Batch: 7409**

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	<50.0	U	998	948.9		mg/Kg		95	70 - 130	4	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	730.8		mg/Kg		72	70 - 130	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*78*		*70 - 130*
o-Terphenyl	*76*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-7406/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 7417

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			09/01/21 22:21	1

Lab Sample ID: LCS 880-7406/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 7417

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	260.0		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-7406/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 7417

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	259.5		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 890-1196-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 7417

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	<4.96	U	248	267.6		mg/Kg		106	90 - 110

Lab Sample ID: 890-1196-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 7417

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	<4.96	U	248	266.8		mg/Kg		106	90 - 110	0	20

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Job ID: 890-1197-1
SDG: Lea County NM

GC VOA

Prep Batch: 7338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-7338/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-7338/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-7338/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-5663-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-5663-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 7383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1197-1	BH-3	Total/NA	Solid	8021B	7386
890-1197-2	BH-4	Total/NA	Solid	8021B	7386
MB 880-7338/5-A	Method Blank	Total/NA	Solid	8021B	7338
MB 880-7386/5-A	Method Blank	Total/NA	Solid	8021B	7386
LCS 880-7338/1-A	Lab Control Sample	Total/NA	Solid	8021B	7338
LCS 880-7386/1-A	Lab Control Sample	Total/NA	Solid	8021B	7386
LCSD 880-7338/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	7338
LCSD 880-7386/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	7386
880-5663-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	7338
880-5663-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	7338
890-1202-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	7386

Prep Batch: 7386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1197-1	BH-3	Total/NA	Solid	5035	
890-1197-2	BH-4	Total/NA	Solid	5035	
MB 880-7386/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-7386/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-7386/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1202-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

GC Semi VOA

Analysis Batch: 7361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1197-1	BH-3	Total/NA	Solid	8015B NM	7409
890-1197-2	BH-4	Total/NA	Solid	8015B NM	7409
MB 880-7409/1-A	Method Blank	Total/NA	Solid	8015B NM	7409
LCS 880-7409/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	7409
LCSD 880-7409/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	7409
890-1200-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	7409
890-1200-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	7409

Prep Batch: 7409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1197-1	BH-3	Total/NA	Solid	8015NM Prep	
890-1197-2	BH-4	Total/NA	Solid	8015NM Prep	
MB 880-7409/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-7409/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-7409/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1200-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1200-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Job ID: 890-1197-1
SDG: Lea County NM

HPLC/IC

Leach Batch: 7406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1197-1	BH-3	Soluble	Solid	DI Leach	
890-1197-2	BH-4	Soluble	Solid	DI Leach	
MB 880-7406/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-7406/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-7406/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1196-A-1-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1196-A-1-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 7417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1197-1	BH-3	Soluble	Solid	300.0	7406
890-1197-2	BH-4	Soluble	Solid	300.0	7406
MB 880-7406/1-A	Method Blank	Soluble	Solid	300.0	7406
LCS 880-7406/2-A	Lab Control Sample	Soluble	Solid	300.0	7406
LCSD 880-7406/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	7406
890-1196-A-1-D MS	Matrix Spike	Soluble	Solid	300.0	7406
890-1196-A-1-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	7406

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Job ID: 890-1197-1
SDG: Lea County NM

Client Sample ID: BH-3

Date Collected: 08/31/21 00:00
Date Received: 09/01/21 08:00

Lab Sample ID: 890-1197-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	7386	09/01/21 15:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	7383	09/02/21 03:12	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	7409	09/01/21 15:44	DM	XEN MID
Total/NA	Analysis	8015B NM		1			7361	09/02/21 01:22	AJ	XEN MID
Soluble	Leach	DI Leach			4.96 g	50 mL	7406	09/01/21 15:32	CH	XEN MID
Soluble	Analysis	300.0		1			7417	09/01/21 22:53	CH	XEN MID

Client Sample ID: BH-4

Date Collected: 08/31/21 00:00
Date Received: 09/01/21 08:00

Lab Sample ID: 890-1197-2

Matrix: Solid

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	7386	09/01/21 15:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	7383	09/02/21 04:34	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	7409	09/01/21 15:44	DM	XEN MID
Total/NA	Analysis	8015B NM		1			7361	09/02/21 01:42	AJ	XEN MID
Soluble	Leach	DI Leach			5.02 g	50 mL	7406	09/01/21 15:32	CH	XEN MID
Soluble	Analysis	300.0		5			7417	09/01/21 22:58	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Tetra Tech, Inc. Job ID: 890-1197-1
Project/Site: Cimarex - Hallertan Pipeline SDG: Lea County NM

Laboratory: Eurofins Xenco, Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	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
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

Method Summary

Client: Tetra Tech, Inc. Job ID: 890-1197-1
Project/Site: Cimarex - Hallertan Pipeline SDG: Lea County NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (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.

Laboratory References:

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

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Job ID: 890-1197-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
890-1197-1	BH-3	Solid	08/31/21 00:00	09/01/21 08:00
890-1197-2	BH-4	Solid	08/31/21 00:00	09/01/21 08:00

Analysis Request of Chain of Custody Record

Page 1 of 1

Tetra Tech, Inc.

901W Wall Street, Ste 100
Midland, Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

890-1197 Chain of Custody

Client Name: Cimarex	Site Manager: Brittany Long
Project Name: Haller Tao Pipeline	
Project Location: (county, state) Lea County, New Mexico	Project #: MD-07564
Invoice to: Cimarex Laci Luig	
Receiving Laboratory: Xenco Labs/Eurofins	Sampler Signature: Myles Tayh
Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2020 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	# CONTAINERS	FILTERED (Y/N)
	BH-3	8/31/21			X			X			
	BH-4	8/31/21			X			X			

ANA	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	Hold
	X	X	X												X				
	X	X	X												X				

	Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	Myles Tayh	8/31/21		Cloe Cuff	9.1.21	0800
	Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature 6.0 5.8

REMARKS:

- ☐ STANDARD
- ☒ RUSH: Same Day 24 hr 48 hr 72 hr
- ☐ Rush Charges Authorized
- ☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

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

Eurofins Xenco, Carlsbad
1089 N Canal St
Carlsbad NM 88220
Phone. 575-988-3199 Fax 575-988-3199

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer Jessica	Carrier Tracking No(s)	COC No: 890-379 1
Client Contact: Shipping/Receiving	Phone	E-Mail: jessica kramer@eurofinset.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Xenco		Accreditations Required (See note): NELAP - Louisiana, NELAP - Texas		Job #: 890-1197-1
Address: 1211 W Florida Ave	Due Date Requested: 9/3/2021			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: Cimarex	Project #: 88000039			
Site	SSOW#:			

Preservation Codes
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA
M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)
Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8021B/5035FP_Calc BTEX	300_ORGFM_28D/DI_LEACH Chloride	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
BH-3 (890-1197-1)	8/31/21	Mountain		Solid			X	X	X	1	
BH-4 (890-1197-2)	8/31/21	Mountain		Solid			X	X	X	1	

Note Since laboratory accreditations are subject to change, Eurofins Xenco LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Xenco LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested I II III IV Other (specify) — Primary Deliverable Rank 2
Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:		
Relinquished by: Que Cut 9.1.21	Date/Time	Company	Received by: J Kramer	Date/Time: 9/1/21 328	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company
Custody Seals Intact. Δ Yes Δ No	Custody Seal No		Cooler Temperature(s) °C and Other Remarks: 2.1/2.6		

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 890-1197-1
SDG Number: Lea County NM

Login Number: 1197
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Xenco, Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 890-1197-1
SDG Number: Lea County NM

Login Number: 1197
List Number: 2
Creator: Kramer, Jessica

List Source: Eurofins Xenco, Midland
List Creation: 09/01/21 03:30 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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	2.1/2.6
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.	True	
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	

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ANALYTICAL REPORT

Eurofins Xenco, Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-1198-1
Laboratory Sample Delivery Group: Lea County NM
Client Project/Site: Cimarex - Hallertan Pipeline

For:
Tetra Tech, Inc.
901 W Wall
Ste 100
Midland, Texas 79701

Attn: Brittany Long

JKramer

Authorized for release by:
9/2/2021 3:03:40 PM

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

Client: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Laboratory Job ID: 890-1198-1
SDG: Lea County NM

Table of Contents

Definitions/Glossary

Client: Tetra Tech, Inc. Job ID: 890-1198-1
Project/Site: Cimarex - Hallertan Pipeline SDG: Lea County NM

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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.
¤	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: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Job ID: 890-1198-1
SDG: Lea County NM

Job ID: 890-1198-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1198-1

Receipt
The samples were received on 9/1/2021 8:00 AM. 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 5.8°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
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Job ID: 890-1198-1
SDG: Lea County NM

Client Sample ID: SW-5

Date Collected: 08/31/21 00:00
Date Received: 09/01/21 08:00

Lab Sample ID: 890-1198-1
Matrix: Solid

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		09/01/21 15:30	09/02/21 04:54	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/01/21 15:30	09/02/21 04:54	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/01/21 15:30	09/02/21 04:54	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/01/21 15:30	09/02/21 04:54	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/01/21 15:30	09/02/21 04:54	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/01/21 15:30	09/02/21 04:54	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		09/01/21 15:30	09/02/21 04:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*125*		*70 - 130*	*09/01/21 15:30*	*09/02/21 04:54*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*09/01/21 15:30*	*09/02/21 04:54*	*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		09/01/21 16:03	09/02/21 02:29	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/01/21 16:03	09/02/21 02:29	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/01/21 16:03	09/02/21 02:29	1
Total TPH	<49.9	U	49.9		mg/Kg		09/01/21 16:03	09/02/21 02:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 130*	*09/01/21 16:03*	*09/02/21 02:29*	*1*
o-Terphenyl	*106*		*70 - 130*	*09/01/21 16:03*	*09/02/21 02:29*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**343**		4.95		mg/Kg			09/01/21 23:03	1

Client Sample ID: SW-7

Date Collected: 08/31/21 00:00
Date Received: 09/01/21 08:00

Lab Sample ID: 890-1198-2
Matrix: Solid

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		09/01/21 15:30	09/02/21 05:14	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/01/21 15:30	09/02/21 05:14	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/01/21 15:30	09/02/21 05:14	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/01/21 15:30	09/02/21 05:14	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/01/21 15:30	09/02/21 05:14	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/01/21 15:30	09/02/21 05:14	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		09/01/21 15:30	09/02/21 05:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*127*		*70 - 130*	*09/01/21 15:30*	*09/02/21 05:14*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*09/01/21 15:30*	*09/02/21 05:14*	*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		09/01/21 16:03	09/02/21 02:49	1

Eurofins Xenco, Carlsbad

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Job ID: 890-1198-1
SDG: Lea County NM

Client Sample ID: SW-7

Lab Sample ID: 890-1198-2
Matrix: Solid
Date Collected: 08/31/21 00:00
Date Received: 09/01/21 08:00

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/01/21 16:03	09/02/21 02:49	1
OII Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/01/21 16:03	09/02/21 02:49	1
Total TPH	<49.9	U	49.9		mg/Kg		09/01/21 16:03	09/02/21 02:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 130*	*09/01/21 16:03*	*09/02/21 02:49*	*1*
o-Terphenyl	*111*		*70 - 130*	*09/01/21 16:03*	*09/02/21 02:49*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4350**		25.2		mg/Kg			09/01/21 23:08	5

Client Sample ID: SW-10

Lab Sample ID: 890-1198-3
Matrix: Solid
Date Collected: 08/31/21 00:00
Date Received: 09/01/21 08:00

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		09/01/21 15:30	09/02/21 05:35	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/01/21 15:30	09/02/21 05:35	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/01/21 15:30	09/02/21 05:35	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/01/21 15:30	09/02/21 05:35	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/01/21 15:30	09/02/21 05:35	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/01/21 15:30	09/02/21 05:35	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		09/01/21 15:30	09/02/21 05:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*	*09/01/21 15:30*	*09/02/21 05:35*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*09/01/21 15:30*	*09/02/21 05:35*	*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	<49.8	U	49.8		mg/Kg		09/01/21 16:03	09/02/21 03:09	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		09/01/21 16:03	09/02/21 03:09	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		09/01/21 16:03	09/02/21 03:09	1
Total TPH	<49.8	U	49.8		mg/Kg		09/01/21 16:03	09/02/21 03:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*84*		*70 - 130*	*09/01/21 16:03*	*09/02/21 03:09*	*1*
o-Terphenyl	*91*		*70 - 130*	*09/01/21 16:03*	*09/02/21 03:09*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4340**		24.8		mg/Kg			09/01/21 23:24	5

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Job ID: 890-1198-1
SDG: Lea County NM

Client Sample ID: SW-12

Date Collected: 08/31/21 00:00
Date Received: 09/01/21 08:00

Lab Sample ID: 890-1198-4

Matrix: Solid

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		09/01/21 15:30	09/02/21 05:55	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/01/21 15:30	09/02/21 05:55	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/01/21 15:30	09/02/21 05:55	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/01/21 15:30	09/02/21 05:55	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/01/21 15:30	09/02/21 05:55	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/01/21 15:30	09/02/21 05:55	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		09/01/21 15:30	09/02/21 05:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*129*		*70 - 130*	*09/01/21 15:30*	*09/02/21 05:55*	*1*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*	*09/01/21 15:30*	*09/02/21 05:55*	*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		09/01/21 16:03	09/02/21 03:29	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/01/21 16:03	09/02/21 03:29	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/01/21 16:03	09/02/21 03:29	1
Total TPH	<49.9	U	49.9		mg/Kg		09/01/21 16:03	09/02/21 03:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*94*		*70 - 130*	*09/01/21 16:03*	*09/02/21 03:29*	*1*
o-Terphenyl	*94*		*70 - 130*	*09/01/21 16:03*	*09/02/21 03:29*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6020**		50.0		mg/Kg			09/01/21 23:29	10

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Job ID: 890-1198-1
SDG: Lea County NM

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)								
880-5663-A-1-B MS	Matrix Spike	112	105								
880-5663-A-1-C MSD	Matrix Spike Duplicate	109	106								
890-1198-1	SW-5	125	97								
890-1198-2	SW-7	127	100								
890-1198-3	SW-10	124	99								
890-1198-4	SW-12	129	94								
LCS 880-7338/1-A	Lab Control Sample	111	104								
LCS 880-7386/1-A	Lab Control Sample	112	95								
LCSD 880-7338/2-A	Lab Control Sample Dup	107	105								
LCSD 880-7386/2-A	Lab Control Sample Dup	109	105								
MB 880-7338/5-A	Method Blank	102	98								
MB 880-7386/5-A	Method Blank	106	100								

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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										
890-1202-A-1-B MSD	Matrix Spike Duplicate										

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)								
820-1759-A-1-E MS	Matrix Spike	93	94								
820-1759-A-1-F MSD	Matrix Spike Duplicate	99	88								
890-1198-1	SW-5	105	106								
890-1198-2	SW-7	106	111								
890-1198-3	SW-10	84	91								
890-1198-4	SW-12	94	94								
LCS 880-7410/2-A	Lab Control Sample	97	97								
LCSD 880-7410/3-A	Lab Control Sample Dup	100	103								
MB 880-7410/1-A	Method Blank	96	103								

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Job ID: 890-1198-1
SDG: Lea County NM

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-7338/5-A
Matrix: Solid
Analysis Batch: 7383

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7338

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/01/21 09:30	09/01/21 12:55	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/01/21 09:30	09/01/21 12:55	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/01/21 09:30	09/01/21 12:55	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/01/21 09:30	09/01/21 12:55	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/01/21 09:30	09/01/21 12:55	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/01/21 09:30	09/01/21 12:55	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		09/01/21 09:30	09/01/21 12:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*	*09/01/21 09:30*	*09/01/21 12:55*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*09/01/21 09:30*	*09/01/21 12:55*	*1*

Lab Sample ID: LCS 880-7338/1-A
Matrix: Solid
Analysis Batch: 7383

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7338

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.07874		mg/Kg		79	70 - 130		
Toluene			0.100	0.07626		mg/Kg		76	70 - 130		
Ethylbenzene			0.100	0.07838		mg/Kg		78	70 - 130		
m-Xylene & p-Xylene			0.200	0.1610		mg/Kg		80	70 - 130		
o-Xylene			0.100	0.08115		mg/Kg		81	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: LCSD 880-7338/2-A
Matrix: Solid
Analysis Batch: 7383

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 7338

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.07580		mg/Kg		76	70 - 130	4	35
Toluene			0.100	0.07204		mg/Kg		72	70 - 130	6	35
Ethylbenzene			0.100	0.07514		mg/Kg		75	70 - 130	4	35
m-Xylene & p-Xylene			0.200	0.1537		mg/Kg		77	70 - 130	5	35
o-Xylene			0.100	0.07813		mg/Kg		78	70 - 130	4	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 880-5663-A-1-B MS
Matrix: Solid
Analysis Batch: 7383

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 7338

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00199	U F1	0.100	0.07493		mg/Kg		74	70 - 130		

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QC Sample Results

Client: Tetra Tech, Inc. Job ID: 890-1198-1
Project/Site: Cimarex - Hallertan Pipeline SDG: Lea County NM

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

Lab Sample ID: 880-5663-A-1-B MS **Client Sample ID: Matrix Spike**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 7383 **Prep Batch: 7338**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00199	U F1	0.100	0.07267		mg/Kg		72	70 - 130
Ethylbenzene	<0.00199	U F1	0.100	0.07320		mg/Kg		73	70 - 130
m-Xylene & p-Xylene	<0.00398	U F1	0.201	0.1510		mg/Kg		75	70 - 130
o-Xylene	<0.00199	U F1	0.100	0.07692		mg/Kg		77	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 880-5663-A-1-C MSD **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 7383 **Prep Batch: 7338**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U F1	0.101	0.06840	F1	mg/Kg		67	70 - 130	9	35
Toluene	<0.00199	U F1	0.101	0.06533	F1	mg/Kg		65	70 - 130	11	35
Ethylbenzene	<0.00199	U F1	0.101	0.06645	F1	mg/Kg		66	70 - 130	10	35
m-Xylene & p-Xylene	<0.00398	U F1	0.202	0.1366	F1	mg/Kg		68	70 - 130	10	35
o-Xylene	<0.00199	U F1	0.101	0.06947	F1	mg/Kg		69	70 - 130	10	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: MB 880-7386/5-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 7383 **Prep Batch: 7386**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/01/21 15:30	09/01/21 23:47	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/01/21 15:30	09/01/21 23:47	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/01/21 15:30	09/01/21 23:47	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/01/21 15:30	09/01/21 23:47	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/01/21 15:30	09/01/21 23:47	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/01/21 15:30	09/01/21 23:47	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		09/01/21 15:30	09/01/21 23:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*09/01/21 15:30*	*09/01/21 23:47*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*09/01/21 15:30*	*09/01/21 23:47*	*1*

Lab Sample ID: LCS 880-7386/1-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 7383 **Prep Batch: 7386**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.07667		mg/Kg		77	70 - 130
Toluene	0.100	0.07511		mg/Kg		75	70 - 130

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QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Job ID: 890-1198-1
SDG: Lea County NM

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

Lab Sample ID: LCS 880-7386/1-A
Matrix: Solid
Analysis Batch: 7383

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7386

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	0.100	0.07912		mg/Kg		79	70 - 130
m-Xylene & p-Xylene	0.200	0.1667		mg/Kg		83	70 - 130
o-Xylene	0.100	0.09024		mg/Kg		90	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*

Lab Sample ID: LCSD 880-7386/2-A
Matrix: Solid
Analysis Batch: 7383

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 7386

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.07618		mg/Kg		76	70 - 130	1	35
Toluene	0.100	0.07362		mg/Kg		74	70 - 130	2	35
Ethylbenzene	0.100	0.07632		mg/Kg		76	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.1589		mg/Kg		79	70 - 130	5	35
o-Xylene	0.100	0.08299		mg/Kg		83	70 - 130	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 890-1202-A-1-B MSD
Matrix: Solid
Analysis Batch: 7383

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 7386

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00198	U	0.0998	0.05170		mg/Kg					
Toluene	<0.00198	U	0.0998	0.04259		mg/Kg					
Ethylbenzene	<0.00198	U	0.0998	0.03835		mg/Kg					
m-Xylene & p-Xylene	<0.00396	U	0.200	0.07838		mg/Kg					
o-Xylene	<0.00198	U	0.0998	0.04016		mg/Kg					

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

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

Lab Sample ID: MB 880-7410/1-A
Matrix: Solid
Analysis Batch: 7357

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7410

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		09/01/21 16:03	09/01/21 20:29	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/01/21 16:03	09/01/21 20:29	1

Eurofins Xenco, Carlsbad

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Job ID: 890-1198-1
SDG: Lea County NM

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

Lab Sample ID: MB 880-7410/1-A
Matrix: Solid
Analysis Batch: 7357

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7410

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/01/21 16:03	09/01/21 20:29	1
Total TPH	<50.0	U	50.0		mg/Kg		09/01/21 16:03	09/01/21 20:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*09/01/21 16:03*	*09/01/21 20:29*	*1*
o-Terphenyl	*103*		*70 - 130*	*09/01/21 16:03*	*09/01/21 20:29*	*1*

Lab Sample ID: LCS 880-7410/2-A
Matrix: Solid
Analysis Batch: 7357

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7410

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	968.2		mg/Kg		97	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	924.2		mg/Kg		92	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*97*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Lab Sample ID: LCSD 880-7410/3-A
Matrix: Solid
Analysis Batch: 7357

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 7410

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	981.1		mg/Kg		98	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	970.1		mg/Kg		97	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*100*		*70 - 130*
o-Terphenyl	*103*		*70 - 130*

Lab Sample ID: 820-1759-A-1-E MS
Matrix: Solid
Analysis Batch: 7357

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 7410

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	995	846.8		mg/Kg		85	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	995	833.5		mg/Kg		84	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*93*		*70 - 130*
o-Terphenyl	*94*		*70 - 130*

QC Sample Results

Client: Tetra Tech, Inc. Job ID: 890-1198-1
Project/Site: Cimarex - Hallertan Pipeline SDG: Lea County NM

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

Lab Sample ID: 820-1759-A-1-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 7357 — **Prep Batch: 7410**

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	<50.0	U	998	851.1		mg/Kg		85	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	807.4		mg/Kg		81	70 - 130	3	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*99*		*70 - 130*
o-Terphenyl	*88*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-7406/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 7417

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			09/01/21 22:21	1

Lab Sample ID: LCS 880-7406/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 7417

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	260.0		mg/Kg		104	90 - 110

Lab Sample ID: LCSD 880-7406/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 7417

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250	259.5		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 890-1196-A-1-D MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 7417

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	<4.96	U	248	267.6		mg/Kg		106	90 - 110

Lab Sample ID: 890-1196-A-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 7417

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	<4.96	U	248	266.8		mg/Kg		106	90 - 110	0	20

QC Association Summary

Client: Tetra Tech, Inc. Job ID: 890-1198-1
Project/Site: Cimarex - Hallertan Pipeline SDG: Lea County NM

GC VOA

Prep Batch: 7338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-7338/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-7338/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-7338/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-5663-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
880-5663-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 7383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1198-1	SW-5	Total/NA	Solid	8021B	7386
890-1198-2	SW-7	Total/NA	Solid	8021B	7386
890-1198-3	SW-10	Total/NA	Solid	8021B	7386
890-1198-4	SW-12	Total/NA	Solid	8021B	7386
MB 880-7338/5-A	Method Blank	Total/NA	Solid	8021B	7338
MB 880-7386/5-A	Method Blank	Total/NA	Solid	8021B	7386
LCS 880-7338/1-A	Lab Control Sample	Total/NA	Solid	8021B	7338
LCS 880-7386/1-A	Lab Control Sample	Total/NA	Solid	8021B	7386
LCSD 880-7338/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	7338
LCSD 880-7386/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	7386
880-5663-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	7338
880-5663-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	7338
890-1202-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	7386

Prep Batch: 7386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1198-1	SW-5	Total/NA	Solid	5035	
890-1198-2	SW-7	Total/NA	Solid	5035	
890-1198-3	SW-10	Total/NA	Solid	5035	
890-1198-4	SW-12	Total/NA	Solid	5035	
MB 880-7386/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-7386/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-7386/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1202-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

GC Semi VOA

Analysis Batch: 7357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1198-1	SW-5	Total/NA	Solid	8015B NM	7410
890-1198-2	SW-7	Total/NA	Solid	8015B NM	7410
890-1198-3	SW-10	Total/NA	Solid	8015B NM	7410
890-1198-4	SW-12	Total/NA	Solid	8015B NM	7410
MB 880-7410/1-A	Method Blank	Total/NA	Solid	8015B NM	7410
LCS 880-7410/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	7410
LCSD 880-7410/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	7410
820-1759-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	7410
820-1759-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	7410

Prep Batch: 7410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1198-1	SW-5	Total/NA	Solid	8015NM Prep	
890-1198-2	SW-7	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Tetra Tech, Inc. Job ID: 890-1198-1
Project/Site: Cimarex - Hallertan Pipeline SDG: Lea County NM

GC Semi VOA (Continued)

Prep Batch: 7410 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1198-3	SW-10	Total/NA	Solid	8015NM Prep	
890-1198-4	SW-12	Total/NA	Solid	8015NM Prep	
MB 880-7410/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-7410/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-7410/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
820-1759-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
820-1759-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 7406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1198-1	SW-5	Soluble	Solid	DI Leach	
890-1198-2	SW-7	Soluble	Solid	DI Leach	
890-1198-3	SW-10	Soluble	Solid	DI Leach	
890-1198-4	SW-12	Soluble	Solid	DI Leach	
MB 880-7406/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-7406/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-7406/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1196-A-1-D MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1196-A-1-E MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 7417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1198-1	SW-5	Soluble	Solid	300.0	7406
890-1198-2	SW-7	Soluble	Solid	300.0	7406
890-1198-3	SW-10	Soluble	Solid	300.0	7406
890-1198-4	SW-12	Soluble	Solid	300.0	7406
MB 880-7406/1-A	Method Blank	Soluble	Solid	300.0	7406
LCS 880-7406/2-A	Lab Control Sample	Soluble	Solid	300.0	7406
LCSD 880-7406/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	7406
890-1196-A-1-D MS	Matrix Spike	Soluble	Solid	300.0	7406
890-1196-A-1-E MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	7406

Lab Chronicle

Client: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Job ID: 890-1198-1
SDG: Lea County NM

Client Sample ID: SW-5

Date Collected: 08/31/21 00:00
Date Received: 09/01/21 08:00

Lab Sample ID: 890-1198-1

Matrix: Solid

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	7386	09/01/21 15:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	7383	09/02/21 04:54	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	7410	09/01/21 16:03	DM	XEN MID
Total/NA	Analysis	8015B NM		1			7357	09/02/21 02:29	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	7406	09/01/21 15:32	CH	XEN MID
Soluble	Analysis	300.0		1			7417	09/01/21 23:03	CH	XEN MID

Client Sample ID: SW-7

Date Collected: 08/31/21 00:00
Date Received: 09/01/21 08:00

Lab Sample ID: 890-1198-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	7386	09/01/21 15:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	7383	09/02/21 05:14	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	7410	09/01/21 16:03	DM	XEN MID
Total/NA	Analysis	8015B NM		1			7357	09/02/21 02:49	AJ	XEN MID
Soluble	Leach	DI Leach			4.97 g	50 mL	7406	09/01/21 15:32	CH	XEN MID
Soluble	Analysis	300.0		5			7417	09/01/21 23:08	CH	XEN MID

Client Sample ID: SW-10

Date Collected: 08/31/21 00:00
Date Received: 09/01/21 08:00

Lab Sample ID: 890-1198-3

Matrix: Solid

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	7386	09/01/21 15:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	7383	09/02/21 05:35	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	7410	09/01/21 16:03	DM	XEN MID
Total/NA	Analysis	8015B NM		1			7357	09/02/21 03:09	AJ	XEN MID
Soluble	Leach	DI Leach			5.05 g	50 mL	7406	09/01/21 15:32	CH	XEN MID
Soluble	Analysis	300.0		5			7417	09/01/21 23:24	CH	XEN MID

Client Sample ID: SW-12

Date Collected: 08/31/21 00:00
Date Received: 09/01/21 08:00

Lab Sample ID: 890-1198-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	7386	09/01/21 15:30	KL	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	7383	09/02/21 05:55	KL	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	7410	09/01/21 16:03	DM	XEN MID
Total/NA	Analysis	8015B NM		1			7357	09/02/21 03:29	AJ	XEN MID
Soluble	Leach	DI Leach			5 g	50 mL	7406	09/01/21 15:32	CH	XEN MID
Soluble	Analysis	300.0		10			7417	09/01/21 23:29	CH	XEN MID

Laboratory References:

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

Eurofins Xenco, Carlsbad

Accreditation/Certification Summary

Client: Tetra Tech, Inc. Job ID: 890-1198-1
Project/Site: Cimarex - Hallertan Pipeline SDG: Lea County NM

Laboratory: Eurofins Xenco, Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	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
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

Method Summary

Client: Tetra Tech, Inc. Job ID: 890-1198-1
Project/Site: Cimarex - Hallertan Pipeline SDG: Lea County NM

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (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.

Laboratory References:

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

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: Cimarex - Hallertan Pipeline

Job ID: 890-1198-1
SDG: Lea County NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
890-1198-1	SW-5	Solid	08/31/21 00:00	09/01/21 08:00
890-1198-2	SW-7	Solid	08/31/21 00:00	09/01/21 08:00
890-1198-3	SW-10	Solid	08/31/21 00:00	09/01/21 08:00
890-1198-4	SW-12	Solid	08/31/21 00:00	09/01/21 08:00

Analysis Request of Chain of Custody Record

Page 1 of 1

Tetra Tech, Inc.

901W Wall Street, Ste 100
Midland,Texas 79705
Tel (432) 682-4559
Fax
(432) 682-3946

ANA

890-1198 Chain of Custody

Client Name: Cimarex

Site Manager: Brittany Long

Project Name: Haller Tav Pipeline

Project Location: (county, state) Lea County, New Mexico

Project #: MD-07564

Invoice to: Cimarex / Laci Luig

Receiving Laboratory:

Sampler Signature: Myka Taylor

Comments:

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD: None	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	Hold
	SW-5	8/31/21			X			X				X		X												X				
	SW-7	8/31/21			X			X				X		X												X				
	SW-10	8/31/21			X			X				X		X												X				
	SW-12	8/31/21			X			X				X		X												X				

Relinquished by: Myka Taylor Date: 8/31/21 Time:

Received by: Dave Cox Date: 9.1.21 Time: 0800

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

LAB USE ONLY

Sample Temperature 6.0 5.8

REMARKS:

- ☐ STANDARD
- ☒ RUSH: Same Day 24 hr 48 hr 72 hr
- ☐ Rush Charges Authorized
- ☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Eurofins Xenco, Carlsbad
1089 N Canal St.
Carlsbad NM 88220
Phone. 575-988-3199 Fax 575-988-3199

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer Jessica	Carrier Tracking No(s):	COC No: 890-379 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: jessica.kramer@eurofinset com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Xenco		Accreditations Required (See note): NELAP - Louisiana NELAP - Texas		Job #: 890-1198-1
Address: 1211 W Florida Ave,	Due Date Requested: 9/3/2021			
City: Midland	TAT Requested (days):			
State Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email:	WO #:			
Project Name: Cimarex	Project #: 88000039			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8021B/5035FP_Calc BTEX	300_ORGFM_28D/DI_LEACH Chloride	Total Number of containers	Special Instructions/Note
			Preservation Code:								
SW-5 (890-1198-1)	8/31/21	Mountain		Solid			X	X	X	1	
SW-7 (890-1198-2)	8/31/21	Mountain		Solid			X	X	X	1	
SW-10 (890-1198-3)	8/31/21	Mountain		Solid			X	X	X	1	
SW-12 (890-1198-4)	8/31/21	Mountain		Solid			X	X	X	1	

Note Since laboratory accreditations are subject to change Eurofins Xenco LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Xenco LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time:	Company	Received by	Date/Time	Company
	Relinquished by: Cue Cuy 9.1.21			Kramer	9.1.21	
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time 325	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 2.1/2.6

Ver 06/08/2021

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 890-1198-1
SDG Number: Lea County NM

Login Number: 1198
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Xenco, Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 890-1198-1
SDG Number: Lea County NM

Login Number: 1198
List Number: 2
Creator: Kramer, Jessica

List Source: Eurofins Xenco, Midland
List Creation: 09/01/21 03:30 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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	2.1/2.6
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.	True	
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

Operator: CIMAREX ENERGY CO. OF COLORADO 600 N. Marienfeld Street Midland, TX 79701	OGRID: 162683
	Action Number: 53894
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
chensley	None	11/8/2021