SITE INFORMATION

Report Type: Proposed Monitoring Work Plan 2RP-5449 and 2RP-5469

General Site Information:						
Site & Lease No:	**White Federal Com #001H**					
Company:	**COG Operating LLC**					
Section, Township and Range	**Unit L**	**Sec. 22**	**T 25S**	**R 29E**		
Lease Number:	**API No.**					
County:	**Eddy County**					
GPS:	**32.114263**			**-103.977405**		
Surface Owner:	**Federal**					
Directions:	From the intersection of Hwy 285 and Longhorn Rd. turn east on Longhorn Rd. and go ~3.91 miles, turn (north) and go 3.69 miles and location is on West side of Rd.					

Release Data:				
RP Number	**2RP- 5449**	**2RP- 5469**		
Date Released:	5/13/2019	5/17/2019		
Type Release:	*Produced Water*	*Produced Water*		
Source of Contamination:	*Flowline*	*Flowline*		
Fluid Released:	*46 bbl*	*20 bbl*		
Fluids Recovered:	*0 bbls*	*0 bbls*		

Official Communication:			
Name:	Ike Tavarez		Clair Gonzales
Company:	COG Operating, LLC		Tetra Tech
Address:	One Concho Center		901 West Wall Street
	600 W. Illinois Ave.		Suite 100
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		(432) 687-8110
Fax:	(432) 684-7137		
Email:	itavarez@concho.com		Clair.Gonzales@tetratech.com

Site Characterization	
Depth to Groundwater:	*60' below surface*
Karst Potential:	*Medium*

Recommended Remedial Action Levels (RRALs)			
Benzene	***Total BTEX***	***TPH (GRO+DRO+MRO)***	***Chlorides***
10 mg/kg	*50 mg/kg*	*100 mg/kg*	*600 mg/kg*

TETRA TECH

February 11, 2020

Mr. Mike Bratcher
District Supervisor
Oil Conservation Division, District 2
811 S. First Street
Artesia, New Mexico 88210

Re: Proposed Monitoring Work Plan for the COG Operating, LLC, White Federal Com #1H, Unit L, Section 22, Township 25 South, Range 29 East, Eddy County, New Mexico. 2RP-5449 and 2RP-5469

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating, LLC (COG) to assess a release that occurred at the White Federal Com #1H, Unit L, Section 22, Township 25 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are 32.114263°, -103.977405°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the release was discovered on May 13, 2019, and released approximately 46 barrels of produced water due the flowline being ruptured. None of the produced water was recovered. The release occurred on the pasture and migrated into the draw impacting areas measuring approximately 65' x 40' and 1,290' x 15'.

On May 17, 2019, a second release occurred at the site and released approximately 20 barrels of produced water. The release overlapped the first release approximately 200' in the draw. The C-141 Forms are included in Appendix A.

Site Characterization

A site characterization was performed for the site and no lakebeds, sinkholes, playa lakes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, springs, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the specified distances. However, the site is in a medium karst potential area and migrated into a draw. Also, a watercourse is located within 300' of the site, according to the USGS topographic map.

The nearest water well is listed on the New Mexico State Engineer's (NMOSE) database, approximately 2.82 miles north of the site, and has a reported depth to groundwater of 60' below surface. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in the area is approximately 175' below surface. The site characterization data is shown in Appendix B.

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

Regulatory

A risk-based evaluation was performed for the Site in accordance with 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 upon the site characterization, the proposed RRAL for TPH is 100 mg/kg (GRO + DRO + MRO). Additionally, based on the site characterization, the proposed RRAL for chlorides is 600 mg/kg.

Soil Assessment and Analytical Results

Background

Referring to Table 1, the background samples showed chloride concentrations ranging from 24.3 mg/kg to 213 mg/kg at a depth of surface to 1.0' below surface.

Pasture Area Sampling

On May 21, 2019, Tetra Tech personnel were onsite to evaluate and sample the release area. A total of four (4) auger holes (AH-1 through AH-4) were installed in the pasture area release area to total depths ranging from surface to 3.5' below surface. Additionally, ten (10) horizontal delineation samples (Horizontal Northwest-1, Horizontal Northwest-2, Horizontal Northwest-3, Horizontal Northwest-4, Horizontal Northwest-5, Horizontal Northwest-6, Horizontal Southeast-1, Horizontal Southeast-2, and Horizontal Southeast-3, Horizontal Southeast-4) were collected outside the spill footprint. Selected soil samples were collected and submitted to the laboratory for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B, and chloride by EPA method 300.0. 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 on Figure 3.

Auger holes Installation

Referring to Table 1, none of the samples analyzed showed benzene, TPH, or total BTEX concentrations above the laboratory reporting limits. However, the areas of auger holes AH-1 and AH-2 showed elevated chloride concentrations ranging from 4,280 mg/kg to 10,200 mg/kg at surface to 2.5'-3.0' below surface. The area of auger hole AH-3 showed chloride concentrations of 11,300 mg/kg at 0-1' and 11,800 mg/kg at 1'-1.5' below surface. The area of auger hole AH-4 showed a high chloride concentration of 5,220 mg/kg from surface to 1.0' and then declined with depth to below the RRALs at 1.0'-1.5' below surface. The areas of AH-1 AH-2, and AH-3 were not vertically defined for chlorides. and deeper samples were not collected due to the dense formation in the area.

Horizontals Delineation

Referring to Table 1, the areas of horizontal delineation samples (Horizontal Northwest-3, Horizontal Northwest-4, Horizontal Northwest-5, Horizontal Southeast-2, and Horizontal Southeast-3) showed any benzene, total BTEX, TPH, or chloride concentrations above the RRAL's. However, the areas of the horizontal delineation samples (Horizontal Northwest-1, Horizontal Northwest-2, Horizontal Northwest-6,

Horizontal Southeast-1, and Horizontal Southeast-4) showed high chloride concentrations ranging from 854 mg/kg to 12,800 mg/kg at 0-1' below surface. The areas then declined with depth at 1.0'-1.5' below surface with concentrations ranging from 35.8 mg/kg to 403 mg/kg.

Draw Area Sampling

A total of ten (10) auger holes were installed in the draw area (AH-5 through AH-14) to total depths ranging from 1.0'-4.5' below surface. Four (4) background auger holes were installed in order to evaluate the native soils. Selected soil samples were collected and submitted to the laboratory for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B, and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C and the results of the sampling are summarized in Table 1. The sample locations are shown on Figure 3.

Referring to Table 1, all the samples analyzed for benzene, total BTEX, and TPH were below the laboratory reporting limits. Also, the areas of auger holes (AH5, AH-6, AH-7, AH-8, AH-9, AH-10, AH-11, AH-12, AH-13, and AH-14) all showed chloride concentrations above the RRAL, with concentrations ranging from 947 mg/kg to 22,300 mg/kg. Only the area of AH-10 was vertically defined for chloride with a concentration of 564 mg/kg at 2.0'-2.5' below surface.

Second Sampling Event -Draw

Based on the area having a heavy rainfall event, Tetra Tech returned on June 18, 2019, to install ten (10) auger holes in the draw area (AH-5 through AH-14) to total depths ranging from 1.0'-4.5' below surface. The rain has significantly helped dilute or help migrate the chloride concentrations during those events. The soil samples were collected and submitted to the laboratory for chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C, and sampling summarized in Table 1. The sample locations are shown on Figure 3 and Figure 3A.

Referring to Table 1, the areas of auger holes (AH-1 through AH-13) showed high chloride concentrations of 2,430 mg/kg, 2,110 mg/kg, 2,250 mg/kg, 1,390 mg/kg, 8,060 mg/kg, 11,600 mg/kg, 5,570 mg/kg, 12,300 mg/kg, 9,710 mg/kg, 623 mg/kg, 8,560 mg/kg, 1,470 mg/kg, and 635 mg/kg. The area of auger hole AH-14 showed a chloride concentration of 24.9 mg/kg. Based on the data supported from the second event of sampling, the rain events have showed to help the chloride concentrations decrease overtime.

Proposed Monitoring Work Plan

COG proposes to monitor the site every quarter in 2020 or after a heavy rainfall event, which should help dilute the chloride concentrations over time with the limited access in the draw. If the chloride concentrations do not decrease below the RRALs, COG will perform an in-situ reclamation on top of the draw area. The draw area has limited access to remediate and perform the necessary work in the release area in a safe manner due to wall cave-ins and safety concerns for onsite personnel. Also, impacted soil around structures or lines may not be viable or practicable to be removed due to safety concerns for on-site staff.

TETRA TECH

Conclusion

Once the monitoring activities have been completed, a final report will be submitted. If you have any questions or comments concerning the assessment activities for this site, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Mike Carmona
Geologist

Figures

CONCHO

FIGURE 1

WHITE FEDERAL # 1H FLOWLINE
(32.114263°,-103.977405°)

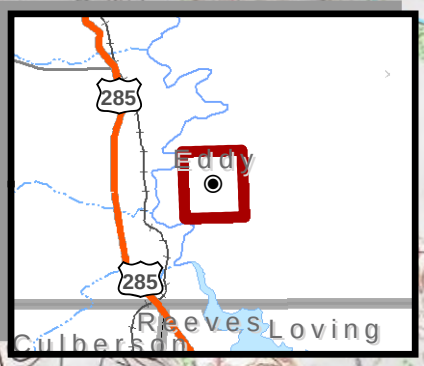
OVERVIEW MAP

EDDY COUNTY, NEW MEXICO

Project : 212C-MD-001765	
Date : 06/12/2019	
File : H:\GIS\212C-MD-01765	

MAPPED BY: MISTI MORGAN

SOURCE: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community



OVERALL VIEW 1:814,933

WHITE FEDERAL #1H FLOWLINE

Eddy

Pickett

Draw

Pickett Windmill

Drill Hole

Gravel Pit

RUSTLER BREAKS

PIPELINE

N W E S

0 2,000 4,000 Feet

1 inch = 2,200 feet

LEGEND

◉ SITE LOCATION

CONCHO

FIGURE 2

WHITE FEDERAL # 1H FLOWLINE
(32.114263°,-103.977405°)

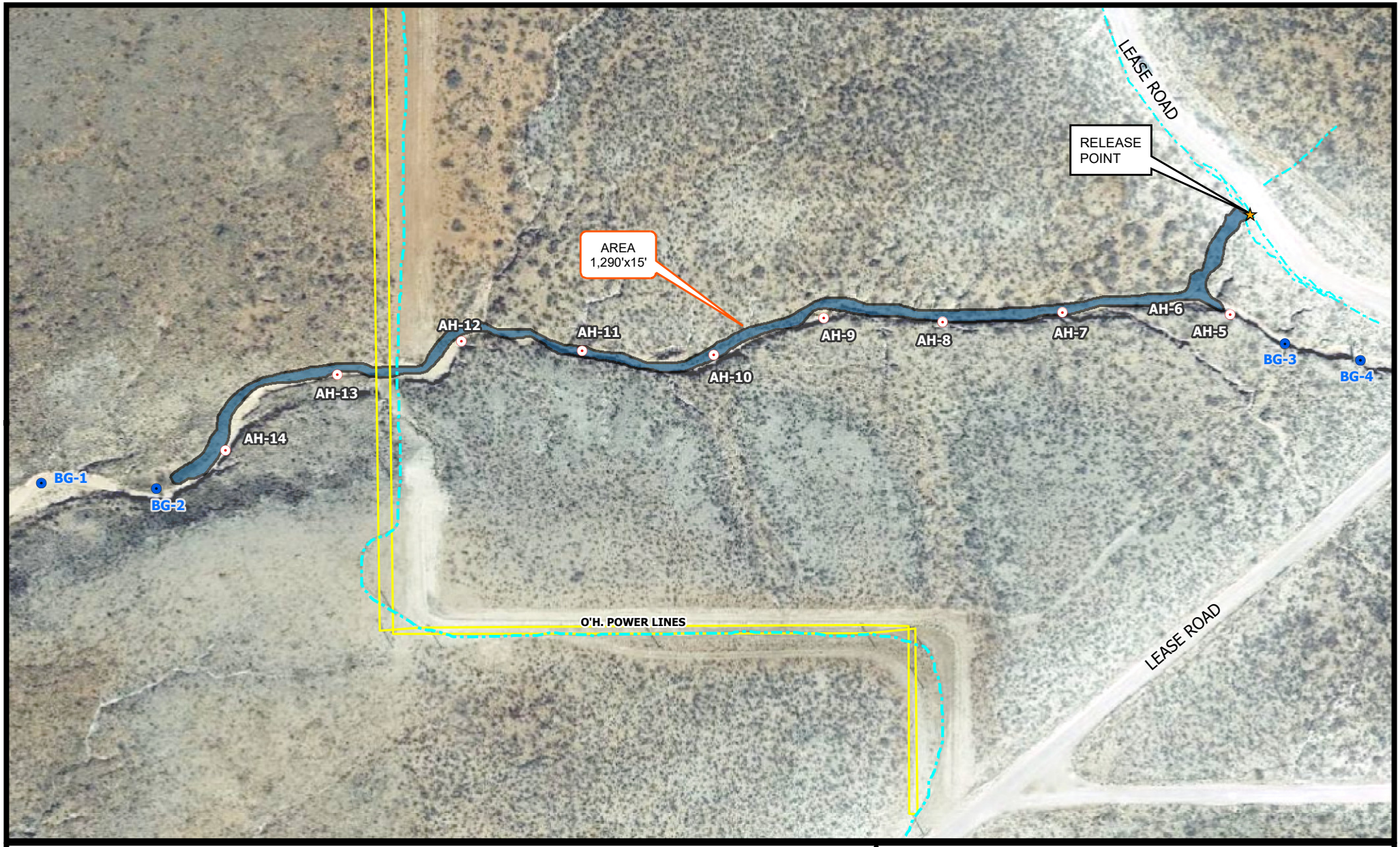
TOPOGRAPHIC MAP

EDDY COUNTY, NEW MEXICO

Project : 212C-MD-001765	
Date : 06/12/2019	
File : H:\GIS\212C-MD-01765	

MAPPED BY: MISTI MORGAN

SOURCE: Esri, Copyright:© 2013 National Geographic Society, i-cubed



AUGERHOLE SAMPLE POINTS
BACKGROUND SAMPLE POINTS
RELEASE POINT
HORIZONTAL SAMPLE POINTS
O.H. POWERLINES
FLOWLINE
SPILL AREA

Source: "New Mexico". 32° 6'51.35"N, 103°58'38.66"W. **Google Earth**. February, 2019.December 3, 2019.

N
W E
S

0 95 190
Approximate Scale in Feet

SPILL ASSESSMENT MAP
WHITE FEDERAL #1H FLOWLINE
PROPERTY LOCATED AT 32.114263°,-103.977405°
EDDY COUNTY, NEW MEXICO

CONCHO

Project #: 212C-MD-01765
Date:12-03-2019

FIGURE 3

Date: 1/8/2020 Document Path: H:\GIS\CONCHO RESOURCES - COG\212C-MD-01765 COG WHITE FED #1H\MXD\212C-MD-01765 WHITE FED #1H FIG. 3.mxd

AUGERHOLE SAMPLE LOCATIONS
HORIZONTAL SAMPLE LOCATIONS
RELEASE POINT
DRAW
FLOWLINE
OVERSPRAY
AFFECTED SPILL AREA

Source: "New Mexico". 32° 6'51.35"N, 103°58'38.66"W. **Google Earth**. February, 2019.December 3, 2019.

N
W E
S

0 17.5 35
Approximate Scale in Feet

SPILL ASSESSMENT MAP
WHITE FEDERAL #1H FLOWLINE
PROPERTY LOCATED AT 32.114263°,-103.977405°
EDDY COUNTY, NEW MEXICO

CONCHO

Project #: 212C-MD-01765
Date:01-02-2020

FIGURE 3a

Date: 1/8/2020 Document Path: H:\GIS\CONCHO RESOURCES - COG\212C-MD-01765 COG WHITE FED #1H\MXD\212C-MD-01765 WHITE FED #1H FIG. 3a.mxd

Tables

Table 1
COG
White Federal 1H Flowline (5-13-19)
Eddy County, NM

Sample ID	Sample Date	Sample Depth (ft)	BEB 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						
Pasture Area															
AH-1	5/21/2019	0-1	-	X	-	<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**4,280**
	"	1-1.5	-	X	-	-	-	-	-	-	-	-	-	-	**4,890**
	"	2-2.5	-	X	-	-	-	-	-	-	-	-	-	-	**5,600**
	"	2.5-3	-	X	-	-	-	-	-	-	-	-	-	-	**7,320**
AH-1	6/18/2019	0-1	-	X	-	-	-	-	-	-	-	-	-	-	36.9
	"	1-1.5	-	X	-	-	-	-	-	-	-	-	-	-	**680**
	"	2-2.5	-	X	-	-	-	-	-	-	-	-	-	-	34.9
	"	3-3.5	-	X	-	-	-	-	-	-	-	-	-	-	**2,430**
AH-2	5/21/2019	0-1	-	X	-	<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	**13,800**
	"	1-1.5	-	X	-	-	-	-	-	-	-	-	-	-	**17,600**
	"	2-2.5	-	X	-	-	-	-	-	-	-	-	-	-	**10,200**
AH-2	6/18/2019	0-1	-	X	-	-	-	-	-	-	-	-	-	-	**1,090**
	"	1-1.5	-	X	-	-	-	-	-	-	-	-	-	-	**2,110**
AH-3	5/21/2019	0-1	-	X	-	<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**11,400**
	"	1-1.5	-	X	-	-	-	-	-	-	-	-	-	-	**11,800**
AH-3	6/18/2019	0-1	-	X	-	-	-	-	-	-	-	-	-	-	171
	"	1-1.5	-	X	-	-	-	-	-	-	-	-	-	-	**2,250**
AH-4	5/21/2019	0-1	-	X	-	<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	**5,220**
	"	1-1.5	-	X	-	-	-	-	-	-	-	-	-	-	526
	"	2-2.5	-	X	-	-	-	-	-	-	-	-	-	-	582
	"	3-3.5	-	X	-	-	-	-	-	-	-	-	-	-	338
AH-4	6/18/2019	0-1	-	X	-	-	-	-	-	-	-	-	-	-	61.6
	"	1-1.5	-	X	-	-	-	-	-	-	-	-	-	-	78.9
	"	2-2.5	-	X	-	-	-	-	-	-	-	-	-	-	**1,390**
H-NW 1	5/21/2019	0-1		X		<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	**6,750**
	"	1-1.5		X		-	-	-	-	-	-	-	-	-	35.8
H-NW 2	5/21/2019	0-1		X		<14.9	<14.9	<14.9	<14.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	**1,460**
	"	1-1.5		X											276
H-NW 3	5/21/2019	0-1		X		<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	217
H-NW 4	5/21/2019	0-1		X		<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	279
H-NW 5	5/21/2019	0-1		X		<15.0	<15.0	<15.0	<15.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	260
H-NW 6	5/21/2019	0-1		X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**854**
	"	1-1.5		X		-	-	-	-	-	-	-	-	-	403
H-SE 1	5/21/2019	0-1		X		<14.9	<14.9	<14.9	<14.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**12,800**
	"	1-1.5		X		-	-	-	-	-	-	-	-	-	328
H-SE 2	5/21/2019	0-1		X		<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	71.1
H-SE 3	5/21/2019	0-1		X		<15.0	<15.0	<15.0	<15.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	48.2
H-SE 4	5/21/2019	0-1		X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**2,670**
	"	1-1.5		X		-	-	-	-	-	-	-	-	-	481

Table 1
COG
White Federal 1H Flowline (5-13-19)
Eddy County, NM

Sample ID	Sample Date	Sample Depth (ft)	BEB 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						
Draw Area															
AH-5	5/21/2019	0-1	-	X	-	<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	**17,800**
	"	1-1.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**15,600**
	"	2-2.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**8,170**
	"	3-3.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**1,450**
AH-5	6/18/2019	0-1	-	X	-	-	-	-	**-**	-	-	-	-	-	38.2
	"	1-1.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**4,260**
	"	2-2.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**8,060**
	"	3-3.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**7,510**
AH-6	5/22/2019	0-1	-	X	-	<15.0	<15.0	<15.0	<15.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	**15,100**
	"	1-1.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**947**
	"	2-2.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**19,000**
	"	3-3.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**20,100**
	"	4-4.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**16,600**
AH-6	6/18/2019	0-1	-	X	-	-	-	-	**-**	-	-	-	-	-	63.4
	"	1-1.5	-	X	-	-	-	-	**-**	-	-	-	-	-	96.5
	"	2-2.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**1,700**
	"	3-3.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**11,100**
	"	4-4.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**11,600**
	"	5-5.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**6,650**
AH-7	5/22/2019	0-1	-	X	-	<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	**19,900**
	"	1-1.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**12,500**
	"	2-2.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**12,100**
AH-7	6/18/2019	0-1	-	X	-	-	-	-	**-**	-	-	-	-	-	**716**
	"	1-1.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**1,890**
	"	2-2.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**5,570**
AH-8	5/22/2019	0-1	-	X	-	<15.0	21.1	<15.0	21.1	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	**18,800**
	"	1-1.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**22,300**
	"	2-2.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**1,400**
	"	3-3.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**5,010**
	"	4-4.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**3,180**
AH-8	6/18/2019	0-1	-	X	-	-	-	-	**-**	-	-	-	-	-	48.6
	"	1-1.5	-	X	-	-	-	-	**-**	-	-	-	-	-	542
	"	2-2.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**12,300**
AH-9	5/22/2019	0-1	-	X	-	<15.0	36.8	<15.0	36.8	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**6,250**
	"	1-1.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**19,100**
	"	2-2.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**19,600**
	"	3-3.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**9,250**
AH-9	6/18/2019	0-1	-	X	-	-	-	-	**-**	-	-	-	-	-	**2,110**
	"	1-1.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**7,050**
	"	2-2.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**5,920**
	"	3-3.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**9,710**

Table 1
COG
White Federal 1H Flowline (5-13-19)
Eddy County, NM

Sample ID	Sample Date	Sample Depth (ft)	BEB 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						
AH-10	5/22/2019	0-1	-	X	-	<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	**8,560**
	"	1-1.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**17,500**
	"	2-2.5	-	X	-	-	-	-	-	-	-	-	-	-	**564**
AH-10	6/18/2019	0-1	-	X	-	-	-	-	**-**	-	-	-	-	-	72.3
	"	1-1.5	-	X	-	-	-	-	**-**	-	-	-	-	-	454
	"	2-2.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**623**
AH-11	5/22/2019	0-1	-	X	-	<15.0	20.5	<15.0	20.5	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**6,730**
	"	1-1.5	-	X	-										**3,020**
	"	2-2.5	-	X	-	-	-	-	-	-	-	-	-	-	190
	"	3-3.5	-	X	-	-	-	-	-	-	-	-	-	-	**1,120**
AH-11	6/18/2019	0-1	-	X	-	-	-	-	**-**	-	-	-	-	-	52.2
	"	1-1.5	-	X	-	-	-	-	**-**	-	-	-	-	-	501
	"	2-2.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**8,560**
	"	3-3.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**3,330**
AH-12	5/22/2019	0-1	-	X	-	<15.0	<15.7	<15.0	<15.7	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	**6,230**
	"	1-1.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**7,010**
	"	2-2.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**6,030**
AH-12	6/18/2019	0-1	-	X	-	-	-	-	**-**	-	-	-	-	-	15.8
	"	1-1.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**1,470**
AH-13	5/22/2019	0-1	-	-		-	-	-	**-**	-	-	-	-	-	**6,090**
	"	1-1.5	-	-		-	-	-	**-**	-	-	-	-	-	**8,470**
AH-13	6/18/2019	0-1	-	X	-	-	-	-	**-**	-	-	-	-	-	37.4
	"	1-1.5	-	X	-	-	-	-	**-**	-	-	-	-	-	34.2
	"	2-2.5	-	X	-	-	-	-	**-**	-	-	-	-	-	**635**
AH-14	5/22/2019	0-1	-	-	-	-	-	-	**-**	-	-	-	-	-	**2,730**
AH-14	6/18/2019	0-1	-	X	-	-	-	-	**-**	-	-	-	-	-	24.9
	"	1-1.5	-	X	-	-	-	-	**-**	-	-	-	-	-	6.77
Background 1	5/22/2019	0-1	-	-	-	-	-	-	-	-	-	-	-	-	213
Background 2	5/22/2019	0-1	-	-	-	-	-	-	-	-	-	-	-	-	138
Background 3	5/22/2019	0-1	-	-	-	-	-	-	-	-	-	-	-	-	153
Background 4	5/22/2019	0-1	-	-	-	-	-	-	-	-	-	-	-	-	24.3

Photos

Concho

White Federal #1H Flowline

Eddy County, New Mexico

Facing Southwest, viewing AH-1 and AH-2

Facing Southwest, viewing area of AH-3 and AH-4

Concho

White Federal #1H Flowline

Eddy County, New Mexico

Facing Southeast, viewing AH-5 and BG-3

Facing West, viewing area of AH-6 and AH-7

Concho

White Federal #1H Flowline

Eddy County, New Mexico

Facing West, viewing AH-8

Facing East, viewing AH-9

Concho

White Federal #1H Flowline

Eddy County, New Mexico

Facing Northeast, viewing AH-10

Facing West, viewing AH-11

Concho

White Federal #1H Flowline

Eddy County, New Mexico

Facing Southwest, viewing AH-12

Facing West, viewing AH-13

Concho

White Federal #1H Flowline

Eddy County, New Mexico

Facing Northeast, viewing AH-14

Appendix A

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	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	COG Operating, LLC	OGRID	229137
Contact Name	Jennifer Knowlton	Contact Telephone	(575) 748-1570
Contact email	JKnowlton@concho.com	Incident # *(assigned by OCD)*	
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.11408 Longitude -103.97715
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	White Federal Com #001H	Site Type	Flowline
Date Release Discovered	May 17, 2019	API# *(if applicable)*	30-015-36185

Unit Letter	Section	Township	Range	County
L	22	25S	29E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
■ Produced Water	Volume Released (bbls) 20	Volume Recovered (bbls) 0
	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 release was caused by a hole in the flowline. The flowline has been repaired
The release was in the pasture. A vacuum truck was dispatched to remove all freestanding fluids. Concho will evaluate the site to determine if we may commence remediation immediately or delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ■ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

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: DeAnn Grant Title: HSE Administrative Assistant

Signature: DeAnn Grant Date: 5/24/2019

email: agrant@concho.com Telephone: (432) 253-4513

OCD Only

Received by: _____ Date: _____

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	NAB1914934715
District RP	2RP-5449
Facility ID	fAB1914934447
Application ID	pAB1914934518

Release Notification

Responsible Party

Responsible Party	COG Operating, LLC	OGRID	229137
Contact Name	Jennifer Knowlton	Contact Telephone	(575) 748-1570
Contact email	JKnowlton@concho.com	Incident # *(assigned by OCD)*	NAB1914934715
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.11408 Longitude -103.97715

(NAD 83 in decimal degrees to 5 decimal places)

Site Name	White Federal Com #001H	Site Type	Flowline
Date Release Discovered	May 13, 2019	API# *(if applicable)*	

Unit Letter	Section	Township	Range	County
L	22	25S	29E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
■ Produced Water	Volume Released (bbls) 46	Volume Recovered (bbls) 0
	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 release was caused by a ruptured flowline. The flowline has been repaired
The release was in the pasture. A vacuum truck was dispatched to remove all freestanding fluids. Concho will evaluate the site to determine if we may commence remediation immediately or delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

State of New Mexico
Oil Conservation Division

Incident ID	NAB1914934715
District RP	2RP-5449
Facility ID	fAB1914934447
Application ID	pAB1914934518

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? The volume released was greater than 25 barrels.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

Immediate notice was given by DeAnn Grant via e-mail May 14, 2019 at 9:10 am to Mike Bratcher and Crystal Weaver.

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: DeAnn Grant Title: HSE Administrative Assistant

Signature: DeAnn Grant Date: 5/14/2019

email: agrant@concho.com Telephone: (432) 253-4513

OCD Only

Received by: Date: 5/29/2019

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5449 and 2RP-5469
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?	60' (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.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5449 and 2RP-5469
Facility ID	
Application ID	

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

Printed Name: Ike Tavarez Title: Sr HSE Supervisor

Signature: Date: 02/11/2020

email: itavarez@concho.com Telephone: 432-701-8630

OCD Only

Received by: Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5449 and 2RP-5469
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.***

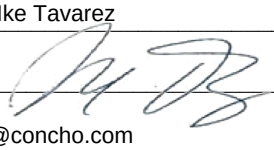
☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ 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: Ike Tavarez Title: Sr HSE Supervisor

Signature:  Date: 02/11/2020

email: itavarez@concho.com Telephone: 432-701-8630

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
White Federal Com #1H
Eddy County, New Mexico

24 South 28 East

6 70	5 30	4 30	3	2 55	1 60
7	8 50	9	10 17	11 20	12 73
18	17 42	16 29	15 18	14 52	13 34
19	20 48	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

24 South 29 East

6	5	4	3	2	1
7 160	8	9	10	11	12
18	17 4	16 18	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

24 South 30 East

6	5	4	3	2	1
7	8 186	9	10	11	12
18	17	16	15	14	13
19 231 150	20	21	22	23 400	24
30	29	28	27	26	25
31	32	33	34	35	36

25 South 28 East

6	5 59	4 35	3 32	2	1 Site
7	8	9	10	11	12
18 67	17	16	15 48 49	14	13
19	20 96	21	22	23	24
30	29 15	28 90	27	26 40	25
31	32	33	34	35	36 40

25 South 29 East

6 40	5 65	4	3	2	1
7	8	9 60	10 40	11	12
18	17	16 165	15 140 60	14	13
19	20	21	22 Site	23	24
30 30	29	28	27	26	25
31	32 98	33	34	35	36

25 South 30 East

6	5	4	3	2 295	1
7 264	8	9 295	10	11	12 390
18	17	16	15	14	13
19	20	21 265 268	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

26 South 28 East

6	5	4	3	2 120 21	1
7	8	9	10	11	12 100
18	17	16	15	14 120	13 56
19	20	21	22 120	23	24
30	29	28	27	26	25
31	32	33	34	35	36

26 South 29 East

6	5 78	4	3	2	1
7	8	9	10	11	12
18	17	16 125	15	14	13
19	20	21	22 57 69	23	24
30	29	28	27	26	25
31	32	33	34	35	36

26 South 30 East

6	5 179 180	4	3	2	1
7	8 172	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24 180
30	29	28	27	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

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y		DepthWell	DepthWater	Water Column
C 01337		C	ED		2	1	30	25S	29E	591926	3552642*		180	30	150
C 01880		C	ED	3	3	2	06	25S	29E	592161	3558605*		85	40	45
C 02371		C	ED		2	3	15	25S	29E	596741	3555106*		200	60	140
C 02459		C	ED	4	4	1	02	25S	29E	598422	3558663*		150		
C 02518		C	ED		3	4	08	25S	29E	593895	3556300*		462		
C 02680		CUB	ED		2	3	15	25S	29E	596741	3555106*		200		
C 04324 POD10		CUB	ED	1	1	1	09	25S	29E	594563	3557603		65	60	5
C 04324 POD11		CUB	ED	1	1	1	09	25S	29E	594576	3557619		61	61	0
C 04324 POD12		CUB	ED	2	2	2	08	25S	29E	594476	3557627		65	60	5
C 04324 POD6		CUB	ED	1	1	1	09	25S	29E	594538	3557657		62	61	1
C 04324 POD8		CUB	ED	4	4	4	05	25S	29E	594442	3557807		69	65	4
C 04324 POD9		CUB	ED	1	1	1	09	25S	29E	594590	3557676		72	62	10

Average Depth to Water: **55 feet**

Minimum Depth: **30 feet**

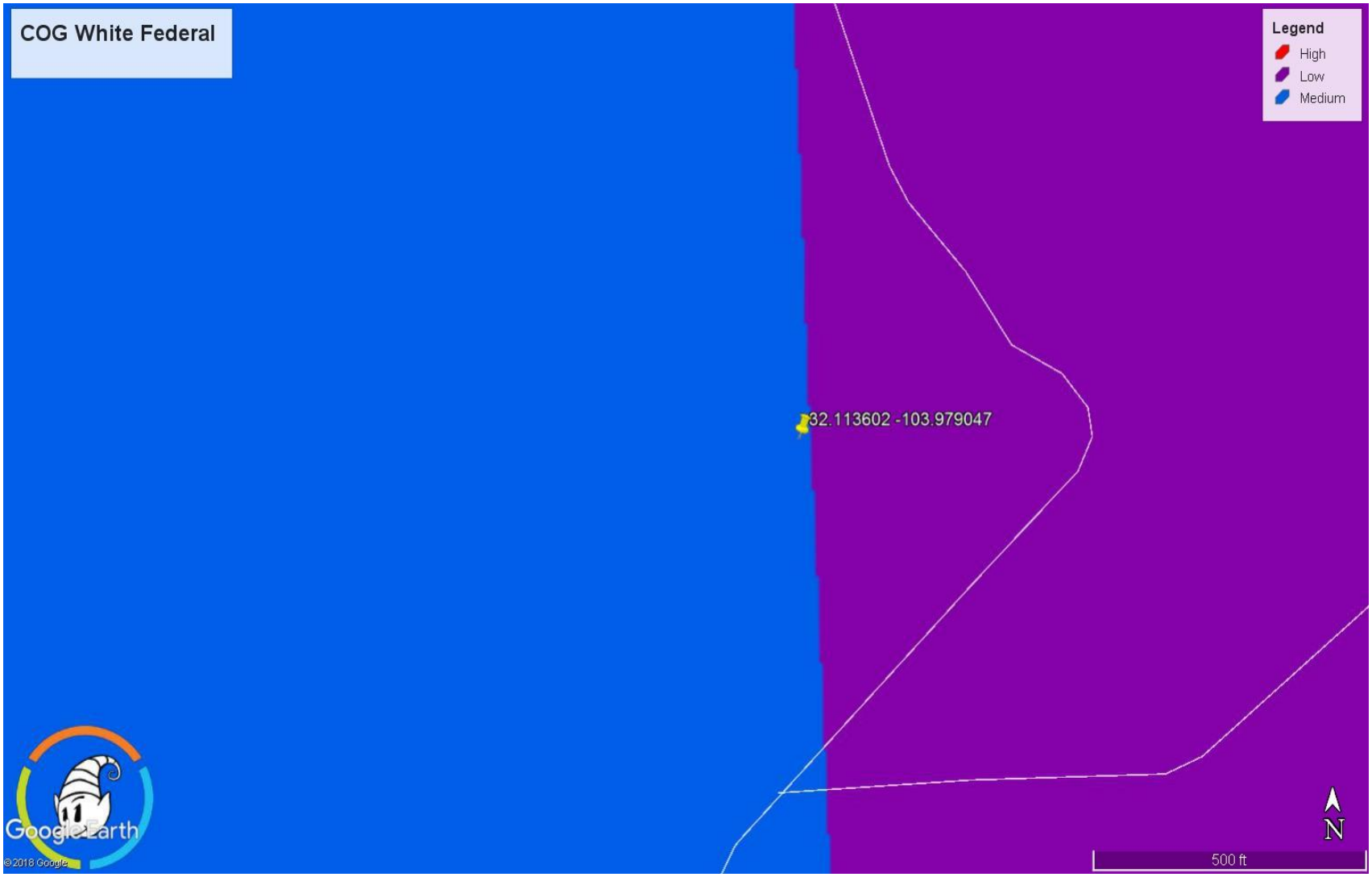
Maximum Depth: **65 feet**

Record Count: 12

PLSS Search:

Township: 25S **Range:** 29E

***UTM location was derived from PLSS - see Help**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Legend
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Low
Medium
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Google Earth
© 2018 Google
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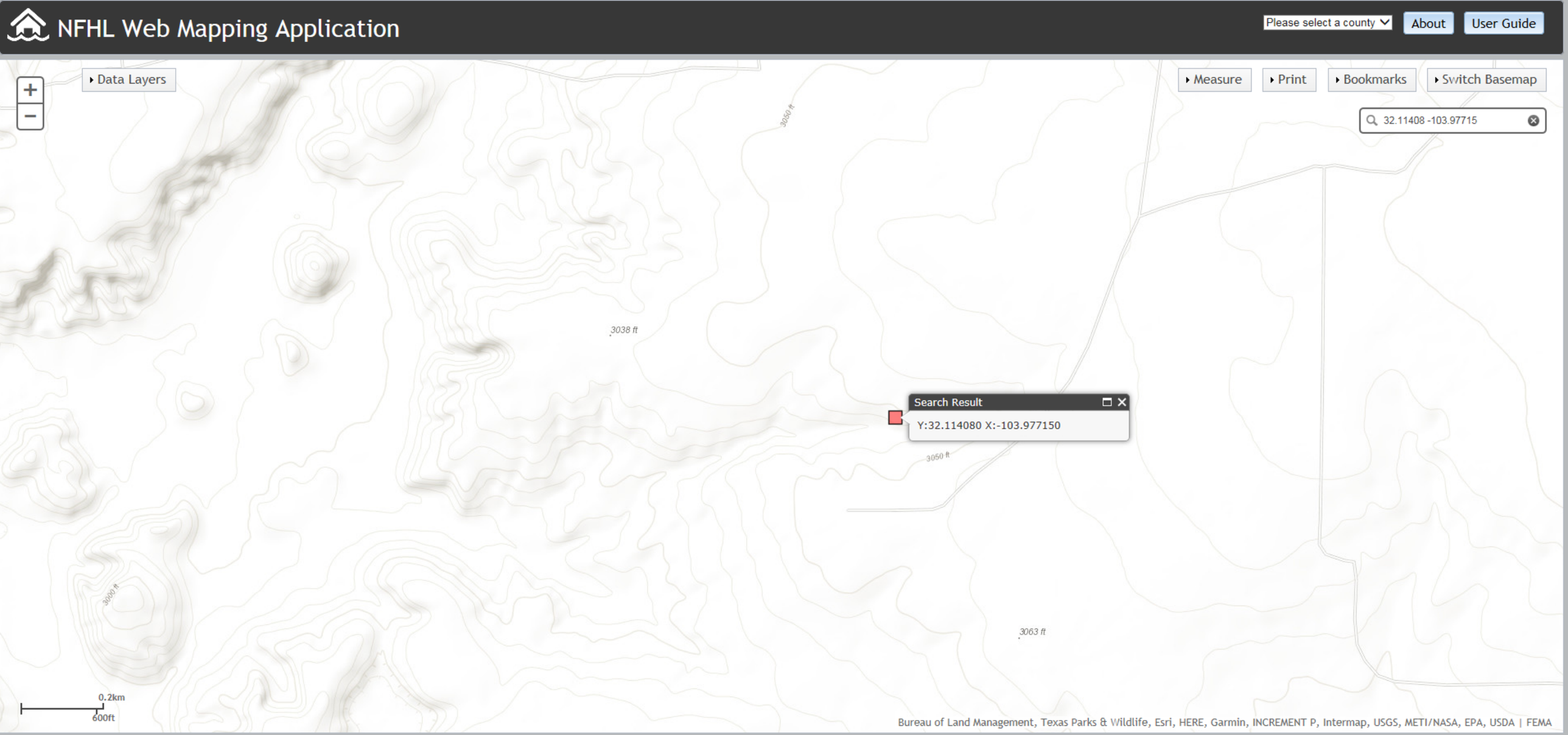
500 ft


NFHL Web Mapping Application
Please select a county
About
User Guide
Data Layers
Measure
Print
Bookmarks
Switch Basemap
32.11408 -103.97715
Search Result
Y:32.114080 X:-103.977150
3038 ft
3050 ft
3050 ft
3000 ft
3063 ft
0.2km
600ft
Bureau of Land Management, Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA | FEMA

Appendix C

Analytical Report 625280

for

Tetra Tech- Midland

Project Manager: Mike Carmona

White Federal 1H Flowline (5-13-19)

212C-MD-01765

30-MAY-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

30-MAY-19

Project Manager: **Mike Carmona**
Tetra Tech- Midland
901 West Wall ST
Midland, TX 79701

Reference: XENCO Report No(s): **625280**
White Federal 1H Flowline (5-13-19)
Project Address: Eddy County, New Mexcio

Mike Carmona:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 625280. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 625280 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 625280

Tetra Tech- Midland, Midland, TX

White Federal 1H Flowline (5-13-19)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH-1 (0-1')	S	05-21-19 00:00		625280-001
AH-1 (1'-1.5')	S	05-21-19 00:00		625280-002
AH-1 (2'-2.5')	S	05-21-19 00:00		625280-003
AH-1 (2.5'-3')	S	05-21-19 00:00		625280-004
AH-2 (0-1')	S	05-21-19 00:00		625280-005
AH-2 (1-1.5')	S	05-21-19 00:00		625280-006
AH-2 (2-2.5')	S	05-21-19 00:00		625280-007
AH-3 (0-1')	S	05-21-19 00:00		625280-008
AH-3 (1'-1.5')	S	05-21-19 00:00		625280-009
AH-4 (0-1')	S	05-21-19 00:00		625280-010
AH-4 (1'-1.5')	S	05-21-19 00:00		625280-011
AH-4 (2'-2.5')	S	05-21-19 00:00		625280-012
AH-4 (3'-3.5')	S	05-21-19 00:00		625280-013
AH-5 (0-1')	S	05-21-19 00:00		625280-014
AH-5 (1'-1.5')	S	05-21-19 00:00		625280-015
AH-5 (2'-2.5')	S	05-21-19 00:00		625280-016
AH-5 (3'-3.5')	S	05-22-19 00:00		625280-017
AH-6 (0-1')	S	05-22-19 00:00		625280-018
AH-6 (1'-1.5')	S	05-22-19 00:00		625280-019
AH-6 (2'-2.5')	S	05-22-19 00:00		625280-020
AH-6 (3'-3.5')	S	05-22-19 00:00		625280-021
AH-6 (4-4.5')	S	05-22-19 00:00		625280-022
AH-7 (0-1')	S	05-22-19 00:00		625280-023
AH-7 (1'-1.5')	S	05-22-19 00:00		625280-024
AH-7 (2'-2.5')	S	05-22-19 00:00		625280-025
AH-8 (0-1')	S	05-22-19 00:00		625280-026
AH-8 (1'-1.5')	S	05-22-19 00:00		625280-027
AH-8 (2'-2.5')	S	05-22-19 00:00		625280-028
AH-8 (3'-3.5')	S	05-22-19 00:00		625280-029
AH-8 (4-4.5')	S	05-22-19 00:00		625280-030
AH-9 (0-1')	S	05-22-19 00:00		625280-031
AH-9 (1'-1.5')	S	05-22-19 00:00		625280-032
AH-9 (2'-2.5')	S	05-22-19 00:00		625280-033
AH-9 (3'-3.5')	S	05-22-19 00:00		625280-034
AH-10 (0-1')	S	05-22-19 00:00		625280-035
AH-10 (1'-1.5')	S	05-22-19 00:00		625280-036
AH-10 (2'-2.5')	S	05-22-19 00:00		625280-037
AH-11 (0-1')	S	05-22-19 00:00		625280-038
AH-11 (1'-1.5')	S	05-22-19 00:00		625280-039
AH-11 (2'-2.5')	S	05-22-19 00:00		625280-040
AH-11 (3'-3.5')	S	05-22-19 00:00		625280-041
AH-12 (0-1')	S	05-21-19 00:00		625280-042
AH-12 (1'-1.5')	S	05-22-19 00:00		625280-043

AH-12 (2'-2.5')	S	05-22-19 00:00	625280-044
AH-13 (0-1')	S	05-22-19 00:00	625280-045
AH-13 (1'-1.5')	S	05-22-19 00:00	625280-046
AH-14 (0-1')	S	05-22-19 00:00	625280-047
BG-1 (0-1')	S	05-22-19 00:00	625280-048
BG-2 (0-1')	S	05-22-19 00:00	625280-049
BG-3 (0-1')	S	05-22-19 00:00	625280-050
BG-4 (0-1')	S	05-22-19 00:00	625280-051

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3090079 Inorganic Anions by EPA 300
Lab Sample ID 625334-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 625280-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3090083 Chloride by EPA 300
Lab Sample ID 625280-041 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 625280-034, -035, -036, -037, -038, -039, -040, -041, -042, -043, -044, -045, -046, -047, -048, -049, -050, -051.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3090390 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3090399 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3090434 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 625280

Tetra Tech- Midland, Midland, TX

Project Name: White Federal 1H Flowline (5-13-19)

Project Id: 212C-MD-01765
Contact: Mike Carmona
Project Location: Eddy County, New Mexcio

Date Received in Lab: Thu May-23-19 10:48 am
Report Date: 30-MAY-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	625280-001		625280-002		625280-003		625280-004		625280-005		625280-006	
	Field Id:	AH-1 (0-1')		AH-1 (1'-1.5')		AH-1 (2'-2.5')		AH-1 (2.5'-3')		AH-2 (0-1')		AH-2 (1-1.5')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-21-19 00:00		May-21-19 00:00		May-21-19 00:00		May-21-19 00:00		May-21-19 00:00		May-21-19 00:00	
BTEX by EPA 8021B	***Extracted:***	May-28-19 15:00								May-28-19 15:00			
	Analyzed:	May-28-19 17:35								May-28-19 21:23			
	Units/RL:	mg/kg	RL							mg/kg	RL		
Benzene		<0.00200	0.00200							<0.00201	0.00201		
Toluene		<0.00200	0.00200							<0.00201	0.00201		
Ethylbenzene		<0.00200	0.00200							<0.00201	0.00201		
m,p-Xylenes		<0.00400	0.00400							<0.00402	0.00402		
o-Xylene		<0.00200	0.00200							<0.00201	0.00201		
Total Xylenes		<0.00200	0.00200							<0.00201	0.00201		
Total BTEX		<0.00200	0.00200							<0.00201	0.00201		
Chloride by EPA 300	***Extracted:***	May-23-19 14:15		May-23-19 14:15		May-23-19 14:15		May-23-19 14:15		May-23-19 14:15		May-23-19 14:15	
	Analyzed:	May-23-19 23:22		May-23-19 23:30		May-23-19 23:37		May-23-19 23:44		May-23-19 23:52		May-24-19 00:21	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		4280	25.2	4890	49.6	5600	49.9	7320	50.1	13800	99.6	17600	100
TPH by SW8015 Mod	***Extracted:***	May-26-19 10:00								May-26-19 10:00			
	Analyzed:	May-26-19 12:25								May-26-19 13:23			
	Units/RL:	mg/kg	RL							mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0							<15.0	15.0		
Diesel Range Organics (DRO)		<15.0	15.0							<15.0	15.0		
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0							<15.0	15.0		
Total TPH		<15.0	15.0							<15.0	15.0		

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 625280

Tetra Tech- Midland, Midland, TX

Project Name: White Federal 1H Flowline (5-13-19)

Project Id: 212C-MD-01765
Contact: Mike Carmona
Project Location: Eddy County, New Mexcio

Date Received in Lab: Thu May-23-19 10:48 am
Report Date: 30-MAY-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	625280-007		625280-008		625280-009		625280-010		625280-011		625280-012	
	Field Id:	AH-2 (2-2.5')		AH-3 (0-1')		AH-3 (1'-1.5')		AH-4 (0-1')		AH-4 (1'-1.5')		AH-4 (2'-2.5')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-21-19 00:00		May-21-19 00:00		May-21-19 00:00		May-21-19 00:00		May-21-19 00:00		May-21-19 00:00	
BTEX by EPA 8021B	***Extracted:***			May-28-19 15:00				May-28-19 15:00					
	Analyzed:			May-28-19 21:42				May-28-19 22:01					
	Units/RL:			mg/kg	RL			mg/kg	RL				
Benzene				<0.00200	0.00200			<0.00201	0.00201				
Toluene				<0.00200	0.00200			<0.00201	0.00201				
Ethylbenzene				<0.00200	0.00200			<0.00201	0.00201				
m,p-Xylenes				<0.00400	0.00400			<0.00402	0.00402				
o-Xylene				<0.00200	0.00200			<0.00201	0.00201				
Total Xylenes				<0.00200	0.00200			<0.00201	0.00201				
Total BTEX				<0.00200	0.00200			<0.00201	0.00201				
Chloride by EPA 300	***Extracted:***	May-23-19 14:15		May-23-19 14:15		May-23-19 14:15		May-23-19 14:15		May-23-19 14:15		May-23-19 14:15	
	Analyzed:	May-24-19 00:28		May-24-19 00:50		May-24-19 00:57		May-24-19 01:04		May-23-19 23:59		May-24-19 01:11	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		10200	49.9	11400	99.0	11800	101	5220	49.8	526	4.95	582	5.05
TPH by SW8015 Mod	***Extracted:***			May-26-19 10:00				May-26-19 10:00					
	Analyzed:			May-26-19 13:43				May-26-19 14:02					
	Units/RL:			mg/kg	RL			mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)				<15.0	15.0			<15.0	15.0				
Diesel Range Organics (DRO)				<15.0	15.0			<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)				<15.0	15.0			<15.0	15.0				
Total TPH				<15.0	15.0			<15.0	15.0				

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 625280

Tetra Tech- Midland, Midland, TX

Project Name: White Federal 1H Flowline (5-13-19)

Project Id: 212C-MD-01765
Contact: Mike Carmona
Project Location: Eddy County, New Mexcio

Date Received in Lab: Thu May-23-19 10:48 am
Report Date: 30-MAY-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	625280-013		625280-014		625280-015		625280-016		625280-017		625280-018	
	Field Id:	AH-4 (3'-3.5')		AH-5 (0-1')		AH-5 (1'-1.5')		AH-5 (2'-2.5')		AH-5 (3'-3.5')		AH-6 (0-1')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-21-19 00:00		May-21-19 00:00		May-21-19 00:00		May-21-19 00:00		May-22-19 00:00		May-22-19 00:00	
BTEX by EPA 8021B	***Extracted:***			May-28-19 15:00								May-28-19 15:00	
	Analyzed:			May-28-19 22:20								May-28-19 22:39	
	Units/RL:			mg/kg	RL							mg/kg	RL
Benzene				<0.00199	0.00199							<0.00202	0.00202
Toluene				<0.00199	0.00199							<0.00202	0.00202
Ethylbenzene				<0.00199	0.00199							<0.00202	0.00202
m,p-Xylenes				<0.00398	0.00398							<0.00403	0.00403
o-Xylene				<0.00199	0.00199							<0.00202	0.00202
Total Xylenes				<0.00199	0.00199							<0.00202	0.00202
Total BTEX				<0.00199	0.00199							<0.00202	0.00202
Chloride by EPA 300	***Extracted:***	May-23-19 14:15		May-23-19 14:15		May-23-19 14:15		May-23-19 15:00		May-23-19 15:00		May-23-19 15:00	
	Analyzed:	May-24-19 01:19		May-24-19 01:26		May-24-19 01:33		May-24-19 02:38		May-24-19 02:46		May-24-19 02:53	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		338	4.96	17800	100	15600	100	8170	49.5	1450	5.02	15100	99.6
TPH by SW8015 Mod	***Extracted:***			May-26-19 10:00								May-26-19 10:00	
	Analyzed:			May-26-19 14:21								May-26-19 14:41	
	Units/RL:			mg/kg	RL							mg/kg	RL
Gasoline Range Hydrocarbons (GRO)				<15.0	15.0							<15.0	15.0
Diesel Range Organics (DRO)				<15.0	15.0							<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)				<15.0	15.0							<15.0	15.0
Total TPH				<15.0	15.0							<15.0	15.0

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 625280

Tetra Tech- Midland, Midland, TX

Project Name: White Federal 1H Flowline (5-13-19)

Project Id: 212C-MD-01765
Contact: Mike Carmona
Project Location: Eddy County, New Mexcio

Date Received in Lab: Thu May-23-19 10:48 am
Report Date: 30-MAY-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	625280-019		625280-020		625280-021		625280-022		625280-023		625280-024	
	Field Id:	AH-6 (1'-1.5')		AH-6 (2'-2.5')		AH-6 (3'-3.5')		AH-6 (4-4.5')		AH-7 (0-1')		AH-7 (1'-1.5')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-22-19 00:00		May-22-19 00:00		May-22-19 00:00		May-22-19 00:00		May-22-19 00:00		May-22-19 00:00	
BTEX by EPA 8021B	***Extracted:***									May-28-19 15:00			
	Analyzed:									May-28-19 22:58			
	Units/RL:									mg/kg	RL		
Benzene										<0.00199	0.00199		
Toluene										<0.00199	0.00199		
Ethylbenzene										<0.00199	0.00199		
m,p-Xylenes										<0.00398	0.00398		
o-Xylene										<0.00199	0.00199		
Total Xylenes										<0.00199	0.00199		
Total BTEX										<0.00199	0.00199		
Chloride by EPA 300	***Extracted:***	May-23-19 15:00		May-23-19 15:00		May-23-19 15:00		May-23-19 15:00		May-23-19 15:00		May-23-19 15:00	
	Analyzed:	May-24-19 03:00		May-24-19 03:22		May-24-19 03:29		May-24-19 03:36		May-24-19 03:44		May-24-19 03:51	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		947	5.05	19000	100	20100	101	16600	99.6	19900	251	12500	99.0
TPH by SW8015 Mod	***Extracted:***									May-26-19 10:00			
	Analyzed:									May-26-19 15:02			
	Units/RL:									mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)										<15.0	15.0		
Diesel Range Organics (DRO)										<15.0	15.0		
Motor Oil Range Hydrocarbons (MRO)										<15.0	15.0		
Total TPH										<15.0	15.0		

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 625280

Tetra Tech- Midland, Midland, TX

Project Name: White Federal 1H Flowline (5-13-19)

Project Id: 212C-MD-01765
Contact: Mike Carmona
Project Location: Eddy County, New Mexcio

Date Received in Lab: Thu May-23-19 10:48 am
Report Date: 30-MAY-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	625280-025		625280-026		625280-027		625280-028		625280-029		625280-030	
	Field Id:	AH-7 (2'-2.5')		AH-8 (0-1')		AH-8 (1'-1.5')		AH-8 (2'-2.5')		AH-8 (3'-3.5')		AH-8 (4-4.5')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-22-19 00:00		May-22-19 00:00		May-22-19 00:00		May-22-19 00:00		May-22-19 00:00		May-22-19 00:00	
BTEX by EPA 8021B	***Extracted:***			May-28-19 15:00									
	Analyzed:			May-28-19 23:17									
	Units/RL:			mg/kg	RL								
Benzene				<0.00199	0.00199								
Toluene				<0.00199	0.00199								
Ethylbenzene				<0.00199	0.00199								
m,p-Xylenes				<0.00398	0.00398								
o-Xylene				<0.00199	0.00199								
Total Xylenes				<0.00199	0.00199								
Total BTEX				<0.00199	0.00199								
Chloride by EPA 300	***Extracted:***	May-23-19 15:00		May-23-19 15:00		May-23-19 15:00		May-23-19 15:00		May-23-19 15:00		May-23-19 15:00	
	Analyzed:	May-24-19 04:20		May-24-19 04:27		May-24-19 04:49		May-24-19 04:56		May-24-19 05:03		May-24-19 05:11	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		12100	99.6	18800	252	22300	248	1400	25.0	5010	24.9	3180	25.1
TPH by SW8015 Mod	***Extracted:***			May-26-19 10:00									
	Analyzed:			May-26-19 15:23									
	Units/RL:			mg/kg	RL								
Gasoline Range Hydrocarbons (GRO)				<15.0	15.0								
Diesel Range Organics (DRO)				21.1	15.0								
Motor Oil Range Hydrocarbons (MRO)				<15.0	15.0								
Total TPH				21.1	15.0								

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 625280

Tetra Tech- Midland, Midland, TX

Project Name: White Federal 1H Flowline (5-13-19)

Project Id: 212C-MD-01765
Contact: Mike Carmona
Project Location: Eddy County, New Mexcio

Date Received in Lab: Thu May-23-19 10:48 am
Report Date: 30-MAY-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	625280-031		625280-032		625280-033		625280-034		625280-035		625280-036	
	Field Id:	AH-9 (0-1')		AH-9 (1'-1.5')		AH-9 (2'-2.5')		AH-9 (3'-3.5')		AH-10 (0-1')		AH-10 (1'-1.5')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-22-19 00:00		May-22-19 00:00		May-22-19 00:00		May-22-19 00:00		May-22-19 00:00		May-22-19 00:00	
BTEX by EPA 8021B	***Extracted:***	May-28-19 15:00								May-28-19 15:00			
	Analyzed:	May-28-19 23:36								May-28-19 23:55			
	Units/RL:	mg/kg	RL							mg/kg	RL		
Benzene		<0.00200	0.00200							<0.00201	0.00201		
Toluene		<0.00200	0.00200							<0.00201	0.00201		
Ethylbenzene		<0.00200	0.00200							<0.00201	0.00201		
m,p-Xylenes		<0.00400	0.00400							<0.00402	0.00402		
o-Xylene		<0.00200	0.00200							<0.00201	0.00201		
Total Xylenes		<0.00200	0.00200							<0.00201	0.00201		
Total BTEX		<0.00200	0.00200							<0.00201	0.00201		
Chloride by EPA 300	***Extracted:***	May-23-19 15:00		May-23-19 15:00		May-23-19 15:00		May-23-19 15:30		May-23-19 15:30		May-23-19 15:30	
	Analyzed:	May-24-19 05:18		May-24-19 05:25		May-24-19 05:32		May-23-19 19:29		May-23-19 19:34		May-23-19 19:39	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		6250	50.0	19100	100	19600	100	9250	50.4	8560	49.6	17500	99.8
TPH by SW8015 Mod	***Extracted:***	May-26-19 10:00								May-26-19 10:00			
	Analyzed:	May-26-19 15:43								May-26-19 16:03			
	Units/RL:	mg/kg	RL							mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0							<15.0	15.0		
Diesel Range Organics (DRO)		36.8	15.0							<15.0	15.0		
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0							<15.0	15.0		
Total TPH		36.8	15.0							<15.0	15.0		

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 625280

Tetra Tech- Midland, Midland, TX

Project Name: White Federal 1H Flowline (5-13-19)

Project Id: 212C-MD-01765
Contact: Mike Carmona
Project Location: Eddy County, New Mexcio

Date Received in Lab: Thu May-23-19 10:48 am
Report Date: 30-MAY-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	625280-037		625280-038		625280-039		625280-040		625280-041		625280-042	
	Field Id:	AH-10 (2'-2.5')		AH-11 (0-1')		AH-11 (1'-1.5')		AH-11 (2'-2.5')		AH-11 (3'-3.5')		AH-12 (0-1')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-22-19 00:00		May-22-19 00:00		May-22-19 00:00		May-22-19 00:00		May-22-19 00:00		May-21-19 00:00	
BTEX by EPA 8021B	***Extracted:***			May-28-19 15:00								May-28-19 16:00	
	Analyzed:			May-29-19 00:14								May-29-19 03:22	
	Units/RL:			mg/kg	RL							mg/kg	RL
Benzene				<0.00200	0.00200							<0.00201	0.00201
Toluene				<0.00200	0.00200							<0.00201	0.00201
Ethylbenzene				<0.00200	0.00200							<0.00201	0.00201
m,p-Xylenes				<0.00399	0.00399							<0.00402	0.00402
o-Xylene				<0.00200	0.00200							<0.00201	0.00201
Total Xylenes				<0.00200	0.00200							<0.00201	0.00201
Total BTEX				<0.00200	0.00200							<0.00201	0.00201
Chloride by EPA 300	***Extracted:***	May-23-19 15:30		May-23-19 15:30		May-23-19 15:30		May-23-19 15:30		May-23-19 15:30		May-23-19 15:30	
	Analyzed:	May-23-19 19:14		May-23-19 19:44		May-23-19 19:59		May-23-19 20:04		May-23-19 20:24		May-23-19 20:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		564	5.02	6730	49.7	3020	25.2	190	4.99	1120	4.99	6230	50.3
TPH by SW8015 Mod	***Extracted:***			May-26-19 10:00								May-26-19 10:00	
	Analyzed:			May-26-19 16:43								May-26-19 17:03	
	Units/RL:			mg/kg	RL							mg/kg	RL
Gasoline Range Hydrocarbons (GRO)				<15.0	15.0							<15.0	15.0
Diesel Range Organics (DRO)				20.5	15.0							15.7	15.0
Motor Oil Range Hydrocarbons (MRO)				<15.0	15.0							<15.0	15.0
Total TPH				20.5	15.0							15.7	15.0

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 625280

Tetra Tech- Midland, Midland, TX

Project Name: White Federal 1H Flowline (5-13-19)

Project Id: 212C-MD-01765
Contact: Mike Carmona
Project Location: Eddy County, New Mexcio

Date Received in Lab: Thu May-23-19 10:48 am
Report Date: 30-MAY-19
Project Manager: Jessica Kramer

Analysis Requested	*Lab Id:*	625280-043		625280-044		625280-045		625280-046		625280-047		625280-048	
	Field Id:	AH-12 (1'-1.5')		AH-12 (2'-2.5')		AH-13 (0-1')		AH-13 (1'-1.5')		AH-14 (0-1')		BG-1 (0-1')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-22-19 00:00		May-22-19 00:00		May-22-19 00:00		May-22-19 00:00		May-22-19 00:00		May-22-19 00:00	
BTEX by EPA 8021B	*Extracted:*					May-28-19 16:00				May-28-19 16:00		May-28-19 15:15	
	Analyzed:					May-29-19 03:41				May-29-19 04:00		May-28-19 17:27	
	Units/RL:					mg/kg	RL			mg/kg	RL	mg/kg	RL
Benzene						<0.00200	0.00200			<0.00201	0.00201	<0.00198	0.00198
Toluene						<0.00200	0.00200			<0.00201	0.00201	<0.00198	0.00198
Ethylbenzene						<0.00200	0.00200			<0.00201	0.00201	<0.00198	0.00198
m,p-Xylenes						<0.00399	0.00399			<0.00402	0.00402	<0.00397	0.00397
o-Xylene						<0.00200	0.00200			<0.00201	0.00201	<0.00198	0.00198
Total Xylenes						<0.00200	0.00200			<0.00201	0.00201	<0.00198	0.00198
Total BTEX						<0.00200	0.00200			<0.00201	0.00201	<0.00198	0.00198
Chloride by EPA 300	*Extracted:*	May-23-19 15:30		May-23-19 15:30		May-23-19 15:30		May-23-19 15:30		May-23-19 15:30		May-23-19 15:30	
	Analyzed:	May-23-19 20:14		May-23-19 20:19		May-25-19 11:53		May-23-19 20:43		May-23-19 20:58		May-23-19 21:03	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		7010	49.8	6030	50.0	6090	25.0	8470	50.3	2730	24.8	213	4.97
TPH by SW8015 Mod	*Extracted:*					May-26-19 10:00				May-26-19 10:00		May-26-19 10:00	
	Analyzed:					May-26-19 17:23				May-26-19 17:42		May-26-19 18:03	
	Units/RL:					mg/kg	RL			mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)						<15.0	15.0			<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)						17.9	15.0			34.7	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)						<15.0	15.0			<15.0	15.0	<15.0	15.0
Total TPH						17.9	15.0			34.7	15.0	<15.0	15.0

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 625280

Tetra Tech- Midland, Midland, TX

Project Name: White Federal 1H Flowline (5-13-19)

Project Id: 212C-MD-01765
Contact: Mike Carmona
Project Location: Eddy County, New Mexcio

Date Received in Lab: Thu May-23-19 10:48 am
Report Date: 30-MAY-19
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	625280-049		625280-050		625280-051				
	Field Id:	BG-2 (0-1')		BG-3 (0-1')		BG-4 (0-1')				
	Depth:									
	Matrix:	SOIL		SOIL		SOIL				
	Sampled:	May-22-19 00:00		May-22-19 00:00		May-22-19 00:00				
BTEX by EPA 8021B	***Extracted:***	May-28-19 15:15		May-28-19 15:15		May-28-19 15:15				
	Analyzed:	May-28-19 17:46		May-28-19 21:13		May-28-19 21:32				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Benzene		<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202			
Toluene		<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202			
Ethylbenzene		<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202			
m,p-Xylenes		<0.00402	0.00402	<0.00398	0.00398	<0.00404	0.00404			
o-Xylene		<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202			
Total Xylenes		<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202			
Total BTEX		<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202			
Chloride by EPA 300	***Extracted:***	May-23-19 15:30		May-23-19 15:30		May-23-19 15:30				
	Analyzed:	May-23-19 21:08		May-23-19 21:13		May-23-19 21:18				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Chloride		138	4.95	153	4.95	24.3	4.95			
TPH by SW8015 Mod	***Extracted:***	May-26-19 10:00		May-26-19 10:00		May-29-19 11:00				
	Analyzed:	May-26-19 18:22		May-26-19 18:42		May-29-19 20:28				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0			
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0			
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0			
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0			

Jessica Kramer
Project Assistant

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Orders : 625280,

Project ID: 212C-MD-01765

Lab Batch #: 3090431 **Sample:** 625280-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/26/19 12:25

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.0	99.8	90	70-135	
o-Terphenyl	44.0	49.9	88	70-135	

Lab Batch #: 3090431 **Sample:** 625280-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/26/19 13:23

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.2	99.7	94	70-135	
o-Terphenyl	46.3	49.9	93	70-135	

Lab Batch #: 3090431 **Sample:** 625280-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/26/19 13:43

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.0	99.8	93	70-135	
o-Terphenyl	46.2	49.9	93	70-135	

Lab Batch #: 3090431 **Sample:** 625280-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/26/19 14:02

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.4	99.9	91	70-135	
o-Terphenyl	44.8	50.0	90	70-135	

Lab Batch #: 3090431 **Sample:** 625280-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/26/19 14:21

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.5	99.9	92	70-135	
o-Terphenyl	45.2	50.0	90	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Orders : 625280,

Project ID: 212C-MD-01765

Lab Batch #: 3090431 **Sample:** 625280-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/26/19 14:41

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.4	100	88	70-135	
o-Terphenyl	43.7	50.0	87	70-135	

Lab Batch #: 3090431 **Sample:** 625280-023 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/26/19 15:02

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.4	99.8	92	70-135	
o-Terphenyl	45.0	49.9	90	70-135	

Lab Batch #: 3090431 **Sample:** 625280-026 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/26/19 15:23

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.3	99.7	88	70-135	
o-Terphenyl	43.0	49.9	86	70-135	

Lab Batch #: 3090431 **Sample:** 625280-031 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/26/19 15:43

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.5	99.7	91	70-135	
o-Terphenyl	44.6	49.9	89	70-135	

Lab Batch #: 3090431 **Sample:** 625280-035 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/26/19 16:03

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.4	99.9	91	70-135	
o-Terphenyl	44.4	50.0	89	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Orders : 625280,

Project ID: 212C-MD-01765

Lab Batch #: 3090431 **Sample:** 625280-038 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/26/19 16:43

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.2	99.9	92	70-135	
o-Terphenyl	45.1	50.0	90	70-135	

Lab Batch #: 3090431 **Sample:** 625280-042 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/26/19 17:03

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.9	99.8	93	70-135	
o-Terphenyl	45.9	49.9	92	70-135	

Lab Batch #: 3090431 **Sample:** 625280-045 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/26/19 17:23

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.2	100	93	70-135	
o-Terphenyl	46.1	50.0	92	70-135	

Lab Batch #: 3090431 **Sample:** 625280-047 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/26/19 17:42

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.2	100	92	70-135	
o-Terphenyl	45.4	50.0	91	70-135	

Lab Batch #: 3090431 **Sample:** 625280-048 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/26/19 18:03

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.6	99.7	93	70-135	
o-Terphenyl	45.5	49.9	91	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Orders : 625280,

Project ID: 212C-MD-01765

Lab Batch #: 3090431 **Sample:** 625280-049 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/26/19 18:22

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.2	99.9	92	70-135	
o-Terphenyl	44.4	50.0	89	70-135	

Lab Batch #: 3090431 **Sample:** 625280-050 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/26/19 18:42

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.1	99.8	93	70-135	
o-Terphenyl	45.1	49.9	90	70-135	

Lab Batch #: 3090399 **Sample:** 625280-048 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 17:27

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0291	0.0300	97	70-130	
4-Bromofluorobenzene	0.0342	0.0300	114	70-130	

Lab Batch #: 3090390 **Sample:** 625280-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 17:35

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	70-130	
4-Bromofluorobenzene	0.0277	0.0300	92	70-130	

Lab Batch #: 3090399 **Sample:** 625280-049 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 17:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	70-130	
4-Bromofluorobenzene	0.0345	0.0300	115	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Orders : 625280,

Project ID: 212C-MD-01765

Lab Batch #: 3090399 **Sample:** 625280-050 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 21:13

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	70-130	
4-Bromofluorobenzene	0.0338	0.0300	113	70-130	

Lab Batch #: 3090390 **Sample:** 625280-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 21:23

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0298	0.0300	99	70-130	
4-Bromofluorobenzene	0.0288	0.0300	96	70-130	

Lab Batch #: 3090399 **Sample:** 625280-051 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 21:32

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	70-130	
4-Bromofluorobenzene	0.0351	0.0300	117	70-130	

Lab Batch #: 3090390 **Sample:** 625280-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 21:42

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	70-130	
4-Bromofluorobenzene	0.0281	0.0300	94	70-130	

Lab Batch #: 3090390 **Sample:** 625280-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 22:01

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	70-130	
4-Bromofluorobenzene	0.0292	0.0300	97	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Orders : 625280,

Project ID: 212C-MD-01765

Lab Batch #: 3090390 **Sample:** 625280-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 22:20

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0318	0.0300	106	70-130	
4-Bromofluorobenzene	0.0315	0.0300	105	70-130	

Lab Batch #: 3090390 **Sample:** 625280-018 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 22:39

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0315	0.0300	105	70-130	
4-Bromofluorobenzene	0.0304	0.0300	101	70-130	

Lab Batch #: 3090390 **Sample:** 625280-023 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 22:58

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	70-130	
4-Bromofluorobenzene	0.0305	0.0300	102	70-130	

Lab Batch #: 3090390 **Sample:** 625280-026 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 23:17

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	70-130	
4-Bromofluorobenzene	0.0288	0.0300	96	70-130	

Lab Batch #: 3090390 **Sample:** 625280-031 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 23:36

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	70-130	
4-Bromofluorobenzene	0.0298	0.0300	99	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Orders : 625280,

Project ID: 212C-MD-01765

Lab Batch #: 3090390 **Sample:** 625280-035 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 23:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0310	0.0300	103	70-130	
4-Bromofluorobenzene	0.0303	0.0300	101	70-130	

Lab Batch #: 3090390 **Sample:** 625280-038 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/29/19 00:14

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0310	0.0300	103	70-130	
4-Bromofluorobenzene	0.0308	0.0300	103	70-130	

Lab Batch #: 3090434 **Sample:** 625280-042 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/29/19 03:22

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	70-130	
4-Bromofluorobenzene	0.0279	0.0300	93	70-130	

Lab Batch #: 3090434 **Sample:** 625280-045 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/29/19 03:41

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	70-130	
4-Bromofluorobenzene	0.0304	0.0300	101	70-130	

Lab Batch #: 3090434 **Sample:** 625280-047 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/29/19 04:00

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	70-130	
4-Bromofluorobenzene	0.0306	0.0300	102	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Orders : 625280,

Project ID: 212C-MD-01765

Lab Batch #: 3090586 **Sample:** 625280-051 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/29/19 20:28

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.4	99.9	91	70-135	
o-Terphenyl	44.1	50.0	88	70-135	

Lab Batch #: 3090431 **Sample:** 7678725-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/26/19 11:26

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.6	100	93	70-135	
o-Terphenyl	46.4	50.0	93	70-135	

Lab Batch #: 3090399 **Sample:** 7678713-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/28/19 16:50

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	70-130	
4-Bromofluorobenzene	0.0313	0.0300	104	70-130	

Lab Batch #: 3090390 **Sample:** 7678711-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/28/19 16:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0279	0.0300	93	70-130	
4-Bromofluorobenzene	0.0241	0.0300	80	70-130	

Lab Batch #: 3090434 **Sample:** 7678719-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/29/19 02:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	70-130	
4-Bromofluorobenzene	0.0246	0.0300	82	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Orders : 625280,

Project ID: 212C-MD-01765

Lab Batch #: 3090586 **Sample:** 7678857-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/29/19 12:43

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.1	100	95	70-135	
o-Terphenyl	47.9	50.0	96	70-135	

Lab Batch #: 3090431 **Sample:** 7678725-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/26/19 11:45

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	100	125	70-135	
o-Terphenyl	62.2	50.0	124	70-135	

Lab Batch #: 3090399 **Sample:** 7678713-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/28/19 15:16

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0266	0.0300	89	70-130	
4-Bromofluorobenzene	0.0302	0.0300	101	70-130	

Lab Batch #: 3090390 **Sample:** 7678711-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/28/19 15:18

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0317	0.0300	106	70-130	
4-Bromofluorobenzene	0.0283	0.0300	94	70-130	

Lab Batch #: 3090434 **Sample:** 7678719-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/29/19 01:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	70-130	
4-Bromofluorobenzene	0.0281	0.0300	94	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Orders : 625280,

Project ID: 212C-MD-01765

Lab Batch #: 3090586 **Sample:** 7678857-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/29/19 13:02

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	100	119	70-135	
o-Terphenyl	52.2	50.0	104	70-135	

Lab Batch #: 3090431 **Sample:** 7678725-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/26/19 12:05

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	126	100	126	70-135	
o-Terphenyl	63.2	50.0	126	70-135	

Lab Batch #: 3090399 **Sample:** 7678713-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/28/19 15:35

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	70-130	
4-Bromofluorobenzene	0.0302	0.0300	101	70-130	

Lab Batch #: 3090390 **Sample:** 7678711-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/28/19 15:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0318	0.0300	106	70-130	
4-Bromofluorobenzene	0.0294	0.0300	98	70-130	

Lab Batch #: 3090434 **Sample:** 7678719-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/29/19 01:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	70-130	
4-Bromofluorobenzene	0.0292	0.0300	97	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Orders : 625280,

Project ID: 212C-MD-01765

Lab Batch #: 3090586 **Sample:** 7678857-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/29/19 13:22

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	100	121	70-135	
o-Terphenyl	57.1	50.0	114	70-135	

Lab Batch #: 3090431 **Sample:** 625280-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/26/19 12:44

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	99.8	113	70-135	
o-Terphenyl	45.6	49.9	91	70-135	

Lab Batch #: 3090399 **Sample:** 625614-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 15:54

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	70-130	
4-Bromofluorobenzene	0.0311	0.0300	104	70-130	

Lab Batch #: 3090390 **Sample:** 625613-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 15:58

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0318	0.0300	106	70-130	
4-Bromofluorobenzene	0.0299	0.0300	100	70-130	

Lab Batch #: 3090434 **Sample:** 625615-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/29/19 01:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	70-130	
4-Bromofluorobenzene	0.0296	0.0300	99	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Orders : 625280,

Project ID: 212C-MD-01765

Lab Batch #: 3090586 **Sample:** 625759-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/29/19 14:01

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.8	117	70-135	
o-Terphenyl	53.1	49.9	106	70-135	

Lab Batch #: 3090431 **Sample:** 625280-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/26/19 13:04

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	52.7	50.0	105	70-135	

Lab Batch #: 3090399 **Sample:** 625614-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 16:13

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	70-130	
4-Bromofluorobenzene	0.0332	0.0300	111	70-130	

Lab Batch #: 3090390 **Sample:** 625613-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 16:17

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0327	0.0300	109	70-130	
4-Bromofluorobenzene	0.0271	0.0300	90	70-130	

Lab Batch #: 3090434 **Sample:** 625615-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/29/19 02:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0310	0.0300	103	70-130	
4-Bromofluorobenzene	0.0270	0.0300	90	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Orders : 625280, **Project ID:** 212C-MD-01765

Lab Batch #: 3090586 **Sample:** 625759-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/29/19 14:20

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	99.9	119	70-135	
o-Terphenyl	53.1	50.0	106	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Order #: 625280 **Project ID:** 212C-MD-01765

Analyst: SCM **Date Prepared:** 05/28/2019 **Date Analyzed:** 05/28/2019

Lab Batch ID: 3090390 **Sample:** 7678711-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000383	0.0996	0.107	107	0.101	0.120	119	11	70-130	35	
Toluene	<0.000454	0.0996	0.0996	100	0.101	0.111	110	11	70-130	35	
Ethylbenzene	<0.000563	0.0996	0.106	106	0.101	0.118	117	11	70-130	35	
m,p-Xylenes	<0.00101	0.199	0.220	111	0.202	0.246	122	11	70-130	35	
o-Xylene	<0.000343	0.0996	0.108	108	0.101	0.121	120	11	70-130	35	

Analyst: SCM **Date Prepared:** 05/28/2019 **Date Analyzed:** 05/28/2019

Lab Batch ID: 3090399 **Sample:** 7678713-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.0998	0.101	101	0.100	0.103	103	2	70-130	35	
Toluene	<0.00200	0.0998	0.102	102	0.100	0.101	101	1	70-130	35	
Ethylbenzene	<0.00200	0.0998	0.115	115	0.100	0.114	114	1	70-130	35	
m,p-Xylenes	<0.00399	0.200	0.241	121	0.201	0.236	117	2	70-130	35	
o-Xylene	<0.00200	0.0998	0.114	114	0.100	0.113	113	1	70-130	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Order #: 625280 **Project ID:** 212C-MD-01765

Analyst: SCM **Date Prepared:** 05/28/2019 **Date Analyzed:** 05/29/2019

Lab Batch ID: 3090434 **Sample:** 7678719-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000383	0.0996	0.103	103	0.0994	0.0997	100	3	70-130	35	
Toluene	<0.000454	0.0996	0.0954	96	0.0994	0.0915	92	4	70-130	35	
Ethylbenzene	<0.000563	0.0996	0.101	101	0.0994	0.0956	96	5	70-130	35	
m,p-Xylenes	<0.00101	0.199	0.207	104	0.199	0.198	99	4	70-130	35	
o-Xylene	<0.000343	0.0996	0.102	102	0.0994	0.0998	100	2	70-130	35	

Analyst: CHE **Date Prepared:** 05/23/2019 **Date Analyzed:** 05/23/2019

Lab Batch ID: 3090079 **Sample:** 7678489-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.858	250	243	97	250	243	97	0	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Order #: 625280 **Project ID:** 212C-MD-01765

Analyst: CHE **Date Prepared:** 05/23/2019 **Date Analyzed:** 05/24/2019

Lab Batch ID: 3090081 **Sample:** 7678490-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	246	98	250	246	98	0	90-110	20	

Analyst: CHE **Date Prepared:** 05/23/2019 **Date Analyzed:** 05/23/2019

Lab Batch ID: 3090083 **Sample:** 7678491-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	258	103	250	259	104	0	90-110	20	

Analyst: ARM **Date Prepared:** 05/26/2019 **Date Analyzed:** 05/26/2019

Lab Batch ID: 3090431 **Sample:** 7678725-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1120	112	1000	1120	112	0	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	1040	104	1000	1040	104	0	70-135	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Order #: 625280 **Project ID:** 212C-MD-01765

Analyst: ARM **Date Prepared:** 05/29/2019 **Date Analyzed:** 05/29/2019

Lab Batch ID: 3090586 **Sample:** 7678857-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1070	107	1000	1060	106	1	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	1010	101	1000	1020	102	1	70-135	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Order # : 625280 **Project ID:** 212C-MD-01765

Lab Batch ID: 3090390 **QC- Sample ID:** 625613-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/28/2019 **Date Prepared:** 05/28/2019 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000384	0.0998	0.110	110	0.100	0.0909	91	19	70-130	35	
Toluene	<0.000455	0.0998	0.102	102	0.100	0.0826	83	21	70-130	35	
Ethylbenzene	<0.000564	0.0998	0.109	109	0.100	0.0849	85	25	70-130	35	
m,p-Xylenes	<0.00101	0.200	0.227	114	0.200	0.174	87	26	70-130	35	
o-Xylene	0.000451	0.0998	0.110	110	0.100	0.0837	83	27	70-130	35	

Lab Batch ID: 3090399 **QC- Sample ID:** 625614-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/28/2019 **Date Prepared:** 05/28/2019 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.100	0.0761	76	0.101	0.0652	65	15	70-130	35	X
Toluene	<0.00200	0.100	0.0766	77	0.101	0.0741	73	3	70-130	35	
Ethylbenzene	<0.00200	0.100	0.0856	86	0.101	0.0751	74	13	70-130	35	
m,p-Xylenes	<0.00401	0.200	0.180	90	0.201	0.136	68	28	70-130	35	X
o-Xylene	<0.00200	0.100	0.0855	86	0.101	0.0629	62	30	70-130	35	X

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Order # : 625280 **Project ID:** 212C-MD-01765

Lab Batch ID: 3090434 **QC- Sample ID:** 625615-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/29/2019 **Date Prepared:** 05/28/2019 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000386	0.100	0.101	101	0.0992	0.106	107	5	70-130	35	
Toluene	<0.000457	0.100	0.0928	93	0.0992	0.0970	98	4	70-130	35	
Ethylbenzene	<0.000566	0.100	0.0967	97	0.0992	0.102	103	5	70-130	35	
m,p-Xylenes	<0.00102	0.200	0.200	100	0.198	0.208	105	4	70-130	35	
o-Xylene	0.000360	0.100	0.0987	98	0.0992	0.100	100	1	70-130	35	

Lab Batch ID: 3090079 **QC- Sample ID:** 625280-011 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/24/2019 **Date Prepared:** 05/23/2019 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	526	248	661	54	248	734	84	10	90-110	20	X

Lab Batch ID: 3090079 **QC- Sample ID:** 625334-001 S **Batch #:** 1 **Matrix:** Sludge

Date Analyzed: 05/23/2019 **Date Prepared:** 05/23/2019 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	109	250	355	98	250	353	98	1	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Order # : 625280 **Project ID:** 212C-MD-01765

Lab Batch ID: 3090081 **QC- Sample ID:** 625281-012 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/24/2019 **Date Prepared:** 05/23/2019 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	71.1	250	317	98	250	320	100	1	90-110	20	

Lab Batch ID: 3090081 **QC- Sample ID:** 625281-013 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/24/2019 **Date Prepared:** 05/23/2019 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	48.2	248	274	91	248	292	98	6	90-110	20	

Lab Batch ID: 3090083 **QC- Sample ID:** 625280-037 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/23/2019 **Date Prepared:** 05/23/2019 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	564	251	810	98	251	807	97	0	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Order # : 625280 **Project ID:** 212C-MD-01765

Lab Batch ID: 3090083 **QC- Sample ID:** 625280-041 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/23/2019 **Date Prepared:** 05/23/2019 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	1120	250	1320	80	250	1320	80	0	90-110	20	X

Lab Batch ID: 3090431 **QC- Sample ID:** 625280-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/26/2019 **Date Prepared:** 05/26/2019 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	998	1060	106	1000	1080	108	2	70-135	20	
Diesel Range Organics (DRO)	8.92	998	1020	101	1000	1030	102	1	70-135	20	

Lab Batch ID: 3090586 **QC- Sample ID:** 625759-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/29/2019 **Date Prepared:** 05/29/2019 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	998	1070	107	999	1080	108	1	70-135	20	
Diesel Range Organics (DRO)	<8.11	998	1020	102	999	1060	106	4	70-135	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Analysis Request of Chain of Custody Record

WFS280

Tetra Tech, Inc.

900 West Wall Street, Ste 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: COG	**Site Manager:** Mike Carmona
Project Name: White Federal 1H Flowline (5-13-19)	
Project Location: (county, state) Eddy County, New Mexico	**Project #:** 212C-MD-01765
Invoice to: Ike Tavarez	
Receiving Laboratory: Xenco	**Sampler Signature:** Devin Dominguez

Comments: Run deeper samples if TPH (GRO + DRO + MRO) exceeds 1,000 mg/kg. run deeper samples if benzene exceeds 10 mg/kg or Total BTEX exceeds 50 mg/kg.

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# 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	TPH 8015R			Hold
	AH-1 (0-1')	5/21/2019			X				X			1	N	X		X												X							
	AH-1 (1'-1.5')	5/21/2019			X				X			1	N															X							
	AH-1 (2'-2.5')	5/21/2019			X				X			1	N															X							
	AH-1 (2.5'-3')	5/21/2019			X				X			1	N															X							
	AH-2 (0-1')	5/21/2019			X				X			1	N	X		X												X							
	AH-2 (1'-1.5')	5/21/2019			X				X			1	N															X							
	AH-2 (2'-2.5')	5/21/2019			X				X			1	N															X							
	AH-3 (0-1')	5/21/2019			X				X			1	N	X		X												X							
	AH-3 (1'-1.5')	5/21/2019			X				X			1	N															X							
	AH-4 (0-1')	5/21/2019			X				X			1	N	X		X												X							

ANALYSIS REQUEST
(Circle or Specify Method No.)

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	5.23.19			5/23/19	1048
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature 3.3/3.1

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 #: _____

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Final 1.000

Analysis Request of Chain of Custody Record

675280

Tetra Tech, Inc.

900 West Wall Street, Ste 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

Client Name:	COG	**Site Manager:**	Mike Carmona
Project Name:	White Federal 1H Flowline (5-13-19)		
Project Location: (county, state)	Eddy County, New Mexico	**Project #:**	212C-MD-01765
Invoice to:	Ike Tavarez		
Receiving Laboratory:	Xenco	**Sampler Signature:**	Devin Dominguez

Comments: Run deeper samples if TPH (GRO + DRO + MRO) exceeds 1,000 mg/kg. run deeper samples if benzene exceeds 10 mg/kg or Total BTEX exceeds 50 mg/kg.

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# 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	TPH 8015R			Hold
	AH-4 (1'-1.5')	5/21/2019			X				X			1	N															X							
	AH-4 (2'-2.5')	5/21/2019			X				X			1	N															X							
	AH-4 (3'-3.5')	5/21/2019			X				X			1	N															X							
	AH-5 (0-1')	5/22/2019			X				X			1	N	X		X												X							
	AH-5 (1'-1.5')	5/22/2019			X				X			1	N															X							
	AH-5 (2'-2.5')	5/22/2019			X				X			1	N															X							
	AH-5 (3'-3.5')	5/22/2019			X				X			1	N															X							
	AH-6 (0-1')	5/22/2019			X				X			1	N	X		X												X							
	AH-6 (1'-1.5')	5/22/2019			X				X			1	N															X							
	AH-6 (2'-2.5')	5/22/2019			X				X			1	N															X							

Relinquished by:	Date: 5-23-19	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Received by: Date: 5/23/19 Time: 1418

LAB USE ONLY

Sample Temperature 3.3/3.1

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

Analysis Request of Chain of Custody Record

W25200

Tetra Tech, Inc.

900 West Wall Street, Ste 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

Client Name:	COG	**Site Manager:**	Mike Carmona
Project Name:	White Federal 1H Flowline (5-13-19)		
Project Location: (county, state)	Eddy County, New Mexico	**Project #:**	212C-MD-01765
Invoice to:	Ike Tavarez		
Receiving Laboratory:	Xenco	**Sampler Signature:**	Devin Dominguez

Comments: Run deeper samples if TPH (GRO + DRO + MRO) exceeds 1,000 mg/kg. run deeper samples if benzene exceeds 10 mg/kg or Total BTEX exceeds 50 mg/kg.

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# 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	TPH 8015R			Hold
	AH-6 (3'-3.5')	5/22/2019			X				X			1	N															X							
	AH-6 (4'-4.5')	5/22/2019			X				X			1	N															X							
	AH-7 (0-1')	5/22/2019			X				X			1	N	X		X												X							
	AH-7 (1'-1.5')	5/22/2019			X				X			1	N															X							
	AH-7 (2'-2.5')	5/22/2019			X				X			1	N															X							
	AH-8 (0-1')	5/22/2019			X				X			1	N	X		X												X							
	AH-8 (1'-1.5')	5/22/2019			X				X			1	N															X							
	AH-8 (2'-2.5')	5/22/2019			X				X			1	N															X							
	AH-8 (3'-3.5')	5/22/2019			X				X			1	N															X							
	AH-8 (4'-4.5')	5/22/2019			X				X			1	N															X							

Relinquished by:	Date: 5-23-19	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Received by: Date: 5/23/19 Time: 1048

LAB USE ONLY

Sample Temperature 3.3/3.1

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 #: _____

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Analysis Request of Chain of Custody Record

Page 4 of 5

Tetra Tech, Inc.

900 West Wall Street, Ste 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

Client Name:	COG	**Site Manager:**	Mike Carmona
Project Name:	White Federal 1H Flowline (5-13-19)		
Project Location: (county, state)	Eddy County, New Mexico	**Project #:**	212C-MD-01765
Invoice to:	Ike Tavarez		
Receiving Laboratory:	Xenco	**Sampler Signature:**	Devin Dominguez

Comments: Run deeper samples if TPH (GRO + DRO + MRO) exceeds 1,000 mg/kg. run deeper samples if benzene exceeds 10 mg/kg or Total BTEX exceeds 50 mg/kg.

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# 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	TPH 8015R			Hold
	AH-9 (0-1')	5/22/2019			X				X			1	N	X		X												X							
	AH-9 (1'-1.5')	5/22/2019			X				X			1	N															X							
	AH-9 (2'-2.5')	5/22/2019			X				X			1	N															X							
	AH-9 (3'-3.5')	5/22/2019			X				X			1	N															X							
	AH-10 (0-1')	5/22/2019			X				X			1	N	X		X												X							
	AH-10 (1'-1.5')	5/22/2019			X				X			1	N															X							
	AH-10 (2'-2.5')	5/22/2019			X				X			1	N															X							
	AH-11 (0-1')	5/22/2019			X				X			1	N	X		X												X							
	AH-11 (1'-1.5')	5/22/2019			X				X			1	N															X							
	AH-11 (2'-2.5')	5/22/2019			X				X			1	N															X							

Relinquished by:	Date: 5-23-19	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Received by: Date: 5/23/19 Time: 1048

LAB USE ONLY

Sample Temperature 3.3/3.1

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 #: _____

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Analysis Request of Chain of Custody Record

125890

Tetra Tech, Inc.

900 West Wall Street, Ste 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

Client Name:	COG	**Site Manager:**	Mike Carmona
Project Name:	White Federal 1H Flowline (5-13-19)		
Project Location: (county, state)	Eddy County, New Mexico	**Project #:**	212C-MD-01765
Invoice to:	Ike Tavarez		
Receiving Laboratory:	Xenco	**Sampler Signature:**	Devin Dominguez

Comments: Run deeper samples if TPH (GRO + DRO + MRO) exceeds 1,000 mg/kg. run deeper samples if benzene exceeds 10 mg/kg or Total BTEX exceeds 50 mg/kg.

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	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	TPH 8015R			Hold
	AH-11 (3'-3.5')	5/22/2019			X				X			1	N															X							
	AH-12 (0'-1')	5/22/2019			X				X			1	N	X		X												X							
	AH-12 (1'-1.5')	5/22/2019			X				X			1	N															X							
	AH-12 (2'-2.5')	5/22/2019			X				X			1	N															X							
	AH-13 (0-1')	5/22/2019			X				X			1	N	X		X												X							
	AH-13 (1'-1.5')	5/22/2019			X				X			1	N															X							
	AH-14 (0-1')	5/22/2019			X				X			1	N	X		X												X							
	BG-1 (0-1')	5/22/2019			X				X			1	N	X		X												X							
	BG-2 (0-1')	5/22/2019			X				X			1	N	X		X												X							
	BG-3 (0-1')	5/22/2019			X				X			1	N	X		X												X							
	BG-4 (0-1')	5/22/2019			X				X			1	N	X		X												X							

Relinquished by: 5/23/19	Date:	Time:	Received by: 5/23/19	Date:	Time: 1140
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature 3.3 / 3.1

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 #: _____

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 05/23/2019 10:48:00 AM

Work Order #: 625280

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.1
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 05/23/2019

Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/28/2019

Jessica Kramer

Analytical Report 625281

for

Tetra Tech- Midland

Project Manager: Mike Carmona

White Federal 1H Flowline (5-13-19)

212C-MD-01765

29-MAY-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

29-MAY-19

Project Manager: **Mike Carmona**
Tetra Tech- Midland
901 West Wall ST
Midland, TX 79701

Reference: XENCO Report No(s): **625281**
White Federal 1H Flowline (5-13-19)
Project Address: Eddy County, New Mexico

Mike Carmona:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 625281. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 625281 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 625281

Tetra Tech- Midland, Midland, TX

White Federal 1H Flowline (5-13-19)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Horizontal NW-1 (0-1')	S	05-21-19 00:00		625281-001
Horizontal NW-1 (1'-1.5')	S	05-21-19 00:00		625281-002
Horizontal NW-2 (0-1')	S	05-21-19 00:00		625281-003
Horizontal NW-2 (1'-1.5')	S	05-21-19 00:00		625281-004
Horizontal NW-3 (0-1')	S	05-21-19 00:00		625281-005
Horizontal NW-4 (0-1')	S	05-21-19 00:00		625281-006
Horizontal NW-5 (0-1')	S	05-21-19 00:00		625281-007
Horizontal NW-6 (0-1')	S	05-21-19 00:00		625281-008
Horizontal NW-6 (1'-1.5')	S	05-21-19 00:00		625281-009
Horizontal SE-1 (0-1')	S	05-21-19 00:00		625281-010
Horizontal SE-1 (1-1.5')	S	05-21-19 00:00		625281-011
Horizontal SE-2 (0-1')	S	05-21-19 00:00		625281-012
Horizontal SE-3 (0-1')	S	05-21-19 00:00		625281-013
Horizontal SE-4 (0-1')	S	05-21-19 00:00		625281-014
Horizontal SE-4 (1-1.5')	S	05-21-19 00:00		625281-015

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3090088 Chloride by EPA 300
Lab Sample ID 625335-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Chloride recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference.
Samples in the analytical batch are: 625281-003, -004, -005, -006, -007, -008, -009, -010, -011, -014.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3090331 TPH by SW8015 Mod
Surrogate o-Terphenyl recovered below QC limits. Matrix interferences is suspected.
Samples affected are: 625281-008,625281-007.

Batch: LBA-3090399 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.
Samples affected are: 625281-012,625281-008.

Batch: LBA-3090434 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 625281

Tetra Tech- Midland, Midland, TX

Project Name: White Federal 1H Flowline (5-13-19)

Project Id: 212C-MD-01765
Contact: Mike Carmona
Project Location: Eddy County, New Mexico

Date Received in Lab: Thu May-23-19 10:48 am
Report Date: 29-MAY-19
Project Manager: Jessica Kramer

Analysis Requested	*Lab Id:*	625281-001		625281-002		625281-003		625281-004		625281-005		625281-006	
	Field Id:	Horizontal NW-1 (0-1')		Horizontal NW-1 (1'-1.5')		Horizontal NW-2 (0-1')		Horizontal NW-2 (1'-1.5')		Horizontal NW-3 (0-1')		Horizontal NW-4 (0-1')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-21-19 00:00		May-21-19 00:00		May-21-19 00:00		May-21-19 00:00		May-21-19 00:00		May-21-19 00:00	
BTEX by EPA 8021B	*Extracted:*	May-28-19 15:15				May-28-19 15:15				May-28-19 15:15		May-28-19 15:15	
	Analyzed:	May-28-19 21:51				May-28-19 22:10				May-28-19 22:29		May-28-19 22:48	
	Units/RL:	mg/kg	RL			mg/kg	RL			mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199			<0.00198	0.00198			<0.00201	0.00201	<0.00199	0.00199
Toluene		<0.00199	0.00199			<0.00198	0.00198			<0.00201	0.00201	<0.00199	0.00199
Ethylbenzene		<0.00199	0.00199			<0.00198	0.00198			<0.00201	0.00201	<0.00199	0.00199
m,p-Xylenes		<0.00398	0.00398			<0.00397	0.00397			<0.00402	0.00402	<0.00398	0.00398
o-Xylene		<0.00199	0.00199			<0.00198	0.00198			<0.00201	0.00201	<0.00199	0.00199
Total Xylenes		<0.00199	0.00199			<0.00198	0.00198			<0.00201	0.00201	<0.00199	0.00199
Total BTEX		<0.00199	0.00199			<0.00198	0.00198			<0.00201	0.00201	<0.00199	0.00199
Chloride by EPA 300	*Extracted:*	May-23-19 15:30		May-23-19 15:30		May-23-19 16:40		May-23-19 16:40		May-23-19 16:40		May-23-19 16:40	
	Analyzed:	May-23-19 21:23		May-23-19 21:28		May-24-19 06:38		May-24-19 06:16		May-24-19 06:45		May-24-19 06:52	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		6750	49.5	35.8	4.99	1460	5.03	276	4.96	217	4.99	279	4.96
TPH by SW8015 Mod	*Extracted:*	May-25-19 10:00				May-25-19 10:00				May-25-19 10:00		May-25-19 10:00	
	Analyzed:	May-25-19 18:40				May-25-19 19:05				May-25-19 19:29		May-25-19 20:18	
	Units/RL:	mg/kg	RL			mg/kg	RL			mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0			<14.9	14.9			<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0			<14.9	14.9			<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0			<14.9	14.9			<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0			<14.9	14.9			<15.0	15.0	<15.0	15.0

Certificate of Analysis Summary 625281

Tetra Tech- Midland, Midland, TX

Project Name: White Federal 1H Flowline (5-13-19)

Project Id: 212C-MD-01765
Contact: Mike Carmona
Project Location: Eddy County, New Mexico

Date Received in Lab: Thu May-23-19 10:48 am
Report Date: 29-MAY-19
Project Manager: Jessica Kramer

Analysis Requested	*Lab Id:*	625281-007		625281-008		625281-009		625281-010		625281-011		625281-012	
	Field Id:	Horizontal NW-5 (0-1')		Horizontal NW-6 (0-1')		Horizontal NW-6 (1'-1.5')		Horizontal SE-1 (0-1')		Horizontal SE-1 (1-1.5')		Horizontal SE-2 (0-1')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-21-19 00:00		May-21-19 00:00		May-21-19 00:00		May-21-19 00:00		May-21-19 00:00		May-21-19 00:00	
BTEX by EPA 8021B	*Extracted:*	May-28-19 15:15		May-28-19 15:15				May-28-19 15:15				May-28-19 15:15	
	Analyzed:	May-28-19 23:07		May-28-19 23:26				May-28-19 23:45				May-29-19 00:04	
	Units/RL:	mg/kg	RL	mg/kg	RL			mg/kg	RL			mg/kg	RL
Benzene		<0.00202	0.00202	<0.00200	0.00200			<0.00200	0.00200			<0.00201	0.00201
Toluene		<0.00202	0.00202	<0.00200	0.00200			<0.00200	0.00200			<0.00201	0.00201
Ethylbenzene		<0.00202	0.00202	<0.00200	0.00200			<0.00200	0.00200			<0.00201	0.00201
m,p-Xylenes		<0.00403	0.00403	<0.00399	0.00399			<0.00400	0.00400			<0.00402	0.00402
o-Xylene		<0.00202	0.00202	<0.00200	0.00200			<0.00200	0.00200			<0.00201	0.00201
Total Xylenes		<0.00202	0.00202	<0.00200	0.00200			<0.00200	0.00200			<0.00201	0.00201
Total BTEX		<0.00202	0.00202	<0.00200	0.00200			<0.00200	0.00200			<0.00201	0.00201
Chloride by EPA 300	*Extracted:*	May-23-19 16:40		May-23-19 16:40		May-23-19 16:40		May-23-19 16:40		May-23-19 16:40		May-23-19 15:00	
	Analyzed:	May-24-19 06:59		May-24-19 07:21		May-24-19 07:29		May-24-19 07:36		May-24-19 07:43		May-24-19 02:17	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		260	5.05	854	4.98	403	5.00	12800	100	328	5.00	71.1	4.99
TPH by SW8015 Mod	*Extracted:*	May-25-19 10:00		May-25-19 10:00				May-25-19 10:00				May-25-19 10:00	
	Analyzed:	May-25-19 20:43		May-25-19 21:07				May-25-19 21:32				May-25-19 21:56	
	Units/RL:	mg/kg	RL	mg/kg	RL			mg/kg	RL			mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0			<14.9	14.9			<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0			<14.9	14.9			<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0			<14.9	14.9			<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0			<14.9	14.9			<15.0	15.0

Certificate of Analysis Summary 625281

Tetra Tech- Midland, Midland, TX

Project Name: White Federal 1H Flowline (5-13-19)

Project Id: 212C-MD-01765
Contact: Mike Carmona
Project Location: Eddy County, New Mexico

Date Received in Lab: Thu May-23-19 10:48 am
Report Date: 29-MAY-19
Project Manager: Jessica Kramer

Analysis Requested												
	Lab Id:	625281-013		625281-014		625281-015						
	Field Id:	Horizontal SE-3 (0-1')		Horizontal SE-4 (0-1')		Horizontal SE-4 (1-1.5')						
	Depth:											
	Matrix:	SOIL		SOIL		SOIL						
	Sampled:	May-21-19 00:00		May-21-19 00:00		May-21-19 00:00						
BTEX by EPA 8021B	***Extracted:***	May-28-19 16:00		May-28-19 16:00								
	Analyzed:	May-29-19 04:19		May-29-19 04:38								
	Units/RL:	mg/kg	RL	mg/kg	RL							
Benzene		<0.00198	0.00198	<0.00200	0.00200							
Toluene		<0.00198	0.00198	<0.00200	0.00200							
Ethylbenzene		<0.00198	0.00198	<0.00200	0.00200							
m,p-Xylenes		<0.00397	0.00397	<0.00401	0.00401							
o-Xylene		<0.00198	0.00198	<0.00200	0.00200							
Total Xylenes		<0.00198	0.00198	<0.00200	0.00200							
Total BTEX		<0.00198	0.00198	<0.00200	0.00200							
Chloride by EPA 300	***Extracted:***	May-23-19 15:00		May-23-19 16:40		May-28-19 13:10						
	Analyzed:	May-24-19 03:58		May-24-19 07:50		May-28-19 18:17						
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL					
Chloride		48.2	4.95	2670	25.0	481	4.96					
TPH by SW8015 Mod	***Extracted:***	May-25-19 10:00		May-25-19 10:00								
	Analyzed:	May-25-19 22:21		May-25-19 22:45								
	Units/RL:	mg/kg	RL	mg/kg	RL							
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0							
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0							
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0							
Total TPH		<15.0	15.0	<15.0	15.0							

Jessica Kramer
Project Assistant

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Orders : 625281,

Project ID: 212C-MD-01765

Lab Batch #: 3090331 **Sample:** 625281-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/25/19 18:40

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.7	102	70-135	
o-Terphenyl	47.0	49.9	94	70-135	

Lab Batch #: 3090331 **Sample:** 625281-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/25/19 19:05

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.6	102	70-135	
o-Terphenyl	37.0	49.8	74	70-135	

Lab Batch #: 3090331 **Sample:** 625281-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/25/19 19:29

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.9	102	70-135	
o-Terphenyl	39.2	50.0	78	70-135	

Lab Batch #: 3090331 **Sample:** 625281-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/25/19 20:18

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.9	99.7	95	70-135	
o-Terphenyl	42.8	49.9	86	70-135	

Lab Batch #: 3090331 **Sample:** 625281-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/25/19 20:43

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.5	99.7	90	70-135	
o-Terphenyl	34.2	49.9	69	70-135	**

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Orders : 625281,

Project ID: 212C-MD-01765

Lab Batch #: 3090331 **Sample:** 625281-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/25/19 21:07

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.9	99.8	88	70-135	
o-Terphenyl	34.4	49.9	69	70-135	**

Lab Batch #: 3090331 **Sample:** 625281-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/25/19 21:32

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.0	99.6	98	70-135	
o-Terphenyl	46.2	49.8	93	70-135	

Lab Batch #: 3090331 **Sample:** 625281-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/25/19 21:56

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.4	99.8	93	70-135	
o-Terphenyl	39.9	49.9	80	70-135	

Lab Batch #: 3090331 **Sample:** 625281-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/25/19 22:21

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.1	100	98	70-135	
o-Terphenyl	41.3	50.0	83	70-135	

Lab Batch #: 3090331 **Sample:** 625281-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/25/19 22:45

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.1	99.9	90	70-135	
o-Terphenyl	38.5	50.0	77	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Orders : 625281,

Project ID: 212C-MD-01765

Lab Batch #: 3090399 **Sample:** 625281-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 21:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	70-130	
4-Bromofluorobenzene	0.0341	0.0300	114	70-130	

Lab Batch #: 3090399 **Sample:** 625281-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 22:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0284	0.0300	95	70-130	
4-Bromofluorobenzene	0.0357	0.0300	119	70-130	

Lab Batch #: 3090399 **Sample:** 625281-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 22:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0282	0.0300	94	70-130	
4-Bromofluorobenzene	0.0355	0.0300	118	70-130	

Lab Batch #: 3090399 **Sample:** 625281-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 22:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0284	0.0300	95	70-130	
4-Bromofluorobenzene	0.0355	0.0300	118	70-130	

Lab Batch #: 3090399 **Sample:** 625281-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 23:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0284	0.0300	95	70-130	
4-Bromofluorobenzene	0.0359	0.0300	120	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Orders : 625281,

Project ID: 212C-MD-01765

Lab Batch #: 3090399 **Sample:** 625281-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 23:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0278	0.0300	93	70-130	
4-Bromofluorobenzene	0.0432	0.0300	144	70-130	**

Lab Batch #: 3090399 **Sample:** 625281-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 23:45

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	70-130	
4-Bromofluorobenzene	0.0356	0.0300	119	70-130	

Lab Batch #: 3090399 **Sample:** 625281-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/29/19 00:04

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0262	0.0300	87	70-130	
4-Bromofluorobenzene	0.0415	0.0300	138	70-130	**

Lab Batch #: 3090434 **Sample:** 625281-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/29/19 04:19

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	70-130	
4-Bromofluorobenzene	0.0295	0.0300	98	70-130	

Lab Batch #: 3090434 **Sample:** 625281-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/29/19 04:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0314	0.0300	105	70-130	
4-Bromofluorobenzene	0.0310	0.0300	103	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Orders : 625281,

Project ID: 212C-MD-01765

Lab Batch #: 3090331 **Sample:** 7678657-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/25/19 13:41

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.7	100	99	70-135	
o-Terphenyl	51.8	50.0	104	70-135	

Lab Batch #: 3090399 **Sample:** 7678713-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/28/19 16:50

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	70-130	
4-Bromofluorobenzene	0.0313	0.0300	104	70-130	

Lab Batch #: 3090434 **Sample:** 7678719-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/29/19 02:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	70-130	
4-Bromofluorobenzene	0.0246	0.0300	82	70-130	

Lab Batch #: 3090331 **Sample:** 7678657-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/25/19 14:06

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.4	100	97	70-135	
o-Terphenyl	54.6	50.0	109	70-135	

Lab Batch #: 3090399 **Sample:** 7678713-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/28/19 15:16

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0266	0.0300	89	70-130	
4-Bromofluorobenzene	0.0302	0.0300	101	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Orders : 625281,

Project ID: 212C-MD-01765

Lab Batch #: 3090434 **Sample:** 7678719-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/29/19 01:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	70-130	
4-Bromofluorobenzene	0.0281	0.0300	94	70-130	

Lab Batch #: 3090331 **Sample:** 7678657-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/25/19 14:31

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	62.0	50.0	124	70-135	

Lab Batch #: 3090399 **Sample:** 7678713-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/28/19 15:35

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	70-130	
4-Bromofluorobenzene	0.0302	0.0300	101	70-130	

Lab Batch #: 3090434 **Sample:** 7678719-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 05/29/19 01:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	70-130	
4-Bromofluorobenzene	0.0292	0.0300	97	70-130	

Lab Batch #: 3090331 **Sample:** 625271-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/25/19 15:21

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	83.2	99.9	83	70-135	
o-Terphenyl	36.8	50.0	74	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Orders : 625281,

Project ID: 212C-MD-01765

Lab Batch #: 3090399 **Sample:** 625614-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 15:54

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	70-130	
4-Bromofluorobenzene	0.0311	0.0300	104	70-130	

Lab Batch #: 3090434 **Sample:** 625615-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/29/19 01:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	70-130	
4-Bromofluorobenzene	0.0296	0.0300	99	70-130	

Lab Batch #: 3090331 **Sample:** 625271-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/25/19 15:46

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.9	100	83	70-135	
o-Terphenyl	35.5	50.0	71	70-135	

Lab Batch #: 3090399 **Sample:** 625614-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/28/19 16:13

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	70-130	
4-Bromofluorobenzene	0.0332	0.0300	111	70-130	

Lab Batch #: 3090434 **Sample:** 625615-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 05/29/19 02:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0310	0.0300	103	70-130	
4-Bromofluorobenzene	0.0270	0.0300	90	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Order #: 625281 **Project ID:** 212C-MD-01765

Analyst: SCM **Date Prepared:** 05/28/2019 **Date Analyzed:** 05/28/2019

Lab Batch ID: 3090399 **Sample:** 7678713-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.0998	0.101	101	0.100	0.103	103	2	70-130	35	
Toluene	<0.00200	0.0998	0.102	102	0.100	0.101	101	1	70-130	35	
Ethylbenzene	<0.00200	0.0998	0.115	115	0.100	0.114	114	1	70-130	35	
m,p-Xylenes	<0.00399	0.200	0.241	121	0.201	0.236	117	2	70-130	35	
o-Xylene	<0.00200	0.0998	0.114	114	0.100	0.113	113	1	70-130	35	

Analyst: SCM **Date Prepared:** 05/28/2019 **Date Analyzed:** 05/29/2019

Lab Batch ID: 3090434 **Sample:** 7678719-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000383	0.0996	0.103	103	0.0994	0.0997	100	3	70-130	35	
Toluene	<0.000454	0.0996	0.0954	96	0.0994	0.0915	92	4	70-130	35	
Ethylbenzene	<0.000563	0.0996	0.101	101	0.0994	0.0956	96	5	70-130	35	
m,p-Xylenes	<0.00101	0.199	0.207	104	0.199	0.198	99	4	70-130	35	
o-Xylene	<0.000343	0.0996	0.102	102	0.0994	0.0998	100	2	70-130	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Version: 1.%

BS / BSD Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Order #: 625281 **Project ID:** 212C-MD-01765

Analyst: CHE **Date Prepared:** 05/23/2019 **Date Analyzed:** 05/24/2019

Lab Batch ID: 3090081 **Sample:** 7678490-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	246	98	250	246	98	0	90-110	20	

Analyst: CHE **Date Prepared:** 05/23/2019 **Date Analyzed:** 05/23/2019

Lab Batch ID: 3090083 **Sample:** 7678491-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	258	103	250	259	104	0	90-110	20	

Analyst: CHE **Date Prepared:** 05/23/2019 **Date Analyzed:** 05/24/2019

Lab Batch ID: 3090088 **Sample:** 7678496-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	247	99	250	246	98	0	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Version: 1.%

BS / BSD Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Order #: 625281 **Project ID:** 212C-MD-01765

Analyst: CHE **Date Prepared:** 05/28/2019 **Date Analyzed:** 05/28/2019

Lab Batch ID: 3090379 **Sample:** 7678648-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.858	250	237	95	250	238	95	0	90-110	20	

Analyst: ARM **Date Prepared:** 05/25/2019 **Date Analyzed:** 05/25/2019

Lab Batch ID: 3090331 **Sample:** 7678657-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	991	99	1000	1030	103	4	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	938	94	1000	1060	106	12	70-135	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Version: 1.%

Form 3 - MS / MSD Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Order # : 625281 **Project ID:** 212C-MD-01765

Lab Batch ID: 3090399 **QC- Sample ID:** 625614-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/28/2019 **Date Prepared:** 05/28/2019 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.100	0.0761	76	0.101	0.0652	65	15	70-130	35	X
Toluene	<0.00200	0.100	0.0766	77	0.101	0.0741	73	3	70-130	35	
Ethylbenzene	<0.00200	0.100	0.0856	86	0.101	0.0751	74	13	70-130	35	
m,p-Xylenes	<0.00401	0.200	0.180	90	0.201	0.136	68	28	70-130	35	X
o-Xylene	<0.00200	0.100	0.0855	86	0.101	0.0629	62	30	70-130	35	X

Lab Batch ID: 3090434 **QC- Sample ID:** 625615-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/29/2019 **Date Prepared:** 05/28/2019 **Analyst:** SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000386	0.100	0.101	101	0.0992	0.106	107	5	70-130	35	
Toluene	<0.000457	0.100	0.0928	93	0.0992	0.0970	98	4	70-130	35	
Ethylbenzene	<0.000566	0.100	0.0967	97	0.0992	0.102	103	5	70-130	35	
m,p-Xylenes	<0.00102	0.200	0.200	100	0.198	0.208	105	4	70-130	35	
o-Xylene	0.000360	0.100	0.0987	98	0.0992	0.100	100	1	70-130	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Order # : 625281 **Project ID:** 212C-MD-01765

Lab Batch ID: 3090081 **QC- Sample ID:** 625281-012 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/24/2019 **Date Prepared:** 05/23/2019 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	71.1	250	317	98	250	320	100	1	90-110	20	

Lab Batch ID: 3090081 **QC- Sample ID:** 625281-013 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/24/2019 **Date Prepared:** 05/23/2019 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	48.2	248	274	91	248	292	98	6	90-110	20	

Lab Batch ID: 3090083 **QC- Sample ID:** 625280-037 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/23/2019 **Date Prepared:** 05/23/2019 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	564	251	810	98	251	807	97	0	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Order # : 625281 **Project ID:** 212C-MD-01765

Lab Batch ID: 3090083 **QC- Sample ID:** 625280-041 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/23/2019 **Date Prepared:** 05/23/2019 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	1120	250	1320	80	250	1320	80	0	90-110	20	X

Lab Batch ID: 3090088 **QC- Sample ID:** 625281-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/24/2019 **Date Prepared:** 05/23/2019 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	276	248	458	73	248	515	96	12	90-110	20	X

Lab Batch ID: 3090088 **QC- Sample ID:** 625335-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/24/2019 **Date Prepared:** 05/23/2019 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.865	252	246	98	252	246	98	0	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: White Federal 1H Flowline (5-13-19)

Work Order # : 625281 **Project ID:** 212C-MD-01765

Lab Batch ID: 3090379 **QC- Sample ID:** 625611-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/28/2019 **Date Prepared:** 05/28/2019 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	23.4	250	257	93	250	259	94	1	90-110	20	

Lab Batch ID: 3090379 **QC- Sample ID:** 625616-008 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/28/2019 **Date Prepared:** 05/28/2019 **Analyst:** CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	371	251	595	89	251	594	89	0	90-110	20	X

Lab Batch ID: 3090331 **QC- Sample ID:** 625271-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 05/25/2019 **Date Prepared:** 05/25/2019 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	8.90	999	877	87	1000	869	86	1	70-135	20	
Diesel Range Organics (DRO)	9.43	999	822	81	1000	829	82	1	70-135	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Analysis Request of Chain of Custody Record

Page 1 of 2

Tetra Tech, Inc.

900 West Wall Street, Ste 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

Client Name: COG	**Site Manager:** Mike Carmona
Project Name: White Federal 1H Flowline (5-13-19)	
Project Location: (county, state) Eddy County, New Mexico	**Project #:** 212C-MD-01765
Invoice to: Ike Tavarez	
Receiving Laboratory: Xenco	**Sampler Signature:** Devin Dominguez

Comments: Run deeper samples if TPH (GRO + DRO + MRO) exceeds 1,000 mg/kg. run deeper samples if benzene exceeds 10 mg/kg or Total BTEX exceeds 50 mg/kg.

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# 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	TPH 8015R			Hold
	Horizontal NW-1 (0-1')	5/21/2019			X				X			1	N	X		X												X							
	Horizontal NW-1 (1'-1.5')	5/21/2019			X				X			1	N															X							
	Horizontal NW-2 (0-1')	5/21/2019			X				X			1	N	X		X												X							
	Horizontal NW-2 (1'-1.5')	5/21/2019			X				X			1	N															X							
	Horizontal NW-3 (0-1')	5/21/2019			X				X			1	N	X		X												X							
	Horizontal NW-4 (0-1')	5/21/2019			X				X			1	N	X		X												X							
	Horizontal NW-5 (0-1')	5/21/2019			X				X			1	N	X		X												X							
	Horizontal NW-6 (0-1')	5/21/2019			X				X			1	N	X		X												X							
	Horizontal NW-6 (1'-1.5')	5/21/2019			X				X			1	N															X							
	Horizontal SE-1 (0-1')	5/21/2019			X				X			1	N	X		X												X							
	Horizontal SE-1 (1-1.5')	5/21/2019			X				X			1	N															X							

Relinquished by:	Date: 5-23-19	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Received by: Date: 5/23/19 Time: 1048

LAB USE ONLY

Sample Temperature 3.3/3.1

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 #: _____

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Page 23 of 25

Analysis Request of Chain of Custody Record

675291

Tetra Tech, Inc.

900 West Wall Street, Ste 100
Midland,Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

Client Name:	COG	**Site Manager:**	Mike Carmona
Project Name:	White Federal 1H Flowline (5-13-19)		
Project Location: (county, state)	Eddy County, New Mexico	**Project #:**	212C-MD-01765
Invoice to:	Ike Tavarez		
Receiving Laboratory:	Xenco	**Sampler Signature:**	Devin Dominguez

Comments: Run deeper samples if TPH (GRO + DRO + MRO) exceeds 1,000 mg/kg. run deeper samples if benzene exceeds 10 mg/kg or Total BTEX exceeds 50 mg/kg.

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# 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 Sulfate TDS	Chloride	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R			Hold
	Horizontal SE-2 (0-1')	5/21/2019			X				X			1	N	X		X												X						
	Horizontal SE-3 (0-1')	5/21/2019			X				X			1	N	X		X												X						
	Horizontal SE-4 (0-1')	5/21/2019			X				X			1	N	X		X												X						
	Horizontal SE-4 (1'-1.5')	5/21/2019			X				X			1	N															X						

Relinquished by:	Date: 5-23-19	Time:	Received by: Date: 5/23/19 Time: 1400
Relinquished by:	Date:	Time:	Received by: Date: Time:
Relinquished by:	Date:	Time:	Received by: Date: Time:

LAB USE ONLY

Sample Temperature 3.3/3.1

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 #: _____

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Final 1.000

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 05/23/2019 10:48:00 AM

Work Order #: 625281

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.1
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 05/23/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/28/2019
Jessica Kramer

Analytical Report 628192

for

Tetra Tech- Midland

Project Manager: Mike Carmona

White Fed 1H Flowline

212C-MD-01765

25-JUN-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

25-JUN-19

Project Manager: **Mike Carmona**
Tetra Tech- Midland
901 West Wall ST
Midland, TX 79701

Reference: XENCO Report No(s): **628192**
White Fed 1H Flowline
Project Address: Eddy Co,NM

Mike Carmona:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 628192. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 628192 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 628192

Tetra Tech- Midland, Midland, TX

White Fed 1H Flowline

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH #1 (0-1')	S	06-18-19 00:00		628192-001
AH #1 (1-1.5')	S	06-18-19 00:00		628192-002
AH #1 (2-2.5')	S	06-18-19 00:00		628192-003
AH #1 (3-3.5')	S	06-18-19 00:00		628192-004
AH #2 (0-1')	S	06-18-19 00:00		628192-005
AH #2 (1-1.5')	S	06-18-19 00:00		628192-006
AH #3 (0-1')	S	06-18-19 00:00		628192-007
AH #3 (1-1.5')	S	06-18-19 00:00		628192-008
AH #4 (0-1')	S	06-18-19 00:00		628192-009
AH #4 (1-1.5')	S	06-18-19 00:00		628192-010
AH #4 (2-2.5')	S	06-18-19 00:00		628192-011
AH #5 (0-1')	S	06-18-19 00:00		628192-012
AH #5(1-1.5')	S	06-18-19 00:00		628192-013
AH #5 (2-2.5')	S	06-18-19 00:00		628192-014
AH #5 (3-3.5')	S	06-18-19 00:00		628192-015
AH #6 (0-1')	S	06-18-19 00:00		628192-016
AH #6 (1-1.5')	S	06-18-19 00:00		628192-017
AH #6 (2-2.5')	S	06-18-19 00:00		628192-018
AH #6 (3-3.5')	S	06-18-19 00:00		628192-019
AH #6 (4-4.5')	S	06-18-19 00:00		628192-020
AH #6 (5-5.5')	S	06-18-19 00:00		628192-021
AH #7 (0-1')	S	06-18-19 00:00		628192-022
AH #7 (1-1.5')	S	06-18-19 00:00		628192-023
AH #7 (2-2.5')	S	06-18-19 00:00		628192-024
AH #8 (0-1')	S	06-18-19 00:00		628192-025
AH #8 (1-1.5')	S	06-18-19 00:00		628192-026
AH #8 (2-2.5')	S	06-18-19 00:00		628192-027
AH #9 (0-1')	S	06-18-19 00:00		628192-028
AH #9 (1-1.5')	S	06-18-19 00:00		628192-029
AH #9 (2-2.5')	S	06-18-19 00:00		628192-030
AH #9 (3-3.5')	S	06-18-19 00:00		628192-031
AH #10 (0-1')	S	06-18-19 00:00		628192-032
AH #10 (1-1.5')	S	06-18-19 00:00		628192-033
AH #10 (2-2.5')	S	06-18-19 00:00		628192-034
AH #11 (0-1')	S	06-18-19 00:00		628192-035
AH #11 (1-1'.5)	S	06-18-19 00:00		628192-036
AH #11 (2-2.5')	S	06-18-19 00:00		628192-037
AH #11 (3-3.5')	S	06-18-19 00:00		628192-038
AH #12 (0-1')	S	06-18-19 00:00		628192-039
AH #12 (1-1.5')	S	06-18-19 00:00		628192-040
AH #13 (0-1')	S	06-18-19 00:00		628192-041
AH #13 (1-1.5')	S	06-18-19 00:00		628192-042
AH #13 (2-2.5')	S	06-18-19 00:00		628192-043

Sample Cross Reference 628192

Tetra Tech- Midland, Midland, TX

White Fed 1H Flowline

AH #14 (0-1')	S	06-18-19 00:00	628192-044
AH #14 (1-1.5')	S	06-18-19 00:00	628192-045

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3092996 Chloride by EPA 300

Lab Sample ID 628192-026 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 628192-018, -019, -020, -021, -022, -023, -024, -025, -026, -027, -028, -029, -030, -031, -032, -033, -034, -035, -036, -037.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3093264 Chloride by EPA 300

Lab Sample ID 628335-006 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 628192-043, -044, -045.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analysis Summary 628192

Tetra Tech- Midland, Midland, TX

Project Name: White Fed 1H Flowline

Project Id: 212C-MD-01765
Contact: Mike Carmona
Project Location: Eddy Co,NM

Date Received in Lab: Wed Jun-19-19 11:40 am
Report Date: 25-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	628192-001		628192-002		628192-003		628192-004		628192-005		628192-006	
	Field Id:	AH #1 (0-1')		AH #1 (1-1.5')		AH #1 (2-2.5')		AH #1 (3-3.5')		AH #2 (0-1')		AH #2 (1-1.5')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00	
Chloride by EPA 300	***Extracted:***	Jun-19-19 19:00		Jun-19-19 19:00		Jun-19-19 19:00		Jun-19-19 19:00		Jun-19-19 19:00		Jun-19-19 19:00	
	Analyzed:	Jun-19-19 20:51		Jun-19-19 20:56		Jun-19-19 21:13		Jun-19-19 21:19		Jun-19-19 21:24		Jun-19-19 21:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		36.9	4.99	680	4.96	34.9	5.00	2430	25.0	1090	5.01	2110	24.9

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 628192

Tetra Tech- Midland, Midland, TX

Project Name: White Fed 1H Flowline

Project Id: 212C-MD-01765
Contact: Mike Carmona
Project Location: Eddy Co,NM

Date Received in Lab: Wed Jun-19-19 11:40 am
Report Date: 25-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	628192-007		628192-008		628192-009		628192-010		628192-011		628192-012	
	Field Id:	AH #3 (0-1')		AH #3 (1-1.5')		AH #4 (0-1')		AH #4 (1-1.5')		AH #4 (2-2.5')		AH #5 (0-1')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00	
Chloride by EPA 300	***Extracted:***	Jun-19-19 19:00		Jun-19-19 19:00		Jun-19-19 19:00		Jun-19-19 19:00		Jun-19-19 19:00		Jun-19-19 19:00	
	Analyzed:	Jun-19-19 21:41		Jun-19-19 21:35		Jun-19-19 21:57		Jun-19-19 22:03		Jun-19-19 22:19		Jun-19-19 22:25	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		171	4.96	2250	25.0	61.6	5.04	78.9	5.03	1390	5.03	38.2	5.02

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 628192

Tetra Tech- Midland, Midland, TX

Project Name: White Fed 1H Flowline

Project Id: 212C-MD-01765
Contact: Mike Carmona
Project Location: Eddy Co,NM

Date Received in Lab: Wed Jun-19-19 11:40 am
Report Date: 25-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	628192-013		628192-014		628192-015		628192-016		628192-017		628192-018	
	Field Id:	AH #5(1-1.5')		AH #5 (2-2.5')		AH #5 (3-3.5')		AH #6 (0-1')		AH #6 (1-1.5')		AH #6 (2-2.5')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00	
Chloride by EPA 300	***Extracted:***	Jun-19-19 19:00		Jun-19-19 19:00		Jun-19-19 19:00		Jun-19-19 19:00		Jun-19-19 19:00		Jun-19-19 19:30	
	Analyzed:	Jun-19-19 22:30		Jun-19-19 22:36		Jun-19-19 22:41		Jun-19-19 22:47		Jun-19-19 22:52		Jun-19-19 23:42	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		4260	25.2	8060	50.3	7510	49.5	63.4	5.04	96.5	5.04	1700	25.0

Jessica Kramer
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Certificate of Analysis Summary 628192

Tetra Tech- Midland, Midland, TX

Project Name: White Fed 1H Flowline

Project Id: 212C-MD-01765
Contact: Mike Carmona
Project Location: Eddy Co,NM

Date Received in Lab: Wed Jun-19-19 11:40 am
Report Date: 25-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	628192-019		628192-020		628192-021		628192-022		628192-023		628192-024	
	Field Id:	AH #6 (3-3.5')		AH #6 (4-4.5')		AH #6 (5-5.5')		AH #7 (0-1')		AH #7 (1-1.5')		AH #7 (2-2.5')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00	
Chloride by EPA 300	***Extracted:***	Jun-19-19 19:30		Jun-19-19 19:30		Jun-19-19 19:30		Jun-19-19 19:30		Jun-19-19 19:30		Jun-19-19 19:30	
	Analyzed:	Jun-19-19 23:48		Jun-19-19 23:53		Jun-19-19 23:59		Jun-20-19 00:15		Jun-20-19 00:21		Jun-20-19 19:27	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		11100	100	11600	100	6650	49.5	716	4.96	1890	25.0	5570	24.9

Jessica Kramer
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Certificate of Analysis Summary 628192

Tetra Tech- Midland, Midland, TX

Project Name: White Fed 1H Flowline

Project Id: 212C-MD-01765
Contact: Mike Carmona
Project Location: Eddy Co,NM

Date Received in Lab: Wed Jun-19-19 11:40 am
Report Date: 25-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	628192-025		628192-026		628192-027		628192-028		628192-029		628192-030	
	Field Id:	AH #8 (0-1')		AH #8 (1-1.5')		AH #8 (2-2.5')		AH #9 (0-1')		AH #9 (1-1.5')		AH #9 (2-2.5')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00	
Chloride by EPA 300	***Extracted:***	Jun-19-19 19:30		Jun-19-19 19:30		Jun-19-19 19:30		Jun-19-19 19:30		Jun-19-19 19:30		Jun-19-19 19:30	
	Analyzed:	Jun-20-19 00:26		Jun-20-19 00:43		Jun-20-19 00:32		Jun-20-19 00:37		Jun-20-19 00:59		Jun-20-19 01:05	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		48.6	5.01	542	5.00	12300	100	2110	25.0	7050	50.0	5920	50.3

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 628192

Tetra Tech- Midland, Midland, TX

Project Name: White Fed 1H Flowline

Project Id: 212C-MD-01765
Contact: Mike Carmona
Project Location: Eddy Co,NM

Date Received in Lab: Wed Jun-19-19 11:40 am
Report Date: 25-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	628192-031		628192-032		628192-033		628192-034		628192-035		628192-036	
	Field Id:	AH #9 (3-3.5')		AH #10 (0-1')		AH #10 (1-1.5')		AH #10 (2-2.5')		AH #11 (0-1')		AH #11 (1-1'.5)	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00	
Chloride by EPA 300	***Extracted:***	Jun-19-19 19:30		Jun-19-19 19:30		Jun-19-19 19:30		Jun-19-19 19:30		Jun-19-19 19:30		Jun-19-19 19:30	
	Analyzed:	Jun-20-19 01:22		Jun-20-19 01:27		Jun-20-19 01:33		Jun-20-19 01:38		Jun-20-19 01:44		Jun-20-19 01:49	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		9710	49.6	72.3	5.03	454	5.02	623	5.05	52.2	5.05	501	5.00

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 628192

Tetra Tech- Midland, Midland, TX

Project Name: White Fed 1H Flowline

Project Id: 212C-MD-01765
Contact: Mike Carmona
Project Location: Eddy Co,NM

Date Received in Lab: Wed Jun-19-19 11:40 am
Report Date: 25-JUN-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	628192-037		628192-038		628192-039		628192-040		628192-041		628192-042	
	Field Id:	AH #11 (2-2.5')		AH #11 (3-3.5')		AH #12 (0-1')		AH #12 (1-1.5')		AH #13 (0-1')		AH #13 (1-1.5')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00	
Chloride by EPA 300	***Extracted:***	Jun-19-19 19:30		Jun-20-19 18:30		Jun-20-19 18:30		Jun-20-19 18:30		Jun-20-19 18:30		Jun-20-19 18:30	
	Analyzed:	Jun-20-19 01:55		Jun-21-19 03:36		Jun-21-19 03:44		Jun-21-19 03:51		Jun-21-19 03:58		Jun-21-19 04:05	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		8560	49.8	3330	25.2	15.8	4.99	1470	5.04	37.4	5.04	34.2	4.96

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 628192

Tetra Tech- Midland, Midland, TX

Project Name: White Fed 1H Flowline

Project Id: 212C-MD-01765
Contact: Mike Carmona
Project Location: Eddy Co,NM

Date Received in Lab: Wed Jun-19-19 11:40 am
Report Date: 25-JUN-19
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	628192-043		628192-044		628192-045					
	Field Id:	AH #13 (2-2.5')		AH #14 (0-1')		AH #14 (1-1.5')					
	Depth:										
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Jun-18-19 00:00		Jun-18-19 00:00		Jun-18-19 00:00					
Chloride by EPA 300	***Extracted:***	Jun-21-19 10:50		Jun-21-19 10:50		Jun-21-19 10:50					
	Analyzed:	Jun-21-19 11:14		Jun-21-19 11:29		Jun-21-19 11:34					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		635	4.99	24.9	5.03	6.77	4.96				

Jessica Kramer
Project Assistant

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

BS / BSD Recoveries

Project Name: White Fed 1H Flowline

Work Order #: 628192 **Project ID:** 212C-MD-01765

Analyst: SPC **Date Prepared:** 06/19/2019 **Date Analyzed:** 06/19/2019

Lab Batch ID: 3092993 **Sample:** 7680344-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	256	102	250	256	102	0	90-110	20	

Analyst: SPC **Date Prepared:** 06/19/2019 **Date Analyzed:** 06/19/2019

Lab Batch ID: 3092996 **Sample:** 7680345-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	256	102	250	256	102	0	90-110	20	

Analyst: SPC **Date Prepared:** 06/20/2019 **Date Analyzed:** 06/21/2019

Lab Batch ID: 3093095 **Sample:** 7680431-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.858	250	245	98	250	246	98	0	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: White Fed 1H Flowline

Work Order #: 628192 **Project ID:** 212C-MD-01765

Analyst: SPC **Date Prepared:** 06/21/2019 **Date Analyzed:** 06/21/2019

Lab Batch ID: 3093264 **Sample:** 7680446-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	246	98	250	238	95	3	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: White Fed 1H Flowline

Work Order # : 628192 **Project ID:** 212C-MD-01765

Lab Batch ID: 3092993 **QC- Sample ID:** 628187-003 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/19/2019 **Date Prepared:** 06/19/2019 **Analyst:** SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	4.75	248	242	96	248	242	96	0	90-110	20	

Lab Batch ID: 3092993 **QC- Sample ID:** 628192-007 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/19/2019 **Date Prepared:** 06/19/2019 **Analyst:** SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	171	248	408	96	248	410	96	0	90-110	20	

Lab Batch ID: 3092996 **QC- Sample ID:** 628192-024 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/20/2019 **Date Prepared:** 06/19/2019 **Analyst:** SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	5570	249	5760	76	249	5760	76	0	90-110	20	X

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: White Fed 1H Flowline

Work Order # : 628192 **Project ID:** 212C-MD-01765

Lab Batch ID: 3092996 **QC- Sample ID:** 628192-026 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/20/2019 **Date Prepared:** 06/19/2019 **Analyst:** SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	542	250	789	99	250	786	98	0	90-110	20	

Lab Batch ID: 3093095 **QC- Sample ID:** 628450-021 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/21/2019 **Date Prepared:** 06/20/2019 **Analyst:** SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	46.0	249	299	102	249	299	102	0	90-110	20	

Lab Batch ID: 3093095 **QC- Sample ID:** 628450-031 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/21/2019 **Date Prepared:** 06/20/2019 **Analyst:** SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	16.8	249	277	104	249	277	104	0	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: White Fed 1H Flowline

Work Order # : 628192 **Project ID:** 212C-MD-01765

Lab Batch ID: 3093264 **QC- Sample ID:** 628192-043 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/21/2019 **Date Prepared:** 06/21/2019 **Analyst:** SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	635	250	821	74	250	822	75	0	90-110	20	X

Lab Batch ID: 3093264 **QC- Sample ID:** 628335-006 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/21/2019 **Date Prepared:** 06/21/2019 **Analyst:** SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	141	252	386	97	252	386	97	0	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

6/20/19

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

Client Name: COG	**Site Manager:** Mike Carmona
Project Name: White Fed 1H Flowline	
Project Location: (county, state) Eddy Co, NM	**Project #:** 212C-MD-01765
Invoice to: COG - Ike Taverez	
Receiving Laboratory: Xenco	**Sampler Signature:** Conner Moehring
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	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
	AH #1 (0-1')	6/18/2019			X				X			1	N															X							
	AH #1 (1-1.5')	6/18/2019			X				X			1	N															X							
	AH #1 (2-2.5')	6/18/2019			X				X			1	N															X							
	AH #1 (3-3.5')	6/18/2019			X				X			1	N															X							
	AH #2 (0-1')	6/18/2019			X				X			1	N															X							
	AH #2 (1-1.5')	6/18/2019			X				X			1	N															X							
	AH #3 (0-1')	6/18/2019			X				X			1	N															X							
	AH #3 (1-1.5')	6/18/2019			X				X			1	N															X							
	AH #4 (0-1')	6/18/2019			X				X			1	N															X							
	AH #4 (1-1.5')	6/18/2019			X				X			1	N															X							

Relinquished by: Conner Moehring	Date: 6/18/19	Time: 1350	Received by:	Date: 6/18/19	Time: 1350
Relinquished by:	Date: 6/18/19	Time: 1400	Received by: FedEx	Date: 6/18/19	Time: 1400
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature 0.5 | 0.3 | -0.2 | 2.8

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 #: _____

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Analysis Request of Chain of Custody Record

6.28.19

Tetra Tech, Inc.

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

Client Name: COG	**Site Manager:** Mike Carmona
Project Name: White Fed 1H Flowline	
Project Location: (county, state) Eddy Co, NM	**Project #:** 212C-MD-01765
Invoice to: COG - Ike Taverez	
Receiving Laboratory: Xenco	**Sampler Signature:** Conner Moehring
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# 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
	AH #4 (2-2.5')	6/18/2019			X				X			1	N															X								
	AH #5 (0-1')	6/18/2019			X				X			1	N															X								
	AH #5 (1-1.5')	6/18/2019			X				X			1	N															X								
	AH #5 (2-2.5')	6/18/2019			X				X			1	N															X								
	AH #5 (3-3.5')	6/18/2019			X				X			1	N															X								
	AH #6 (0-1')	6/18/2019			X				X			1	N															X								
	AH #6 (1-1.5')	6/18/2019			X				X			1	N															X								
	AH #6 (2-2.5')	6/18/2019			X				X			1	N															X								
	AH #6 (3-3.5')	6/18/2019			X				X			1	N															X								
	AH #6 (4-4.5')	6/18/2019			X				X			1	N															X								

Relinquished by: Conner Moehring	Date: 6/18/19	Time: 1350	Received by: [signature]
Relinquished by: [signature]	Date: 6/18/19	Time: 1400	Received by: FedEx
Relinquished by:	Date:	Time:	Received by:

Received by: [signature] Date: 6/18/19 Time: 1350

Received by: FedEx Date: 6/18/19 Time: 1400

LAB USE ONLY

Sample Temperature

0.5 | 0.3

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 #: _____

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Analysis Request of Chain of Custody Record

WJE192

Tetra Tech, Inc.

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

Client Name: COG	**Site Manager:** Mike Carmona
Project Name: White Fed 1H Flowline	
Project Location: (county, state) Eddy Co, NM	**Project #:** 212C-MD-01765
Invoice to: COG - Ike Taverez	
Receiving Laboratory: Xenco	**Sampler Signature:** Conner Moehring
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX:	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD: None	PRESERVATIVE METHOD:	# 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
	AH #6 (5-5.5')	6/18/2019			X				X			1	N															X							
	AH #7 (0-1')	6/18/2019			X				X			1	N															X							
	AH #7 (1-1.5')	6/18/2019			X				X			1	N															X							
	AH #7 (2-2.5')	6/18/2019			X				X			1	N															X							
	AH #8 (0-1')	6/18/2019			X				X			1	N															X							
	AH #8 (1-1.5')	6/18/2019			X				X			1	N															X							
	AH #8 (2-2.5')	6/18/2019			X				X			1	N															X							
	AH #9 (0-1')	6/18/2019			X				X			1	N															X							
	AH #9 (1-1.5')	6/18/2019			X				X			1	N															X							
	AH #9 (2-2.5')	6/18/2019			X				X			1	N															X							

Relinquished by:	Date: 6/18/19	Time: 1350	Received by:
Relinquished by:	Date: 6/18/19	Time: 1400	Received by: Fed Ex
Relinquished by:	Date:	Time:	Received by:

Received by: Date: 6/18/19 Time: 1350

Received by: Date: 6/18/19 Time: 1400

LAB USE ONLY

Sample Temperature 0.5/0.3

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 #: _____

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6/18/19

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

Client Name: COG	**Site Manager:** Mike Carmona
Project Name: White Fed 1H Flowline	
Project Location: (county, state) Eddy Co, NM	**Project #:** 212C-MD-01765
Invoice to: COG - Ike Taverez	
Receiving Laboratory: Xenco	**Sampler Signature:** Conner Moehring
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	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
	AH #9 (3-3.5')	6/18/2019			X				X			1	N															X							
	AH #10 (0-1')	6/18/2019			X				X			1	N															X							
	AH #10 (1-1.5')	6/18/2019			X				X			1	N															X							
	AH #10 (2-2.5')	6/18/2019			X				X			1	N															X							
	AH #11 (0-1')	6/18/2019			X				X			1	N															X							
	AH #11 (1-1.5')	6/18/2019			X				X			1	N															X							
	AH #11 (2-2.5')	6/18/2019			X				X			1	N															X							
	AH #11 (3-3.5')	6/18/2019			X				X			1	N															X							
	AH #12 (0-1')	6/18/2019			X				X			1	N															X							
	AH #12 (1-1.5')	6/18/2019			X				X			1	N															X							

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Conner Moehring	6/18/19	1350		6/18/19	13:50
	6/18/19	1400	FedEx	6/18/19	1400

LAB USE ONLY

Sample Temperature 0.5/0.3

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 #: _____

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Analysis Request of Chain of Custody Record

6 28192 Page 5 of 5

Tetra Tech, Inc.

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

Client Name: COG	**Site Manager:** Mike Carmona
Project Name: White Fed 1H Flowline	
Project Location: (county, state) Eddy Co, NM	**Project #:** 212C-MD-01765
Invoice to: COG - Ike Taverez	
Receiving Laboratory: Xenco	**Sampler Signature:** Conner Moehring
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# 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
	AH #13 (0-1')	6/18/2019			X				X			1	N															X								
	AH #13 (1-1.5')	6/18/2019			X				X			1	N															X								
	AH #13 (2-2.5')	6/18/2019			X				X			1	N															X								
	AH #14 (0-1')	6/18/2019			X				X			1	N															X								
	AH #14 (1-1.5')	6/18/2019			X				X			1	N															X								

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Conner Moehring	6/18/19	1350		6/18/19	1350
	6/18/19	1400	FedEx	6/18/19	1400

LAB USE ONLY
Sample Temperature
0516.3

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 #: _____

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 06/19/2019 11:40:00 AM

Work Order #: 628192

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	.3
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 06/19/2019

Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 06/19/2019

Jessica Kramer