



April 13, 2020

Mike Bratcher
Oil Conservation Division, District 2

Ryan Mann
New Mexico State Land Office

Closure Report

SRO State Com #010

API #: 30-015-38072

RP#: 2RP-5041

GPS: 32.07710, -104.08255

Unit Letter D, Section 03, Township 26 South, Range 28 East

Eddy County, New Mexico

Mr. Bratcher/Mr. Mann,

COG Operating, LLC (COG) is pleased to submit the following remediation summary and deferral request in response to a release that occurred at the SRO State Com #010H on October 23, 2018.

BACKGROUND

The release was discovered on October 23, 2018 and a C-141 initial report was submitted and approved by the New Mexico Oil Conservation Division (NMOCD). The release was caused by a corrode flowline. The flowline was replaced. A vacuum truck was dispatched to remove all freestanding fluids. Approximately four (4) barrels of produced oil and ten (10) barrels of produced water were released and four (4) bbls of produced oil and six (6) bbls of produced water were recovered. Following the release COG had the impacted area evaluated and a remediation work plan was submitted to and subsequently approved by NMOCD and New Mexico State Land Office (NMSLO) A copy of the approved work plan is attached in Appendix B.

GROUNDWATER AND REGULATORY FRAMEWORK

No water wells were listed within Section 03 on the New Mexico Office of the State Engineer's (NMOSE) database, the Geology and Groundwater Resources of Eddy County, or the USGS National Water Information Database. The nearest well listed is in Section 02 on the NMOSE database, approximately 1.54 miles east-southeast of the site, and has a reported depth to groundwater of 120 feet below surface. According to the Chevron Texaco Groundwater Trend map, the average depth to

groundwater in this area is approximately 50'-75' below surface. Depth to groundwater information is provided in the approved workplan in Appendix B.

A risk-based evaluation and site determinations were performed in accordance to the New Mexico Oil Conservation Division (NMOCD) Rule (Title 19 Chapter 15 Part 29) for releases on oil and gas development and production in New Mexico (effective August 14, 2018). According to the site characterization evaluation, the affected area has medium potential for cave karst no other receptors (water wells, playas, water course, lake beds or ordinance boundaries) were located within each specific boundaries or distance from the site. The delineation and closure criteria are listed below:

General Site Characterization and Groundwater:

Site Characterization	Average Groundwater Depth (ft.)
Medium Karst	50-75

Delineation and Closure Criteria:

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

REMEDIAL ACTIONS

- The areas of FL-11, FL-12, FL-13, FL-17, FL-18, FL-19, FL-20, FL-21, FL-22, FL-23, and FL-24 were excavated to a depth of 6" below surface.
- The areas of FL-1, FL-2, FL-4, FL-5, FL-6, FL-26, FL-27, and FL-28 were excavated to a depth of 1.5' below surface.
- The areas of FL-3, FL-14, FL-15, and FL-16 were excavated to a depth of 2' below surface.
- The area of FL-25 was excavated to a depth of 4' below surface.
- The areas of FL-7, FL-8, FL-9 and FL-10 were excavated to a depth of 6.5' below surface.
- The excavated material was hauled to an NMOCD approved solid waste disposal facility.

- Confirmation soil samples (5-point composite) were collected from the bottom and sidewalls every 400 square feet per the approved sampling plan. (Analytical Table/Site Diagram Appendix A). Upon receipt of acceptable analytical results, the excavation was backfilled with clean “like” material and contoured to match the surrounding location. (Analytical Reports Appendix C).

SITE RECLAMATION AND RESTORATION

The affected area will be contoured and/or compacted to achieve erosion control, stability and preservation of surface water flow to the extent practicable.

DEFERRAL REQUEST

The areas of FL-1 and FL-6 were excavated to the maximum extent possible above the buried gas line. Sidewall sample EW1 could not be extended to the east any further due to the presence of the well head.

COG Operating, LLC respectfully requests that the NMOCD and NMSLO grant deferral of these areas until time of abandonment, at which time the impact will be removed in accordance with NMOCD regulatory guidelines. A signed C-141 Final is attached in Appendix D.

Should you have any questions or concerns please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink that reads "Dakota Neel". The signature is written in a cursive, slightly slanted style.

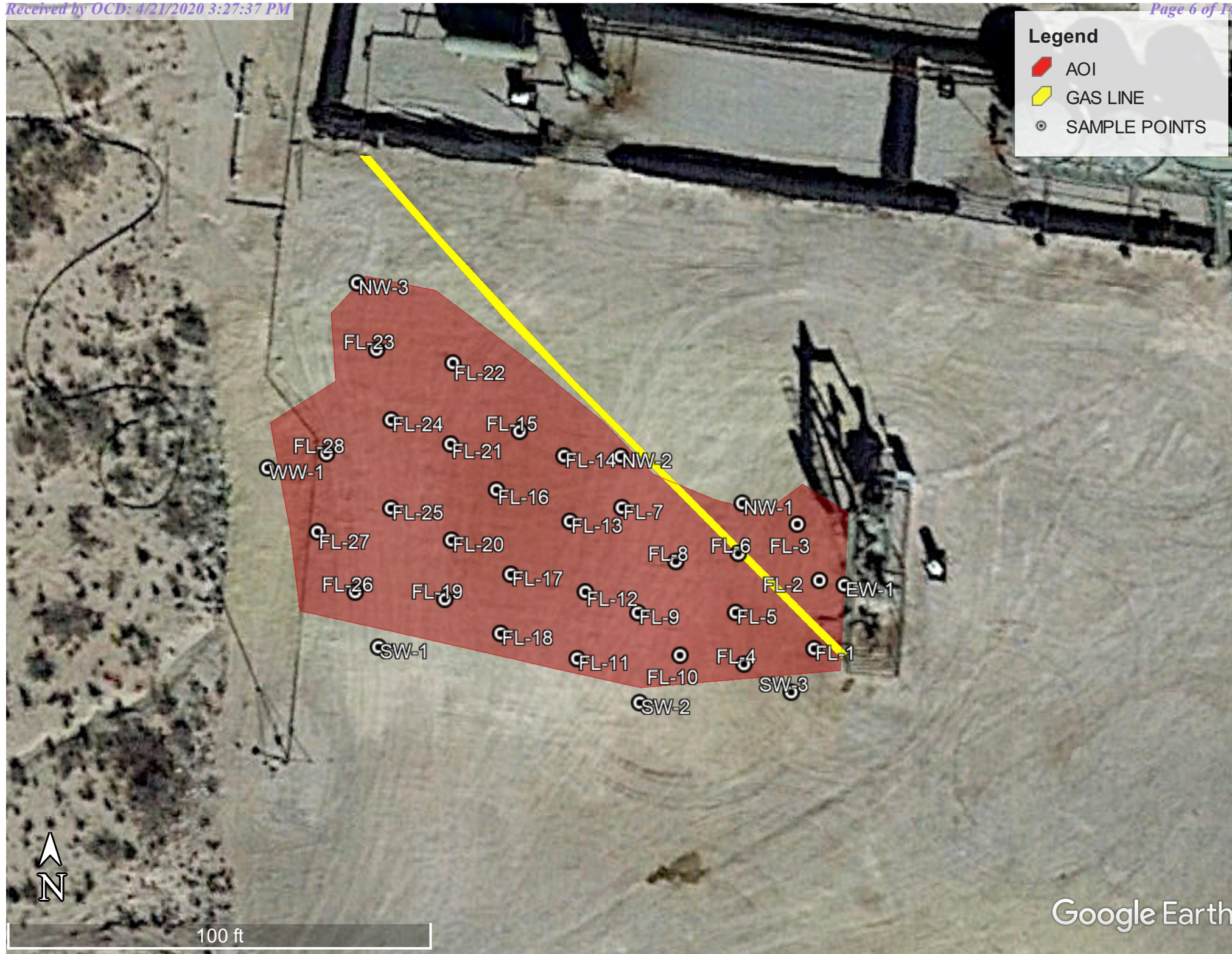
Dakota Neel
HSE Coordinator
Dneel2@concho.com

APPENDIX A

COG Operating LLC.
SRO STATE COM #010H
Eddy County, New Mexico

Sample ID	Sample Depth (ft)	Sample Date	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	MRO	Total			
NMOCD RRAL Limits (mg/kg)					-	-	-	100	10	50	600
FL-1	1.00	10/17/2019		X	<10.0	<10.0	<10.0	0.0	<0.050	<0.050	3,600
FL-1	1.50	11/13/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	4,290
FL-2	3.00	10/17/2019	X		<10.0	24.3	16.7	41.0	<0.050	<0.050	192
FL-3	1.50	10/17/2019		X	<10.0	205	99.3	304.3	<0.050	<0.050	176
FL-3	2.00	11/13/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	-
FL-4	3.50	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	128
FL-5	1.50	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	224
FL-6	1.00	10/17/2019		X	<10.0	<10.0	<10.0	0.0	<0.050	<0.050	672
FL6	1.50	11/13/2019	X		-	-	-	-	-	-	1,690
FL-7	6.50	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	48
FL-8	6.50	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	0
FL-9	6.50	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	0
FL-10	6.50	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	0
FL-11	0.50	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	112
FL-12	0.50	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	368
FL-13	0.50	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	496
FL-14	2.00	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	0
FL-15	2.00	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	32
FL-16	2.00	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	128
FL-17	0.50	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	32
FL-18	0.50	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	96
FL-19	0.50	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	336
FL-20	0.50	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	176
FL-21	0.50	10/17/2019		X	<10.0	<10.0	<10.0	0.0	<0.050	<0.050	3,600
FL-21	1.00	11/13/2019	X		-	-	-	-	-	-	0
FL-22	0.50	10/17/2019		X	<10.0	<10.0	<10.0	0.0	<0.050	<0.050	672
FL-22	1.00	11/13/2019	X		-	-	-	-	-	-	243
FL-23	0.50	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	32
FL-24	0.50	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	144
FL-25	4.00	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	32
FL-26	1.50	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	128
FL-27	1.50	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	112
FL-28	1.50	10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	160
NW1		10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	64
NW2		10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	48
NW3		10/17/2019		X	<10.0	<10.0	<10.0	0.0	<0.050	<0.050	4,080
NW3		11/13/2019	X		-	-	-	-	-	-	656
EW1		10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	1,880
WW1		10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	0
SW1		10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	608
SW2		10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	32
SW3		10/17/2019	X		<10.0	<10.0	<10.0	0.0	<0.050	<0.050	16

(-) Not Analyzed



APPENDIX B

SITE INFORMATION

Report Type: Work Plan 2RP-5041

General Site Information:

Site:	SRO State Com #10H					
Company:	COG Operating LLC					
Section, Township and Range	Unit D	Sec. 03	T 26S	R 28E		
Lease Number:	API No. 30-015-38072					
County:	Eddy County					
GPS:	32.077205			-104.082883		
Surface Owner:	State					
Directions:	From the intersection of Hwy 285 and White City Rd, head west on White City for 1.06 miles, turn right (north) onto unnamed lease road and go 1.04, turn right (east) and go 150 feet and arrive at location.					

Release Data:

Date Released:	10/23/2018	
Type Release:	Crude oil and Produced water	
Source of Contamination:	Corroded flowline	
Fluid Released:	4 bbls oil/10 bbls water	
Fluids Recovered:	4 bbls oil/6 bbls water	

Official Communication:

Name:	Ike Tavaréz		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@tetrattech.com

Site Characterization

Depth to Groundwater:	120' 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



April 19, 2019

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

Re: Work Plan for the COG Operating, LLC, SRO State Com #10H, Unit D, Section 03, Township 26 South, Range 28 East, Eddy County, New Mexico. 2RP-5041

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating, LLC, (COG) to assess a release that occurred at SRO State Com #10H, Unit D, Section 03, Township 26 South, Range 28 East, Eddy County, New Mexico (Site). The spill site coordinates are 32.07710°, -104.08255°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico Initial C-141, the release was discovered on October 23, 2018, and released approximately ten (10) barrels of produced water and four (4) barrels of oil, due to a corroded flowline. Six (6) barrels of produced water and four (4) barrels of oil were recovered. The release impacted an area on the pad and pasture measuring approximately 45' x 175'. A copy of the initial C-141 Form is included in Appendix A.

Site Characterization

A site characterization was performed for the site and no watercourses, lakebeds, sinkholes, playa lakes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, springs, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the specified distances and the site is located in a medium karst potential area. No water wells were listed within Section 03 on the New Mexico Office of the State Engineer's (NMOSE) database, the Geology and Groundwater Resources of Eddy County (Report 3), or the USGS National Water Information Database. The nearest well listed is in Section 02 on the NMOSE database, approximately 1.54 miles east-southeast of the site, and has a reported depth to groundwater of 120 feet below surface. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in this area is approximately 50'-75' below surface. The site characterization data is shown in Appendix B.

Tetra Tech

901 West Wall St, Ste 100 Midland, TX 79701

Tel 432.682.4559 Fax 432.682.3946 www.tetrattech.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 medium karst potential, the proposed RRAL for TPH is 100 mg/kg (GRO + DRO + ORO). Additionally, the proposed RRAL for chlorides is 600 mg/kg.

Soil Assessment and Analytical Results

Initial Sampling

On November 15, 2018, COG personnel were onsite to evaluate and sample the release area. A total of five (5) sample points (S-1, S-2, S-3, S-4, and S-5) were installed inside the spill footprint to total depths ranging from 1' to 10' below surface. Additionally, four (4) horizontal delineation samples (North, South, East, and West) were collected. 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 location is shown on Figure 3.

Referring to Table 1, the area of horizontal sample (West) did not show any benzene, total BTEX, TPH or chloride concentration above the RRALs'. None of the samples analyzed in the areas of (S-1, S-2, S-3, S-4, S-5, North, South, and East) showed benzene or total BTEX, above the RRALs. However, the areas of (S-1, S-2, S-3, S-4, S-5, North, South, and East) all showed TPH or chloride concentration above the RRALs' and the areas of (S-2 and S-5) were not vertically defined.

Secondary Sampling

On January 24, 2019, Tetra Tech personnel were onsite to vertically define the areas of (S-2 and S-5). A total of one (1) borehole (BH-1) was drilled to 29' - 30' below surface. One (1) background borehole was drilled to 29' - 30' below ground surface in order to evaluate the native soils. A secondary sample point (S-5A) was also installed in the area of (S-5) to a total depth of 2'-2.5' below surface. Additionally, three (3) horizontal delineation samples (North, East, and South) were collected. 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.



Background

Referring to Table 1, the background borehole (Background) showed chloride concentrations that increased with depth to a chloride high of 768 mg/kg at 9'-10' below surface.

Borehole

Referring to Table 1, the area of borehole (BH-1) did not show any benzene or total BTEX above the RRALs. However, the area of borehole (BH-1) showed a TPH concentration of 4,786 mg/kg at 0-1', which declined with depth to below the RRAL with a concentration of 38.2 mg/kg at 9'-10' below surface. Additionally, elevated chlorides above the background concentrations were detected at borehole (BH-1) to a depth of 19'-20', before declining below the RRAL at 24'-25'.

Sample Point

Referring to Table 1, the area of (S-5A) did not show any benzene, total BTEX, TPH or chloride concentrations above the RRALs'.

Horizontals

Referring to Table 1, the areas of (North and South) not show any benzene, total BTEX, TPH, or chloride concentrations above the RRALs'. The area of (South) did not show any benzene, total BTEX, or chloride concentrations above the RRALs', however it did show a TPH concentration of 407 mg/kg.

Work Plan

Based on the laboratory data, COG proposes to excavate the areas as shown on Figure 4 and highlighted (green) in Table 1. The areas of (S-1, S-3, S-4, S-5, North, South, and East) will be excavated to approximately 6" below surface to remove the shallow chloride and TPH impact. The area of (S-2 and BH-1) will be excavated to approximately 6' below surface to remove the deeper chloride and TPH impact. Approximately 600 cubic yards of material is estimated to be removed. Five point composite sidewall and bottom hole confirmation samples will be collected every 400 square feet to be representative of the area and to confirm proper removal of the impacted soils. Once excavated, the area will be backfilled with clean material to surface grade and the removed materials will be hauled for proper disposal. The remediation will be implemented within 90 days after the work plan approval.

Impacted soil around oil and gas equipment, structures or lines may not be feasible or practicable to be removed due to safety concerns for onsite personnel. As such, COG will excavate the impacted soils to the maximum extent practicable.



Conclusion

Once the remediation activities are completed, a closure report will be prepared for NMOCD approval. If you have any questions or comments concerning the assessment or remediation activities for this site, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

A handwritten signature in blue ink that reads 'Clair Gonzales'.

Clair Gonzales,
Project Manager

A handwritten signature in black ink that reads 'Johnathon P. Kell'.

Johnathon Kell,
Geologist II

cc: Ryan Mann – SLO
Mike Bratcher - NMOCD
Ike Tavaréz – COG
Dakota Neel - COG
Rebecca Haskell - COG
Sheldon Hitchcock - COG
DeAnn Grant - COG

Tables

Table 1
COG
SRO State Com #10H
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Sample Depth (in)	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	GRO+DRO	ORO	Total						
S-1	11/15/2018	Surface	-	X		<10.0	<10.0	<10.0	<10.0	<10.0	<0.025	-	-	-	<0.150	1,600
	"	1	-	X		<10.0	<10.0	<10.0	<10.0	<10.0	<0.025	-	-	-	<0.150	160
S-2	11/15/2018	Surface	-	X		56.6	3,070	3,127	437	3,564	<0.025	-	-	-	0.296	1,960
	"	1	-	X		<10.0	<10.0	<10.0	<10.0	<10.0	<0.025	-	-	-	<0.150	784
	"	2	-	X		<10.0	<10.0	<10.0	<10.0	<10.0	<0.025	-	-	-	<0.150	736
	"	3	-	X		<10.0	<10.0	<10.0	<10.0	<10.0	<0.025	-	-	-	<0.150	1,170
	"	4	-	X		<10.0	10.0	10.0	<10.0	10.0	<0.025	-	-	-	<0.150	656
	"	6	-	X		<10.0	<10.0	<10.0	<10.0	<10.0	<0.025	-	-	-	<0.150	1,680
	"	8	-	X		<10.0	44.8	44.8	<10.0	44.8	<0.025	-	-	-	<0.150	1,300
	"	10	-	X		<10.0	10.0	10.0	<10.0	10.0	<0.025	-	-	-	<0.150	1,070
BH-1	1/24/2019	0-1	-	X		601.0	3,720	4,321	465	4,786	<0.00201	0.00328	<0.00201	0.0124	0.0157	1,430
	"	2-3	-	X		25	1,800	1,825	258	2,083	<0.00199	<0.00199	<0.00199	0.00588	0.00588	1,810
	"	4-5	-	X		<15.0	984	984	122	1,110	-	-	-	-	-	1,020
	"	6-7	-	X		<14.9	114	114	<14.9	114	-	-	-	-	-	471
	"	9-10	-	X		<15.0	38.2	38.2	<15.0	38.2	-	-	-	-	-	1,510
	"	14-15	-	X		-	-	-	-	-	-	-	-	-	-	911
	"	19-20	-	X		-	-	-	-	-	-	-	-	-	-	1,160
	"	24-25	-	X		-	-	-	-	-	-	-	-	-	-	366
	"	29-30	-	X		-	-	-	-	-	-	-	-	-	-	171
S-3	11/15/2018	Surface	-	X		<10.0	<10.0	<10.0	<10.0	<10.0	<0.025	-	-	-	<0.150	1,220
	"	1	-	X		<10.0	<10.0	<10.0	<10.0	<10.0	<0.025	-	-	-	<0.150	176
S-4	1/24/2019	Surface	-	X		<10.0	1,020	1,020	254	1,274	<0.025	-	-	-	<0.150	2,480
	"	1	-	X		<10.0	<10.0	<10.0	<10.0	<10.0	<0.025	-	-	-	0.184	208
S-5	11/15/2018	Surface	-	X		<10.0	213	213	50.3	263	<0.025	-	-	-	<0.150	32.0
S-5A	1/24/2019	0-1	-	X		<15.0	15.1	15.1	<15.0	15.1	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	179
	"	1-1.5	-	X		<15.0	<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	18.4
	"	2-2.5	-	X		<15.0	<15.0	<15.0	<15.0	<15.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	38.1

Table 1
COG
SRO State Com #10H
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Sample Depth (in)	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	GRO+DRO	ORO	Total						
North	11/15/2018	-	-	X		<10.0	2,220	2,220	517	2,737	<0.025	-	-	-	<0.150	896
North	1/24/2019	-	-	X		<15.0	16.7	16.7	<15.0	16.7	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	70.5
East	11/15/2018	-	-	X		<10.0	10.0	10.0	<10.0	10.0	<0.025	-	-	-	<0.150	19,600
East	1/24/2019	-	-	X		<15.0	22.4	22.4	<15.0	22.4	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	6.11
South	11/15/2018	-	-	X		<10.0	676	676	251	927	<0.025	-	-	-	<0.150	480
South	1/24/2019	-	-	X		<15.0	354	354	52.8	407	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	52.5
West	11/15/2018	-	-	X		<10.0	28.1	28.1	15.6	43.7	<0.025	-	-	-	<0.150	240
Background	1/24/2019	0-1	-	X		-	-	-	-	-	-	-	-	-	-	<4.98
	"	2-3	-	X		-	-	-	-	-	-	-	-	-	-	153
	"	4-5	-	X		-	-	-	-	-	-	-	-	-	-	102
	"	6-7	-	X		-	-	-	-	-	-	-	-	-	-	424
	"	9-10	-	X		-	-	-	-	-	-	-	-	-	-	768
	"	14-15	-	X		-	-	-	-	-	-	-	-	-	-	310
	"	19-20	-	X		-	-	-	-	-	-	-	-	-	-	405
	"	24-25	-	X		-	-	-	-	-	-	-	-	-	-	73.6
	"	29-30	-	X		-	-	-	-	-	-	-	-	-	-	8.22

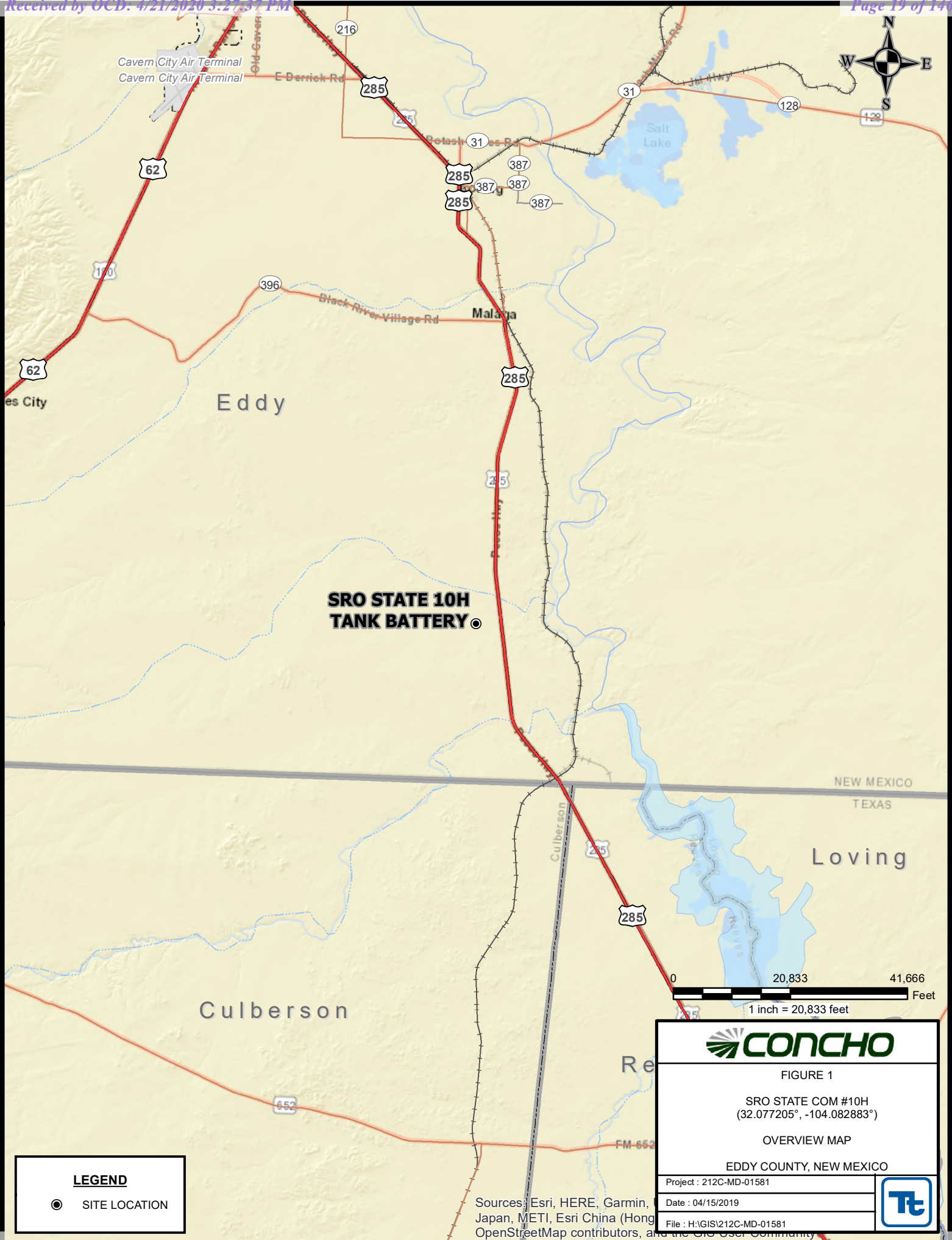
(-) Not Analyzed

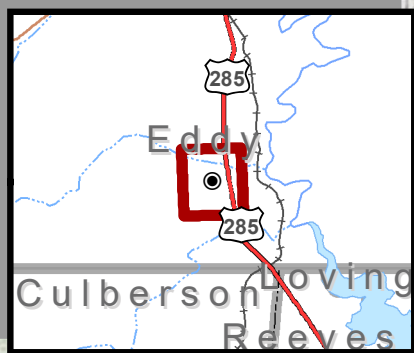
Proposed Excavation Depths

Client:	COG			
Site Name	SRO State Com #10H			
Boring/Well:	Background			
GPS	32.077276, -104.083675			
Project #:	212C-MD-01581			
Total Depth	29'-30'			
Date Installed:	1/24/2019			
DEPTH (Ft)	Lithology/Sample Description	NOTES	Chloride(ppm)	Titration (ppm)
0-1	Brown soil	No Stain or Odor	106	-
2-3	"	No Stain or odor	546	-
4-5	Redish-Brown Sand w/ ~15% red gypsum	No Stain or odor	1050	-
6-7	"	No Stain or odor	1040	800
9-10	Reddish-Brown clay (fiabile) w/~15% Gypsum	No Stain or odor	1020	600
14-15	"	No Stain or odor	886	-
19-20	Reddish-Brown silty clay w/ ~10-15% Gypsum	No Stain or odor	590	-
24-25	Reddish-Brown silty sand w/ ~40% gypsum	No Stain or odor	800	200
29-30	"		800.00	-

Client:	COG			
Site Name	SRO State Com #10H			
Boring/Well:	BH-1			
GPS	32.077165, -104.082744			
Project #:	212C-MD-01581			
Total Depth	29'-30'			
Date Installed:	1/24/2019			
DEPTH (Ft)	Lithology/Sample Description	NOTES	Chloride(ppm)	Titration (ppm)
0-1	Yellow Brown Sand w/ ~60-70% gravel	No Stain or Odor	2,850	-
2-3	"	No Stain or odor	3020	-
4-5	Redish-Brown Sand w/ ~20-30% gravel	No Stain or odor	1290	-
6-7	"w/ ~5-15% gypsum	No Stain or odor	1460	-
9-10	"w/ clay nodules (soft) w/ ~20-30% gypsum	No Stain or odor	2,010	-
14-15	Redish-Brown sandy clay w/ ~20% gypsum	No Stain or odor	1,220	840
19-20	"	No Stain or odor	1,100	620
24-25	Reddish-Brown vf-f silty sand w/ ~5% gypsum	No Stain or odor	800	280
29-30	Reddish-Brown vf-f silty sand		349.00	160

Figures





OVERALL VIEW 1:742,459

SRO STATE 10H TANK BATTERY



FIGURE 2

SRO STATE COM #10H
(32.077205°, -104.082883°)

TOPOGRAPHIC MAP

EDDY COUNTY, NEW MEXICO

Project : 212C-MD-01581

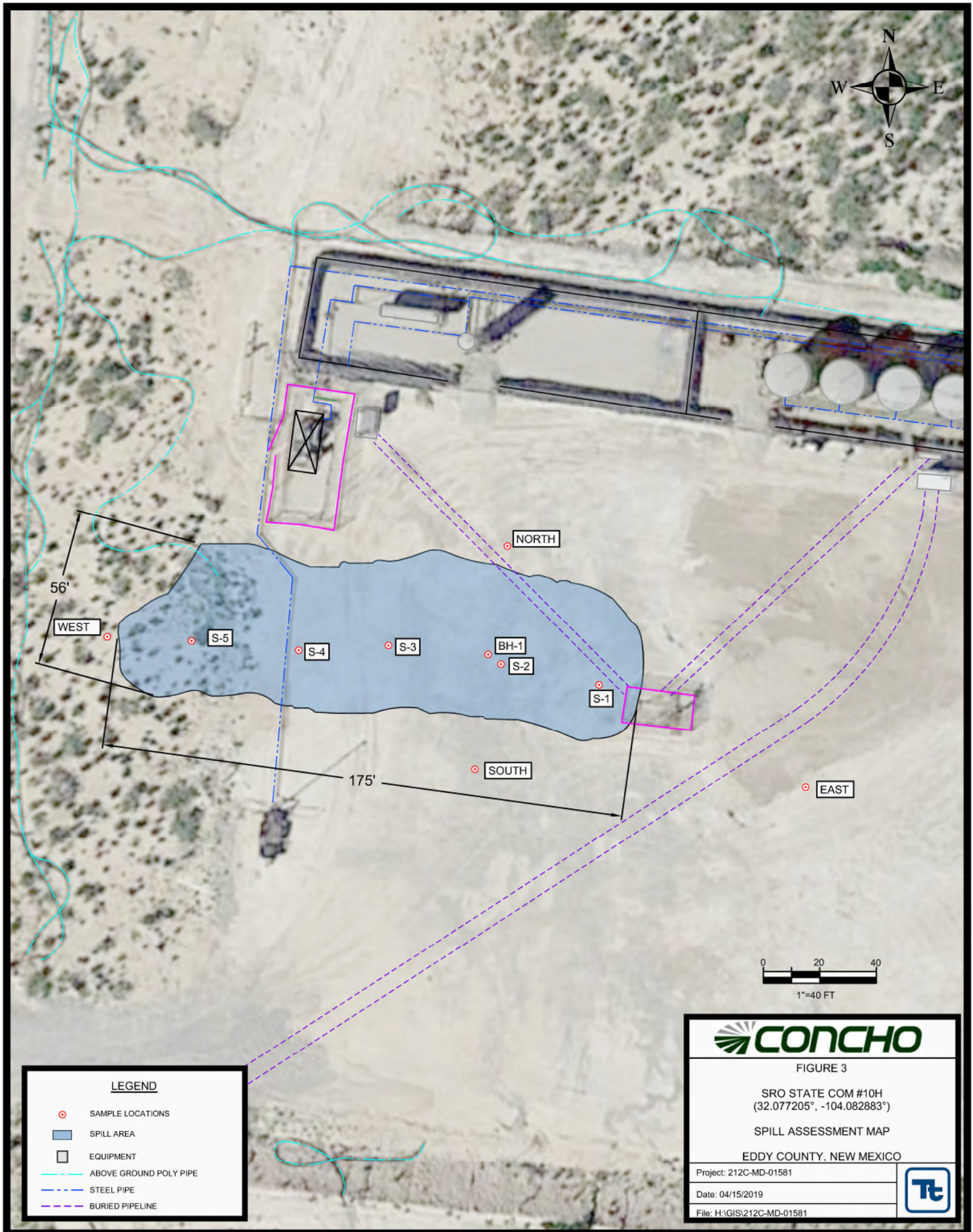
Date : 04/15/2019

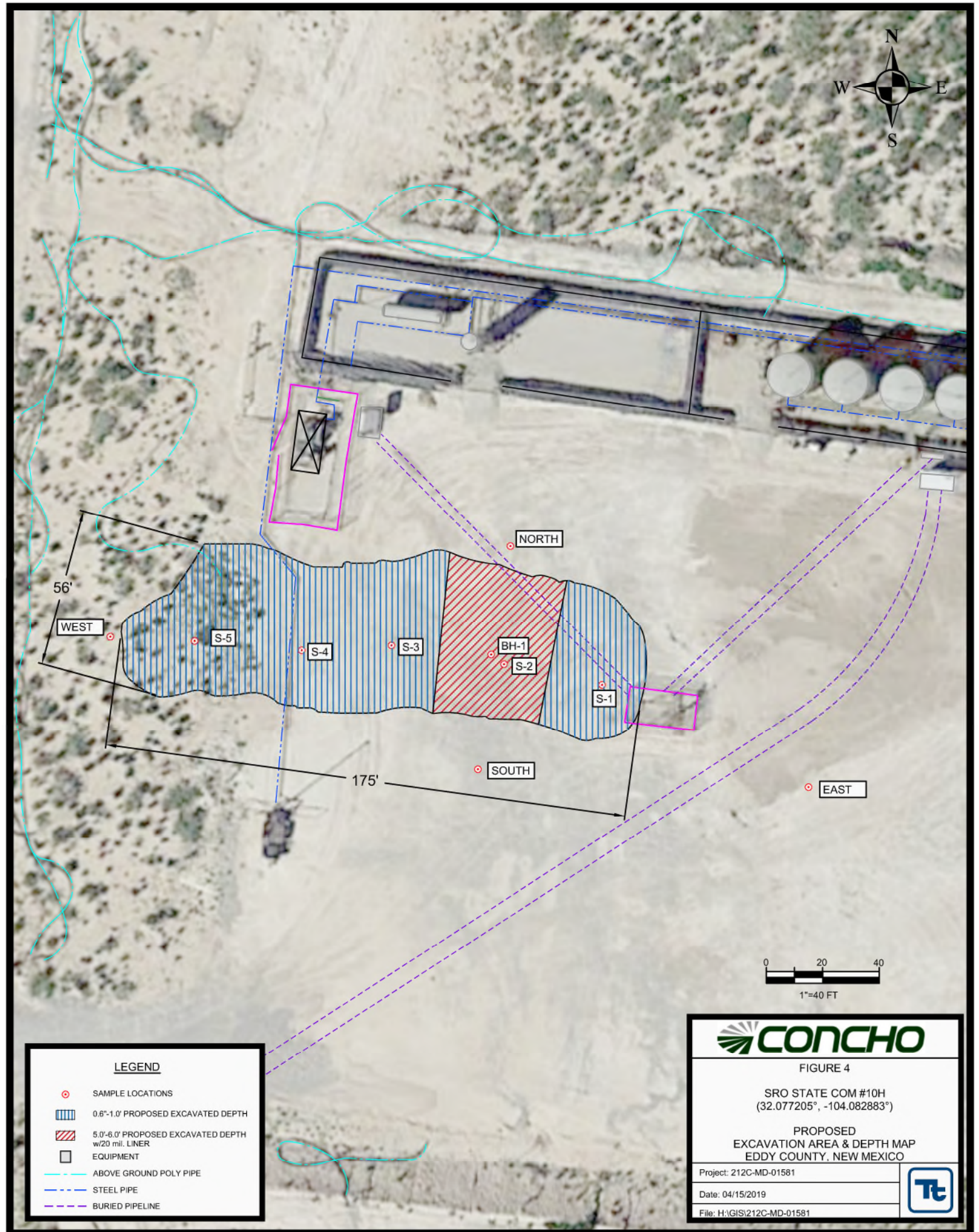
File : H:\GIS\212C-MD-01581



LEGEND

● SITE LOCATION





Photos

COG
SRO State Com #10H
Eddy County, New Mexico



TETRA TECH



Area of BH-1 – View to Northeast



Area of Background – View North

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 NM Oil Conservation Div.
Energy Minerals and Natural Dist. II - Artesia
Resources Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Received Submit to appropriate OCD District office
11/06/2018

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # (assigned by OCD)
Contact mailing address	

Location of Release Source

Latitude _____ Longitude _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# (if applicable)

Unit Letter	Section	Township	Range	County

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)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input type="checkbox"/> 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

<input type="checkbox"/> The source of the release has been stopped.	
<input type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> 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: _____	Title: _____
Signature: <u>Delann Opreant</u>	Date: _____
email: _____	Telephone: _____
<u>OCD Only</u>	
Received by: <u>Ana Maria Buitrago</u>	Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: _____ Title: _____

Signature:  _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

Remediation 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)

- ☐ 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.

Printed Name: _____ Title: _____

Signature: *MB* Date: _____

email: _____ Telephone: _____

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

Signature:  Date: _____

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
SRO State Com #010H
Eddy County, New Mexico

25 South 27 East

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

25 South 28 East

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

25 South 29 East

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

26 South 27 East

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

26 South 28 East

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

26 South 29 East

6	5	78	4	3	2	1
7	8	9	10	11	12	
18	17	16	15	14	13	
19	20	21	22	57	23	24
30	29	28	27	69	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)

Closed															
POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	DepthWell	DepthWater	Water Column	
C 01668		CUB	ED	3	3	12	26S	28E		589957	3546554*	<input type="checkbox"/>	250	100	150
C 02160		CUB	ED	4	1	2	14	26S	28E	589243	3546044*	<input type="checkbox"/>	300	120	180
C 02160 S		CUB	ED	1	1	2	14	26S	28E	589043	3546244*	<input type="checkbox"/>	300	120	180
C 02160 S2		CUB	ED	1	1	2	14	26S	28E	589043	3546244*	<input type="checkbox"/>	300	120	180
C 02160 S3		CUB	ED	2	2	1	14	26S	28E	588834	3546241*	<input type="checkbox"/>	300	120	180
C 02160 S4		CUB	ED	2	2	1	14	26S	28E	588834	3546241*	<input type="checkbox"/>	300	120	180
C 02160 S5		CUB	ED	1	1	1	14	26S	28E	588225	3546237*	<input type="checkbox"/>	300	120	180
C 02160 S6		CUB	ED	3	3	1	14	26S	28E	588232	3545635*	<input type="checkbox"/>	300	120	180
C 02160 S7		CUB	ED	3	3	1	22	26S	28E	586638	3543998*	<input type="checkbox"/>	300	120	180
C 02160 S8		CUB	ED	2	3	3	12	26S	28E	590056	3546653*	<input type="checkbox"/>	200	120	80
C 02160 S9		CUB	ED	3	3	2	02	26S	28E	589020	3548868*	<input type="checkbox"/>	300	120	180
C 02477		CUB	ED	1	1	03	26S	28E		586687	3549347*	<input type="checkbox"/>	150		
C 02478		CUB	ED	2	1	05	26S	28E		583848	3549325*	<input type="checkbox"/>	100		
C 02479		CUB	ED	4	4	10	26S	28E		587909	3546534*	<input type="checkbox"/>	200		
C 02480		CUB	ED	4	4	10	26S	28E		587909	3546534*	<input type="checkbox"/>	150		
C 02481		CUB	ED	1	1	14	26S	28E		588326	3546138*	<input type="checkbox"/>	200		
C 02894		C	ED	2	2	3	12	26S	28E	590458	3547061*	<input type="checkbox"/>	240		
C 02924		C	ED	1	3	2	11	26S	28E	589032	3547451*	<input type="checkbox"/>			
C 04022 POD1		CUB	ED	4	4	2	15	26S	28E	588082	3545647	<input type="checkbox"/>	220	175	45
C 04022 POD2		CUB	ED	2	2	2	27	26S	28E	588106	3543082	<input type="checkbox"/>	250	145	105

Average Depth to Water: **124 feet**

Minimum Depth: **100 feet**

Maximum Depth: **175 feet**

Record Count: 20

PLSS Search:

Township: 26S **Range:** 28E

*UTM location was derived from PLSS - see Help

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





3/22/19 10:59 AM

WATER COLUMN/ AVERAGE DEPTH
TO WATER

COG - SRO State Com #10H

Karst Potential

Legend

-  32.077205, -104.082883
-  High
-  Low
-  Medium

Black River Village Rd

Oak Rd
Loving

Malaga

720

32.077205, -104.082883

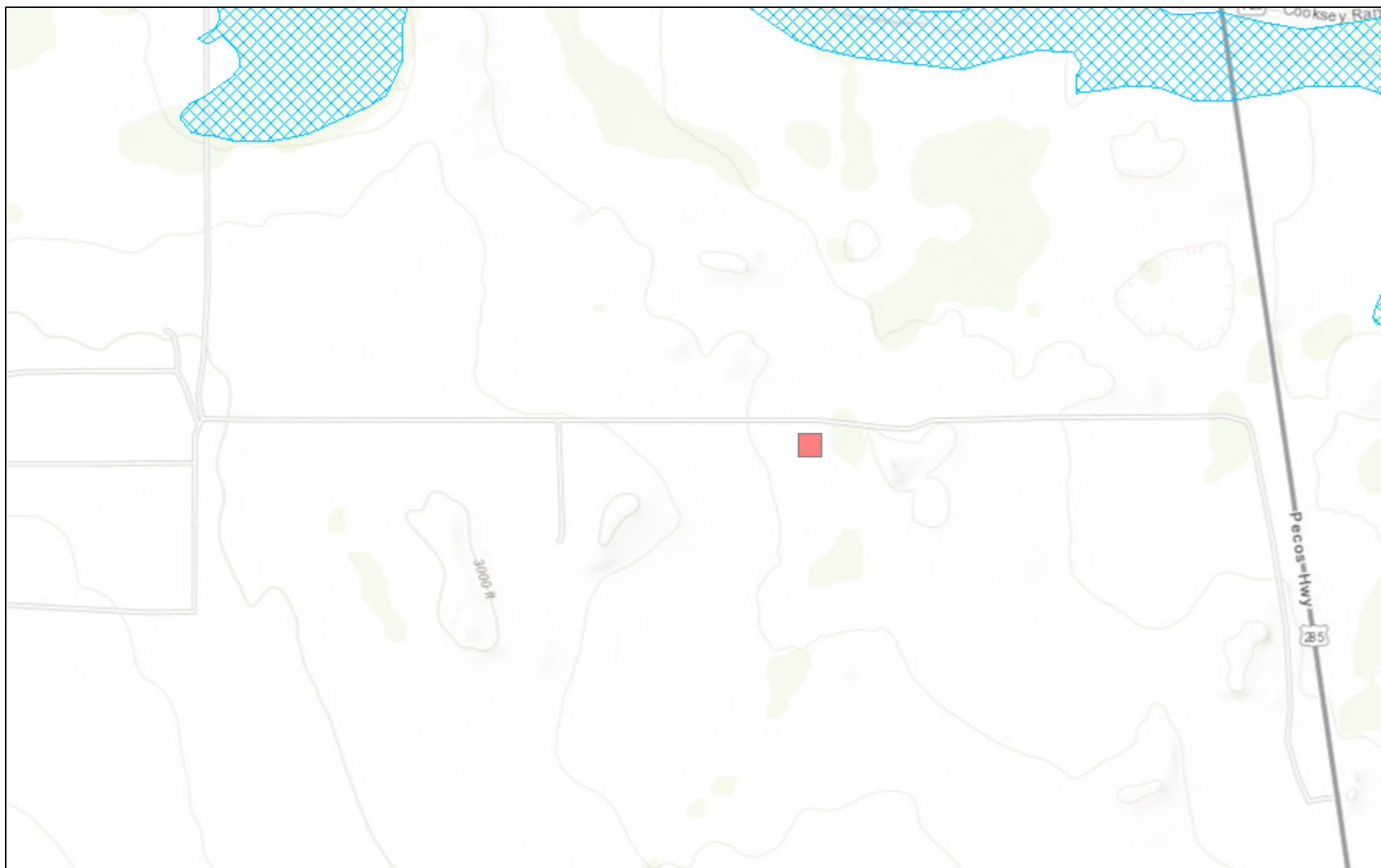
285

Google Earth



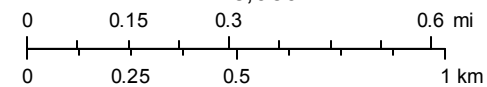
9 mi

New Mexico NFHL Data



April 8, 2019

1:18,056



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

Appendix C

Analytical Report 612598

for Tetra Tech- Midland

Project Manager: Clair Gonzales

SRO State Com #10H (10-23-18)

212C-MD-01581

08-FEB-19

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)

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-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)

Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429)

Xenco-Lakeland: Florida (E84098)



08-FEB-19

Project Manager: **Clair Gonzales**

Tetra Tech- Midland

901 West Wall ST

Midland, TX 79701

Reference: XENCO Report No(s): **612598**

SRO State Com #10H (10-23-18)

Project Address: Eddy County, New Mexico

Clair Gonzales:

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) 612598. 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. 612598 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,

A handwritten signature in black ink that reads 'Kalei Stout'.

Kalei Stout

Midland Laboratory Director

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



Sample Cross Reference 612598

Tetra Tech- Midland, Midland, TX

SRO State Com #10H (10-23-18)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH-1 (0-1')	S	01-24-19 00:00		612598-001
BH-1 (2'-3')	S	01-24-19 00:00		612598-002
BH-1 (4'-5")	S	01-24-19 00:00		612598-003
BH-1 (6'-7')	S	01-24-19 00:00		612598-004
BH-1 (9-10')	S	01-24-19 00:00		612598-005
BH-1 (14'-15')	S	01-24-19 00:00		612598-006
BH-1 (19'-20')	S	01-24-19 00:00		612598-007
BH-1 (24'-25")	S	01-24-19 00:00		612598-008
BH-1 (29'-30')	S	01-24-19 00:00		612598-009
Background (0-1)	S	01-24-19 00:00		612598-010
Background (2'-3')	S	01-24-19 00:00		612598-011
Background (4'-5')	S	01-24-19 00:00		612598-012
Background (6'-7')	S	01-24-19 00:00		612598-013
Background (9'-10')	S	01-24-19 00:00		612598-014
Background (14'-15')	S	01-24-19 00:00		612598-015
Background (19'-20')	S	01-24-19 00:00		612598-016
Background (24'-25')	S	01-24-19 00:00		612598-017
Background (29'-30')	S	01-24-19 00:00		612598-018
S-5A (0-1')	S	01-24-19 00:00		612598-019
S-5A (1'-1.5')	S	01-24-19 00:00		612598-020
S-5A (2'-2.5')	S	01-24-19 00:00		612598-021

**CASE NARRATIVE****Client Name: Tetra Tech- Midland****Project Name: SRO State Com #10H (10-23-18)**

Project ID: 212C-MD-01581
Work Order Number(s): 612598

Report Date: 08-FEB-19
Date Received: 01/25/2019

Sample receipt non conformances and comments:

02/08/19: revised report to include TPH data for samples 003-005 per client request-KLS.

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3077529 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.

Samples affected are: 612598-001.

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3077562 TPH by SW8015 Mod

Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 612598-001.



Certificate of Analysis Summary 612598

Tetra Tech- Midland, Midland, TX

Project Name: SRO State Com #10H (10-23-18)



Project Id: 212C-MD-01581
Contact: Clair Gonzales
Project Location: Eddy County, New Mexico

Date Received in Lab: Fri Jan-25-19 02:23 pm
Report Date: 08-FEB-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	612598-001	612598-002	612598-003	612598-004	612598-005	612598-006
	<i>Field Id:</i>	BH-1 (0'-1')	BH-1 (2'-3')	BH-1 (4'-5")	BH-1 (6'-7')	BH-1 (9'-10')	BH-1 (14'-15')
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jan-24-19 00:00	Jan-24-19 00:00	Jan-24-19 00:00	Jan-24-19 00:00	Jan-24-19 00:00	Jan-24-19 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Jan-29-19 17:15	Jan-29-19 17:15				
	<i>Analyzed:</i>	Jan-30-19 17:25	Jan-30-19 11:21				
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL				
Benzene		<0.00201 0.00201	<0.00199 0.00199				
Toluene		0.00328 0.00201	<0.00199 0.00199				
Ethylbenzene		<0.00201 0.00201	<0.00199 0.00199				
m,p-Xylenes		<0.00402 0.00402	<0.00398 0.00398				
o-Xylene		0.0124 0.00201	0.00588 0.00199				
Total Xylenes		0.0124 0.00201	0.00588 0.00199				
Total BTEX		0.0157 0.00201	0.00588 0.00199				
Chloride by EPA 300	<i>Extracted:</i>	Jan-31-19 13:00	Jan-31-19 13:00	Jan-31-19 13:00	Jan-31-19 13:00	Jan-31-19 13:00	Jan-31-19 13:00
	<i>Analyzed:</i>	Feb-01-19 02:08	Feb-01-19 02:14	Feb-01-19 02:35	Feb-01-19 02:42	Feb-01-19 02:48	Feb-01-19 02:54
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1430 24.8	1810 24.8	1020 25.0	471 49.5	1510 49.9	911 25.1
TPH by SW8015 Mod	<i>Extracted:</i>	Jan-30-19 15:00	Jan-30-19 15:00	Feb-07-19 16:00	Feb-07-19 16:00	Feb-07-19 16:00	
	<i>Analyzed:</i>	Jan-30-19 22:58	Jan-30-19 23:18	Feb-08-19 03:51	Feb-08-19 04:11	Feb-08-19 04:31	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		60.1 15.0	25.2 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	
Diesel Range Organics (DRO)		3720 15.0	1800 15.0	984 15.0	114 14.9	38.2 15.0	
Motor Oil Range Hydrocarbons (MRO)		465 15.0	258 15.0	122 15.0	<14.9 14.9	<15.0 15.0	
Total TPH		4250 15.0	2080 15.0	1110 15.0	114 14.9	38.2 15.0	

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Kalei Stout
Midland Laboratory Director



Certificate of Analysis Summary 612598

Tetra Tech- Midland, Midland, TX

Project Name: SRO State Com #10H (10-23-18)



Project Id: 212C-MD-01581
Contact: Clair Gonzales
Project Location: Eddy County, New Mexico

Date Received in Lab: Fri Jan-25-19 02:23 pm
Report Date: 08-FEB-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	612598-007	612598-008	612598-009	612598-010	612598-011	612598-012
	<i>Field Id:</i>	BH-1 (19'-20')	BH-1 (24'-25")	BH-1 (29'-30')	Background (0-1)	Background (2'-3')	Background (4'-5')
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jan-24-19 00:00	Jan-24-19 00:00	Jan-24-19 00:00	Jan-24-19 00:00	Jan-24-19 00:00	Jan-24-19 00:00
Chloride by EPA 300	<i>Extracted:</i>	Jan-31-19 13:00	Jan-31-19 13:00	Jan-31-19 13:00	Jan-31-19 17:00	Jan-31-19 17:00	Jan-31-19 17:00
	<i>Analyzed:</i>	Feb-01-19 03:00	Feb-01-19 03:06	Feb-01-19 03:12	Feb-01-19 03:53	Feb-01-19 04:11	Feb-01-19 04:17
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1160 24.9	366 4.99	171 4.95	<4.98 4.98	153 4.98	102 25.0

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Kalei Stout
Midland Laboratory Director



Certificate of Analysis Summary 612598

Tetra Tech- Midland, Midland, TX

Project Name: SRO State Com #10H (10-23-18)



Project Id: 212C-MD-01581
Contact: Clair Gonzales
Project Location: Eddy County, New Mexico

Date Received in Lab: Fri Jan-25-19 02:23 pm
Report Date: 08-FEB-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	612598-013	612598-014	612598-015	612598-016	612598-017	612598-018
	<i>Field Id:</i>	Background (6'-7')	Background (9'-10')	Background (14'-15')	Backrground (19'-20')	Background (24'-25')	Background (29'-30')
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jan-24-19 00:00	Jan-24-19 00:00	Jan-24-19 00:00	Jan-24-19 00:00	Jan-24-19 00:00	Jan-24-19 00:00
Chloride by EPA 300	<i>Extracted:</i>	Jan-31-19 17:00	Jan-31-19 17:00	Jan-31-19 17:00	Jan-31-19 17:00	Jan-31-19 17:00	Jan-31-19 17:00
	<i>Analyzed:</i>	Feb-01-19 04:24	Feb-01-19 04:30	Feb-01-19 04:51	Feb-01-19 04:57	Feb-01-19 05:04	Feb-01-19 05:10
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		424 24.8	768 24.9	310 4.97	405 25.1	73.6 5.01	8.22 4.95

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Kalei Stout
Midland Laboratory Director



Certificate of Analysis Summary 612598

Tetra Tech- Midland, Midland, TX

Project Name: SRO State Com #10H (10-23-18)



Project Id: 212C-MD-01581
Contact: Clair Gonzales
Project Location: Eddy County, New Mexico

Date Received in Lab: Fri Jan-25-19 02:23 pm
Report Date: 08-FEB-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	612598-019	612598-020	612598-021			
	<i>Field Id:</i>	S-5A (0'-1')	S-5A (1'-1.5')	S-5A (2'-2.5')			
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Jan-24-19 00:00	Jan-24-19 00:00	Jan-24-19 00:00			
BTEX by EPA 8021B	<i>Extracted:</i>	Jan-29-19 17:15	Jan-29-19 17:15	Jan-29-19 17:15			
	<i>Analyzed:</i>	Jan-30-19 11:40	Jan-30-19 11:59	Jan-30-19 12:18			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202			
Toluene		<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202			
Ethylbenzene		<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202			
m,p-Xylenes		<0.00402 0.00402	<0.00400 0.00400	<0.00403 0.00403			
o-Xylene		<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202			
Total Xylenes		<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202			
Total BTEX		<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202			
Chloride by EPA 300	<i>Extracted:</i>	Jan-31-19 17:00	Jan-31-19 17:00	Jan-31-19 17:00			
	<i>Analyzed:</i>	Feb-01-19 05:16	Feb-01-19 05:22	Feb-01-19 05:41			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		179 5.00	18.4 4.95	38.1 4.95			
TPH by SW8015 Mod	<i>Extracted:</i>	Jan-30-19 15:00	Jan-30-19 15:00	Jan-30-19 15:00			
	<i>Analyzed:</i>	Jan-31-19 00:17	Jan-31-19 00:37	Jan-31-19 01:37			
	<i>Units/RL:</i>	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)		15.1 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		15.1 15.0	<15.0 15.0	<15.0 15.0			

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Kalei Stout
 Midland Laboratory Director



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: SRO State Com #10H (10-23-18)

Work Orders : 612598,

Project ID: 212C-MD-01581

Lab Batch #: 3077529

Sample: 612598-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/30/19 11:21

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0320	0.0300	107	70-130	
4-Bromofluorobenzene	0.0374	0.0300	125	70-130	

Lab Batch #: 3077529

Sample: 612598-019 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/30/19 11:40

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0338	0.0300	113	70-130	
4-Bromofluorobenzene	0.0335	0.0300	112	70-130	

Lab Batch #: 3077529

Sample: 612598-020 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/30/19 11:59

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0338	0.0300	113	70-130	
4-Bromofluorobenzene	0.0333	0.0300	111	70-130	

Lab Batch #: 3077529

Sample: 612598-021 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/30/19 12:18

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0335	0.0300	112	70-130	
4-Bromofluorobenzene	0.0337	0.0300	112	70-130	

Lab Batch #: 3077529

Sample: 612598-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/30/19 17:25

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	0.0458	0.0300	153	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: SRO State Com #10H (10-23-18)

Work Orders : 612598,

Project ID: 212C-MD-01581

Lab Batch #: 3077562

Sample: 612598-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/30/19 22:58

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	99.7	113	70-135	
o-Terphenyl	81.8	49.9	164	70-135	**

Lab Batch #: 3077562

Sample: 612598-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/30/19 23:18

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	99.9	103	70-135	
o-Terphenyl	63.8	50.0	128	70-135	

Lab Batch #: 3077562

Sample: 612598-019 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/31/19 00:17

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.0	99.9	97	70-135	
o-Terphenyl	48.8	50.0	98	70-135	

Lab Batch #: 3077562

Sample: 612598-020 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/31/19 00:37

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.3	99.8	99	70-135	
o-Terphenyl	50.1	49.9	100	70-135	

Lab Batch #: 3077562

Sample: 612598-021 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/31/19 01:37

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.2	99.9	99	70-135	
o-Terphenyl	49.9	50.0	100	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: SRO State Com #10H (10-23-18)

Work Orders : 612598,

Project ID: 212C-MD-01581

Lab Batch #: 3078443

Sample: 612598-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/08/19 03:51

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.4	99.9	98	70-135	
o-Terphenyl	64.1	50.0	128	70-135	

Lab Batch #: 3078443

Sample: 612598-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/08/19 04:11

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.8	99.6	96	70-135	
o-Terphenyl	48.8	49.8	98	70-135	

Lab Batch #: 3078443

Sample: 612598-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/08/19 04:31

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.0	99.8	96	70-135	
o-Terphenyl	48.3	49.9	97	70-135	

Lab Batch #: 3077529

Sample: 7670751-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/30/19 11:02

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	0.0275	0.0300	92	70-130	

Lab Batch #: 3077562

Sample: 7670775-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/30/19 19:59

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	54.3	50.0	109	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: SRO State Com #10H (10-23-18)

Work Orders : 612598,

Project ID: 212C-MD-01581

Lab Batch #: 3078443

Sample: 7671316-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/07/19 20:57

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.8	100	98	70-135	
o-Terphenyl	49.5	50.0	99	70-135	

Lab Batch #: 3077529

Sample: 7670751-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/30/19 09:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0323	0.0300	108	70-130	
4-Bromofluorobenzene	0.0308	0.0300	103	70-130	

Lab Batch #: 3077562

Sample: 7670775-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/30/19 20:19

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	100	130	70-135	
o-Terphenyl	62.2	50.0	124	70-135	

Lab Batch #: 3078443

Sample: 7671316-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/07/19 21:17

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	58.8	50.0	118	70-135	

Lab Batch #: 3077529

Sample: 7670751-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/30/19 09:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0322	0.0300	107	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: SRO State Com #10H (10-23-18)

Work Orders : 612598,

Project ID: 212C-MD-01581

Lab Batch #: 3077562

Sample: 7670775-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/30/19 20:38

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	129	100	129	70-135	
o-Terphenyl	60.6	50.0	121	70-135	

Lab Batch #: 3078443

Sample: 7671316-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/07/19 21:37

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	100	123	70-135	
o-Terphenyl	63.2	50.0	126	70-135	

Lab Batch #: 3077529

Sample: 612598-021 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/30/19 10:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0322	0.0300	107	70-130	
4-Bromofluorobenzene	0.0312	0.0300	104	70-130	

Lab Batch #: 3077562

Sample: 612644-021 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/30/19 21:18

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	100	116	70-135	
o-Terphenyl	52.6	50.0	105	70-135	

Lab Batch #: 3078443

Sample: 612618-076 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/07/19 22:16

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	126	99.9	126	70-135	
o-Terphenyl	60.5	50.0	121	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: SRO State Com #10H (10-23-18)

Work Orders : 612598,

Project ID: 212C-MD-01581

Lab Batch #: 3077529

Sample: 612598-021 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/30/19 10:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0322	0.0300	107	70-130	
4-Bromofluorobenzene	0.0308	0.0300	103	70-130	

Lab Batch #: 3077562

Sample: 612644-021 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/30/19 21:38

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	119	99.9	119	70-135	
o-Terphenyl	54.5	50.0	109	70-135	

Lab Batch #: 3078443

Sample: 612618-076 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/07/19 22:35

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	122	99.8	122	70-135	
o-Terphenyl	61.7	49.9	124	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: SRO State Com #10H (10-23-18)

Work Order #: 612598

Project ID: 212C-MD-01581

Analyst: SCM

Date Prepared: 01/29/2019

Date Analyzed: 01/30/2019

Lab Batch ID: 3077529

Sample: 7670751-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	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
Analytes											
Benzene	<0.000386	0.100	0.109	109	0.0998	0.103	103	6	70-130	35	
Toluene	<0.000457	0.100	0.0963	96	0.0998	0.0916	92	5	70-130	35	
Ethylbenzene	<0.000566	0.100	0.0910	91	0.0998	0.0865	87	5	70-130	35	
m,p-Xylenes	<0.00102	0.200	0.177	89	0.200	0.168	84	5	70-130	35	
o-Xylene	<0.000345	0.100	0.0903	90	0.0998	0.0864	87	4	70-130	35	

Analyst: SCM

Date Prepared: 01/31/2019

Date Analyzed: 02/01/2019

Lab Batch ID: 3077813

Sample: 7670914-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<0.858	250	236	94	250	242	97	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



BS / BSD Recoveries



Project Name: SRO State Com #10H (10-23-18)

Work Order #: 612598

Project ID: 212C-MD-01581

Analyst: SCM

Date Prepared: 01/31/2019

Date Analyzed: 02/01/2019

Lab Batch ID: 3077815

Sample: 7670915-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<0.858	250	253	101	250	245	98	3	90-110	20	

Analyst: ARM

Date Prepared: 01/30/2019

Date Analyzed: 01/30/2019

Lab Batch ID: 3077562

Sample: 7670775-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod	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
Analytes											
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	946	95	1000	951	95	1	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	1080	108	1000	1080	108	0	70-135	20	

Analyst: ARM

Date Prepared: 02/07/2019

Date Analyzed: 02/07/2019

Lab Batch ID: 3078443

Sample: 7671316-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod	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
Analytes											
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	876	88	1000	872	87	0	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	964	96	1000	976	98	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: SRO State Com #10H (10-23-18)

Work Order #: 612598

Project ID: 212C-MD-01581

Lab Batch ID: 3077529

QC- Sample ID: 612598-021 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/30/2019

Date Prepared: 01/29/2019

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	<0.000383	0.0996	0.0851	85	0.100	0.0876	88	3	70-130	35	
Toluene	<0.000454	0.0996	0.0760	76	0.100	0.0773	77	2	70-130	35	
Ethylbenzene	<0.000563	0.0996	0.0710	71	0.100	0.0722	72	2	70-130	35	
m,p-Xylenes	<0.00101	0.199	0.139	70	0.200	0.141	71	1	70-130	35	
o-Xylene	<0.000343	0.0996	0.0719	72	0.100	0.0723	72	1	70-130	35	

Lab Batch ID: 3077813

QC- Sample ID: 612813-003 S

Batch #: 1 Matrix: Soil

Date Analyzed: 02/01/2019

Date Prepared: 01/31/2019

Analyst: SCM

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	<0.857	250	245	98	250	258	103	5	90-110	20	

Lab Batch ID: 3077813

QC- Sample ID: 612924-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 02/01/2019

Date Prepared: 01/31/2019

Analyst: SCM

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	938	252	1150	84	252	1140	80	1	90-110	20	X

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

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

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: SRO State Com #10H (10-23-18)

Work Order #: 612598

Project ID: 212C-MD-01581

Lab Batch ID: 3077815

QC- Sample ID: 612598-010 S

Batch #: 1 Matrix: Soil

Date Analyzed: 02/01/2019

Date Prepared: 01/31/2019

Analyst: SCM

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	<0.855	249	264	106	249	270	108	2	90-110	20	

Lab Batch ID: 3077815

QC- Sample ID: 612598-020 S

Batch #: 1 Matrix: Soil

Date Analyzed: 02/01/2019

Date Prepared: 01/31/2019

Analyst: SCM

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	18.4	248	284	107	248	279	105	2	90-110	20	

Lab Batch ID: 3077562

QC- Sample ID: 612644-021 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/30/2019

Date Prepared: 01/30/2019

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)	<8.00	1000	820	82	999	832	83	1	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	937	94	999	953	95	2	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.



Form 3 - MS / MSD Recoveries



Project Name: SRO State Com #10H (10-23-18)

Work Order #: 612598

Project ID: 212C-MD-01581

Lab Batch ID: 3078443

QC- Sample ID: 612618-076 S

Batch #: 1 Matrix: Soil

Date Analyzed: 02/07/2019

Date Prepared: 02/07/2019

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	999	856	86	998	830	83	3	70-135	20	
Diesel Range Organics (DRO)	<8.12	999	957	96	998	925	93	3	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.

Tetra Tech, Inc.

901 West Wall, Suite 100
Midland, Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

Page 1 of 2ORIGINAL COPY~~Final 1.001~~

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

 901 West Wall, Suite 100
 Midland, Texas 79701
 Tel (432) 682-4539
 Fax (432) 682-3946

Page

2 of 2

Client Name: Concho		Site Manager: Clair Gonzales	
Project Name: SRO State Com #10H (10-23-18)			
Project Location: (county, state) Eddy County, New Mexico		Project #: 212C-MD-01581	
Invoice to: COG- like Tavaréz		Sampler Signature: Mike Carmona	
Receiving Laboratory: Xenco Lab		Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD				# CONTAINERS	FILTERED (Y/N)	ANALYSIS REQUEST (Circle or Specify Method No.)
		DATE	TIME	WATER	SOIL	HCL	HNO ₃	ICE	None			
	Background (2'-3')	1/24/2019		X				X			1 N	BTEX 8021B BTEX 8260B
	Background (4'-5')	1/24/2019		X				X			1 N	TPH TX1005 (Ext to C35)
	Background (6'-7')	1/24/2019		X				X			1 N	TPH 8015M (GRO - DRO - ORO - MRO)
	Background (9'-10')	1/24/2019		X				X			1 N	PAH 8270C
	Background (14'-15')	1/24/2019		X				X			1 N	Total Metals Ag As Ba Cd Cr Pb Se Hg
	Background (19'-20')	1/24/2019		X				X			1 N	TCLP Metals Ag As Ba Cd Cr Pb Se Hg
	Background (24'-25')	1/24/2019		X				X			1 N	TCLP Volatiles
	Background (29'-30')	1/24/2019		X				X			1 N	TCLP Semi Volatiles
	S-5A (0-1')	1/24/2019		X				X			1 N	RCI
	S-5A (1'-1.5')	1/24/2019		X				X			1 N	GC/MS Vol. 8260B / 624
	S-5A (2'-2.5')	1/24/2019		X				X			1 N	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

Relinquished by: <i>[Signature]</i> Date: 1-25-19 Time: 1427	Received by: <i>[Signature]</i> Date: 1/28/19 Time: 1423
Relinquished by: _____ Date: _____ Time: _____	Received by: _____ Date: _____ Time: _____

LAB USE ONLY	REMARKS:
<input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> RUSH: Same Day 24 hr 48 hr 72 hr <input type="checkbox"/> Rush Charges Authorized <input type="checkbox"/> Special Report Limits or TRRP Report	(Circle) HAND DELIVERED <input checked="" type="checkbox"/> EDEX UPS Tracking #: _____

ORIGINAL COPY



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Tetra Tech- Midland

Date/ Time Received: 01/25/2019 02:23:00 PM

Work Order #: 612598

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
#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: 01/25/2019

Checklist reviewed by:

Jessica Kramer

Date: 01/25/2019

Analytical Report 612604

for Tetra Tech- Midland

Project Manager: Clair Gonzales

SRO State Com #10H (10-23-18)

212C-MD-01581

04-FEB-19

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)

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-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)

Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429)

Xenco-Lakeland: Florida (E84098)



04-FEB-19

Project Manager: **Clair Gonzales**

Tetra Tech- Midland

901 West Wall ST

Midland, TX 79701

Reference: XENCO Report No(s): **612604**

SRO State Com #10H (10-23-18)

Project Address: Eddy County, New Mexico

Clair Gonzales:

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) 612604. 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. 612604 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,

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

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 612604****Tetra Tech- Midland, Midland, TX**

SRO State Com #10H (10-23-18)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Horizontal North	S	01-24-19 00:00		612604-001
Horizontal South	S	01-24-19 00:00		612604-002
Horizontal East	S	01-24-19 00:00		612604-003



CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: SRO State Com #10H (10-23-18)

Project ID: 212C-MD-01581

Report Date: 04-FEB-19

Work Order Number(s): 612604

Date Received: 01/25/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3077529 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analysis Summary 612604

Tetra Tech- Midland, Midland, TX

Project Name: SRO State Com #10H (10-23-18)



Project Id: 212C-MD-01581
Contact: Clair Gonzales
Project Location: Eddy County, New Mexico

Date Received in Lab: Fri Jan-25-19 02:23 pm
Report Date: 04-FEB-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	612604-001	612604-002	612604-003			
	<i>Field Id:</i>	Horizontal North	Horizontal South	Horizontal East			
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Jan-24-19 00:00	Jan-24-19 00:00	Jan-24-19 00:00			
BTEX by EPA 8021B	<i>Extracted:</i>	Jan-29-19 17:15	Jan-29-19 17:15	Jan-29-19 17:15			
	<i>Analyzed:</i>	Jan-30-19 13:34	Jan-30-19 13:53	Jan-30-19 14:12			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199			
Toluene		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199			
Ethylbenzene		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199			
m,p-Xylenes		<0.00400 0.00400	<0.00403 0.00403	<0.00398 0.00398			
o-Xylene		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199			
Total Xylenes		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199			
Total BTEX		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199			
Chloride by EPA 300	<i>Extracted:</i>	Feb-01-19 11:45	Feb-01-19 11:45	Feb-01-19 11:45			
	<i>Analyzed:</i>	Feb-01-19 14:15	Feb-01-19 14:21	Feb-02-19 10:47			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		70.5 5.00	52.5 24.9	6.11 4.97			
TPH by SW8015 Mod	<i>Extracted:</i>	Jan-29-19 16:00	Jan-29-19 16:00	Jan-29-19 16:00			
	<i>Analyzed:</i>	Jan-30-19 05:26	Jan-30-19 05:46	Jan-30-19 06:06			
	<i>Units/RL:</i>	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)		16.7 15.0	354 15.0	22.4 15.0			
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	52.8 15.0	<15.0 15.0			
Total TPH		16.7 15.0	407 15.0	22.4 15.0			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer

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 **SQL** 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: SRO State Com #10H (10-23-18)

Work Orders : 612604,

Project ID: 212C-MD-01581

Lab Batch #: 3077483

Sample: 612604-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/30/19 05:26

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.8	99.7	96	70-135	
o-Terphenyl	47.5	49.9	95	70-135	

Lab Batch #: 3077483

Sample: 612604-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/30/19 05:46

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.9	99.7	92	70-135	
o-Terphenyl	49.3	49.9	99	70-135	

Lab Batch #: 3077483

Sample: 612604-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/30/19 06:06

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.5	99.9	97	70-135	
o-Terphenyl	46.9	50.0	94	70-135	

Lab Batch #: 3077529

Sample: 612604-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/30/19 13:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	70-130	
4-Bromofluorobenzene	0.0339	0.0300	113	70-130	

Lab Batch #: 3077529

Sample: 612604-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/30/19 13:53

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0331	0.0300	110	70-130	
4-Bromofluorobenzene	0.0340	0.0300	113	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: SRO State Com #10H (10-23-18)

Work Orders : 612604,

Project ID: 212C-MD-01581

Lab Batch #: 3077529

Sample: 612604-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/30/19 14:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0335	0.0300	112	70-130	
4-Bromofluorobenzene	0.0334	0.0300	111	70-130	

Lab Batch #: 3077483

Sample: 7670692-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/29/19 21:47

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	53.0	50.0	106	70-135	

Lab Batch #: 3077529

Sample: 7670751-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/30/19 11:02

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	0.0275	0.0300	92	70-130	

Lab Batch #: 3077483

Sample: 7670692-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/29/19 22:07

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	57.6	50.0	115	70-135	

Lab Batch #: 3077529

Sample: 7670751-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/30/19 09:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0323	0.0300	108	70-130	
4-Bromofluorobenzene	0.0308	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: SRO State Com #10H (10-23-18)

Work Orders : 612604,

Project ID: 212C-MD-01581

Lab Batch #: 3077483

Sample: 7670692-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/29/19 22:27

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	58.8	50.0	118	70-135	

Lab Batch #: 3077529

Sample: 7670751-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 01/30/19 09:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0322	0.0300	107	70-130	
4-Bromofluorobenzene	0.0306	0.0300	102	70-130	

Lab Batch #: 3077483

Sample: 612806-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/29/19 23:07

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	122	99.9	122	70-135	
o-Terphenyl	57.1	50.0	114	70-135	

Lab Batch #: 3077529

Sample: 612598-021 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/30/19 10:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0322	0.0300	107	70-130	
4-Bromofluorobenzene	0.0312	0.0300	104	70-130	

Lab Batch #: 3077483

Sample: 612806-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/29/19 23:27

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	99.7	127	70-135	
o-Terphenyl	58.9	49.9	118	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: SRO State Com #10H (10-23-18)

Work Orders : 612604,

Project ID: 212C-MD-01581

Lab Batch #: 3077529

Sample: 612598-021 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 01/30/19 10:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1,4-Difluorobenzene		0.0322	0.0300	107	70-130	
4-Bromofluorobenzene		0.0308	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.



BS / BSD Recoveries



Project Name: SRO State Com #10H (10-23-18)

Work Order #: 612604

Project ID: 212C-MD-01581

Analyst: SCM

Date Prepared: 01/29/2019

Date Analyzed: 01/30/2019

Lab Batch ID: 3077529

Sample: 7670751-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	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
Analytes											
Benzene	<0.000386	0.100	0.109	109	0.0998	0.103	103	6	70-130	35	
Toluene	<0.000457	0.100	0.0963	96	0.0998	0.0916	92	5	70-130	35	
Ethylbenzene	<0.000566	0.100	0.0910	91	0.0998	0.0865	87	5	70-130	35	
m,p-Xylenes	<0.00102	0.200	0.177	89	0.200	0.168	84	5	70-130	35	
o-Xylene	<0.000345	0.100	0.0903	90	0.0998	0.0864	87	4	70-130	35	

Analyst: CHE

Date Prepared: 02/01/2019

Date Analyzed: 02/01/2019

Lab Batch ID: 3077835

Sample: 7670922-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	<0.858	250	234	94	250	230	92	2	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: SRO State Com #10H (10-23-18)

Work Order #: 612604

Project ID: 212C-MD-01581

Analyst: ARM

Date Prepared: 01/29/2019

Date Analyzed: 01/29/2019

Lab Batch ID: 3077483

Sample: 7670692-1-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	924	92	1000	930	93	1	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	1040	104	1000	1050	105	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: SRO State Com #10H (10-23-18)

Work Order #: 612604

Project ID: 212C-MD-01581

Lab Batch ID: 3077529

QC- Sample ID: 612598-021 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/30/2019

Date Prepared: 01/29/2019

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	<0.000383	0.0996	0.0851	85	0.100	0.0876	88	3	70-130	35	
Toluene	<0.000454	0.0996	0.0760	76	0.100	0.0773	77	2	70-130	35	
Ethylbenzene	<0.000563	0.0996	0.0710	71	0.100	0.0722	72	2	70-130	35	
m,p-Xylenes	<0.00101	0.199	0.139	70	0.200	0.141	71	1	70-130	35	
o-Xylene	<0.000343	0.0996	0.0719	72	0.100	0.0723	72	1	70-130	35	

Lab Batch ID: 3077835

QC- Sample ID: 612603-008 S

Batch #: 1 Matrix: Soil

Date Analyzed: 02/01/2019

Date Prepared: 02/01/2019

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	278	248	522	98	251	552	109	6	90-110	20	

Lab Batch ID: 3077835

QC- Sample ID: 612644-004 S

Batch #: 1 Matrix: Soil

Date Analyzed: 02/01/2019

Date Prepared: 02/01/2019

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	290	249	524	94	250	517	91	1	90-110	20	

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

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

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: SRO State Com #10H (10-23-18)

Work Order #: 612604

Project ID: 212C-MD-01581

Lab Batch ID: 3077483

QC- Sample ID: 612806-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 01/29/2019

Date Prepared: 01/29/2019

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	999	884	88	997	911	91	3	70-135	20	
Diesel Range Organics (DRO)	<8.12	999	888	89	997	933	94	5	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.

Page 1 of 1



901 West Wall, Suite 100
Midland, Texas 79701
Tel (432) 682-4559
Fax (432) 682-3946

COMPILATION

Final 1.000



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 01/25/2019 02:23:00 PM

Work Order #: 612604

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
#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: 01/25/2019

Checklist reviewed by:

Jessica Kramer

Date: 01/25/2019

Appendix D

APPENDIX C



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

October 28, 2019

JOEL LOWRY

Etech Environmental & Safety Solutions

P.O. Box 301

Lovington, NM 88260

RE: SRO STATE COM #10

Enclosed are the results of analyses for samples received by the laboratory on 10/21/19 16:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

Etech Environmental & Safety Solutions
 JOEL LOWRY
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received:	10/21/2019	Sampling Date:	10/17/2019
Reported:	10/28/2019	Sampling Type:	Soil
Project Name:	SRO STATE COM #10	Sampling Condition:	Cool & Intact
Project Number:	11382	Sample Received By:	Tamara Oldaker
Project Location:	COG - RURAL EDDY CO		

Sample ID: FL - 1 @ 1' (H903594-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/23/2019	ND	1.93	96.5	2.00	1.01	
Toluene*	<0.050	0.050	10/23/2019	ND	2.01	101	2.00	1.54	
Ethylbenzene*	<0.050	0.050	10/23/2019	ND	1.99	99.6	2.00	0.131	
Total Xylenes*	<0.150	0.150	10/23/2019	ND	6.02	100	6.00	0.587	
Total BTEX	<0.300	0.300	10/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3600	16.0	10/24/2019	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	168	83.9	200	5.17	
DRO >C10-C28*	<10.0	10.0	10/22/2019	ND	161	80.7	200	5.35	
EXT DRO >C28-C36	<10.0	10.0	10/22/2019	ND					

Surrogate: 1-Chlorooctane 88.7 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Etech Environmental & Safety Solutions
 JOEL LOWRY
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 2 @ 1-1.5' (H903594-02)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/23/2019	ND	1.93	96.5	2.00	1.01	
Toluene*	<0.050	0.050	10/23/2019	ND	2.01	101	2.00	1.54	
Ethylbenzene*	<0.050	0.050	10/23/2019	ND	1.99	99.6	2.00	0.131	
Total Xylenes*	<0.150	0.150	10/23/2019	ND	6.02	100	6.00	0.587	
Total BTEx	<0.300	0.300	10/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	10/24/2019	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	168	83.9	200	5.17	
DRO >C10-C28*	24.3	10.0	10/22/2019	ND	161	80.7	200	5.35	
EXT DRO >C28-C36	16.7	10.0	10/22/2019	ND					

Surrogate: 1-Chlorooctane 90.1 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

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Analytical Results For:

Etech Environmental & Safety Solutions
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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 3 @ 18" (H903594-03)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/23/2019	ND	1.93	96.5	2.00	1.01	
Toluene*	<0.050	0.050	10/23/2019	ND	2.01	101	2.00	1.54	
Ethylbenzene*	<0.050	0.050	10/23/2019	ND	1.99	99.6	2.00	0.131	
Total Xylenes*	<0.150	0.150	10/23/2019	ND	6.02	100	6.00	0.587	
Total BTEx	<0.300	0.300	10/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	10/24/2019	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	168	83.9	200	5.17	
DRO >C10-C28*	205	10.0	10/22/2019	ND	161	80.7	200	5.35	
EXT DRO >C28-C36	99.3	10.0	10/22/2019	ND					

Surrogate: 1-Chlorooctane 82.0 % 41-142

Surrogate: 1-Chlorooctadecane 109 % 37.6-147

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Analytical Results For:

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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 4 @ 1-1.5' (H903594-04)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/23/2019	ND	1.93	96.5	2.00	1.01		
Toluene*	<0.050	0.050	10/23/2019	ND	2.01	101	2.00	1.54		
Ethylbenzene*	<0.050	0.050	10/23/2019	ND	1.99	99.6	2.00	0.131		
Total Xylenes*	<0.150	0.150	10/23/2019	ND	6.02	100	6.00	0.587		
Total BTEx	<0.300	0.300	10/23/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	10/24/2019	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	168	83.9	200	5.17	
DRO >C10-C28*	<10.0	10.0	10/22/2019	ND	161	80.7	200	5.35	
EXT DRO >C28-C36	<10.0	10.0	10/22/2019	ND					

Surrogate: 1-Chlorooctane 90.4 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 5 @ 1-1.5' (H903594-05)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/23/2019	ND	1.93	96.5	2.00	1.01		
Toluene*	<0.050	0.050	10/23/2019	ND	2.01	101	2.00	1.54		
Ethylbenzene*	<0.050	0.050	10/23/2019	ND	1.99	99.6	2.00	0.131		
Total Xylenes*	<0.150	0.150	10/23/2019	ND	6.02	100	6.00	0.587		
Total BTEx	<0.300	0.300	10/23/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	10/24/2019	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	168	83.9	200	5.17	
DRO >C10-C28*	<10.0	10.0	10/22/2019	ND	161	80.7	200	5.35	
EXT DRO >C28-C36	<10.0	10.0	10/22/2019	ND					

Surrogate: 1-Chlorooctane 95.4 % 41-142

Surrogate: 1-Chlorooctadecane 107 % 37.6-147

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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 6 @ 1' (H903594-06)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/23/2019	ND	1.93	96.5	2.00	1.01	
Toluene*	<0.050	0.050	10/23/2019	ND	2.01	101	2.00	1.54	
Ethylbenzene*	<0.050	0.050	10/23/2019	ND	1.99	99.6	2.00	0.131	
Total Xylenes*	<0.150	0.150	10/23/2019	ND	6.02	100	6.00	0.587	
Total BTX	<0.300	0.300	10/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	672	16.0	10/24/2019	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/22/2019	ND	168	83.9	200	5.17	
DRO >C10-C28*	<10.0	10.0	10/22/2019	ND	161	80.7	200	5.35	
EXT DRO >C28-C36	<10.0	10.0	10/22/2019	ND					

Surrogate: 1-Chlorooctane 98.7 % 41-142

Surrogate: 1-Chlorooctadecane 111 % 37.6-147

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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 7 @ 6.5' (H903594-07)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/23/2019	ND	1.93	96.5	2.00	1.01	
Toluene*	<0.050	0.050	10/23/2019	ND	2.01	101	2.00	1.54	
Ethylbenzene*	<0.050	0.050	10/23/2019	ND	1.99	99.6	2.00	0.131	
Total Xylenes*	<0.150	0.150	10/23/2019	ND	6.02	100	6.00	0.587	
Total BTX	<0.300	0.300	10/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	10/24/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	202	101	200	3.87	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	200	100	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 95.6 % 41-142

Surrogate: 1-Chlorooctadecane 97.4 % 37.6-147

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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 8 @ 6.5' (H903594-08)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/23/2019	ND	1.93	96.5	2.00	1.01	
Toluene*	<0.050	0.050	10/23/2019	ND	2.01	101	2.00	1.54	
Ethylbenzene*	<0.050	0.050	10/23/2019	ND	1.99	99.6	2.00	0.131	
Total Xylenes*	<0.150	0.150	10/23/2019	ND	6.02	100	6.00	0.587	
Total BTX	<0.300	0.300	10/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	10/24/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	202	101	200	3.87	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	200	100	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 89.3 % 41-142

Surrogate: 1-Chlorooctadecane 92.1 % 37.6-147

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Analytical Results For:

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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 9 @ 6.5' (H903594-09)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/23/2019	ND	1.93	96.5	2.00	1.01	
Toluene*	<0.050	0.050	10/23/2019	ND	2.01	101	2.00	1.54	
Ethylbenzene*	<0.050	0.050	10/23/2019	ND	1.99	99.6	2.00	0.131	
Total Xylenes*	<0.150	0.150	10/23/2019	ND	6.02	100	6.00	0.587	
Total BTEx	<0.300	0.300	10/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	10/24/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	202	101	200	3.87	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	200	100	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 127 % 41-142

Surrogate: 1-Chlorooctadecane 133 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Etech Environmental & Safety Solutions
 JOEL LOWRY
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 10 @ 6.5' (H903594-10)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/23/2019	ND	1.93	96.5	2.00	1.01	
Toluene*	<0.050	0.050	10/23/2019	ND	2.01	101	2.00	1.54	
Ethylbenzene*	<0.050	0.050	10/23/2019	ND	1.99	99.6	2.00	0.131	
Total Xylenes*	<0.150	0.150	10/23/2019	ND	6.02	100	6.00	0.587	
Total BTEx	<0.300	0.300	10/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	10/24/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	202	101	200	3.87	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	200	100	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 92.2 % 41-142

Surrogate: 1-Chlorooctadecane 91.8 % 37.6-147

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 JOEL LOWRY
 P.O. Box 301
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 Fax To: (575) 396-1429

Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 11 @ 6" (H903594-11)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/23/2019	ND	1.93	96.5	2.00	1.01	
Toluene*	<0.050	0.050	10/23/2019	ND	2.01	101	2.00	1.54	
Ethylbenzene*	<0.050	0.050	10/23/2019	ND	1.99	99.6	2.00	0.131	
Total Xylenes*	<0.150	0.150	10/23/2019	ND	6.02	100	6.00	0.587	
Total BTX	<0.300	0.300	10/23/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	10/24/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	202	101	200	3.87	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	200	100	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 89.8 % 41-142

Surrogate: 1-Chlorooctadecane 89.6 % 37.6-147

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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 12 @ 6" (H903594-12)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/23/2019	ND	1.93	96.5	2.00	1.01		
Toluene*	<0.050	0.050	10/23/2019	ND	2.01	101	2.00	1.54		
Ethylbenzene*	<0.050	0.050	10/23/2019	ND	1.99	99.6	2.00	0.131		
Total Xylenes*	<0.150	0.150	10/23/2019	ND	6.02	100	6.00	0.587		
Total BTX	<0.300	0.300	10/23/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	368	16.0	10/24/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	202	101	200	3.87	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	200	100	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 84.4 % 41-142

Surrogate: 1-Chlorooctadecane 85.4 % 37.6-147

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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 13 @ 6" (H903594-13)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/25/2019	ND	1.89	94.5	2.00	3.92		
Toluene*	<0.050	0.050	10/25/2019	ND	1.95	97.3	2.00	2.24		
Ethylbenzene*	<0.050	0.050	10/25/2019	ND	1.91	95.4	2.00	1.72		
Total Xylenes*	<0.150	0.150	10/25/2019	ND	5.85	97.4	6.00	2.18		
Total BTX	<0.300	0.300	10/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	496	16.0	10/24/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	202	101	200	3.87	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	200	100	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 81.1 % 41-142

Surrogate: 1-Chlorooctadecane 81.7 % 37.6-147

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 Fax To: (575) 396-1429

Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 14 @ 2' (H903594-14)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2019	ND	1.89	94.5	2.00	3.92	
Toluene*	<0.050	0.050	10/25/2019	ND	1.95	97.3	2.00	2.24	
Ethylbenzene*	<0.050	0.050	10/25/2019	ND	1.91	95.4	2.00	1.72	
Total Xylenes*	<0.150	0.150	10/25/2019	ND	5.85	97.4	6.00	2.18	
Total BTX	<0.300	0.300	10/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	10/24/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	202	101	200	3.87	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	200	100	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 85.1 % 41-142

Surrogate: 1-Chlorooctadecane 85.7 % 37.6-147

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Analytical Results For:

Etech Environmental & Safety Solutions
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 Lovington NM, 88260
 Fax To: (575) 396-1429

Received:	10/21/2019	Sampling Date:	10/17/2019
Reported:	10/28/2019	Sampling Type:	Soil
Project Name:	SRO STATE COM #10	Sampling Condition:	Cool & Intact
Project Number:	11382	Sample Received By:	Tamara Oldaker
Project Location:	COG - RURAL EDDY CO		

Sample ID: FL - 15 @ 2' (H903594-15)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/25/2019	ND	1.89	94.5	2.00	3.92		
Toluene*	<0.050	0.050	10/25/2019	ND	1.95	97.3	2.00	2.24		
Ethylbenzene*	<0.050	0.050	10/25/2019	ND	1.91	95.4	2.00	1.72		
Total Xylenes*	<0.150	0.150	10/25/2019	ND	5.85	97.4	6.00	2.18		
Total BTX	<0.300	0.300	10/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	10/24/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	202	101	200	3.87	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	200	100	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 81.2 % 41-142

Surrogate: 1-Chlorooctadecane 80.4 % 37.6-147

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Analytical Results For:

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 JOEL LOWRY
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 Fax To: (575) 396-1429

Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 16 @ 2' (H903594-16)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2019	ND	1.89	94.5	2.00	3.92	
Toluene*	<0.050	0.050	10/25/2019	ND	1.95	97.3	2.00	2.24	
Ethylbenzene*	<0.050	0.050	10/25/2019	ND	1.91	95.4	2.00	1.72	
Total Xylenes*	<0.150	0.150	10/25/2019	ND	5.85	97.4	6.00	2.18	
Total BTX	<0.300	0.300	10/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	10/24/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	202	101	200	3.87	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	200	100	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 74.1 % 41-142

Surrogate: 1-Chlorooctadecane 75.1 % 37.6-147

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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 17 @ 6" (H903594-17)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/25/2019	ND	1.89	94.5	2.00	3.92		
Toluene*	<0.050	0.050	10/25/2019	ND	1.95	97.3	2.00	2.24		
Ethylbenzene*	<0.050	0.050	10/25/2019	ND	1.91	95.4	2.00	1.72		
Total Xylenes*	<0.150	0.150	10/25/2019	ND	5.85	97.4	6.00	2.18		
Total BTEx	<0.300	0.300	10/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	10/24/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	202	101	200	3.87	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	200	100	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 63.7 % 41-142

Surrogate: 1-Chlorooctadecane 63.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 18 @ 6" (H903594-18)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/25/2019	ND	1.89	94.5	2.00	3.92		
Toluene*	<0.050	0.050	10/25/2019	ND	1.95	97.3	2.00	2.24		
Ethylbenzene*	<0.050	0.050	10/25/2019	ND	1.91	95.4	2.00	1.72		
Total Xylenes*	<0.150	0.150	10/25/2019	ND	5.85	97.4	6.00	2.18		
Total BTX	<0.300	0.300	10/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	10/24/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	202	101	200	3.87	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	200	100	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 76.1 % 41-142

Surrogate: 1-Chlorooctadecane 76.0 % 37.6-147

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Analytical Results For:

Etech Environmental & Safety Solutions
 JOEL LOWRY
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 19 @ 6" (H903594-19)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/25/2019	ND	1.89	94.5	2.00	3.92		
Toluene*	<0.050	0.050	10/25/2019	ND	1.95	97.3	2.00	2.24		
Ethylbenzene*	<0.050	0.050	10/25/2019	ND	1.91	95.4	2.00	1.72		
Total Xylenes*	<0.150	0.150	10/25/2019	ND	5.85	97.4	6.00	2.18		
Total BTX	<0.300	0.300	10/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	10/24/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	202	101	200	3.87	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	200	100	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 74.3 % 41-142

Surrogate: 1-Chlorooctadecane 73.8 % 37.6-147

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Analytical Results For:

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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 20 @ 6" (H903594-20)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/25/2019	ND	1.89	94.5	2.00	3.92		
Toluene*	<0.050	0.050	10/25/2019	ND	1.95	97.3	2.00	2.24		
Ethylbenzene*	<0.050	0.050	10/25/2019	ND	1.91	95.4	2.00	1.72		
Total Xylenes*	<0.150	0.150	10/25/2019	ND	5.85	97.4	6.00	2.18		
Total BTX	<0.300	0.300	10/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	176	16.0	10/24/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	202	101	200	3.87	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	200	100	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 80.5 % 41-142

Surrogate: 1-Chlorooctadecane 79.8 % 37.6-147

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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 21 @ 6" (H903594-21)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2019	ND	1.89	94.5	2.00	3.92	
Toluene*	<0.050	0.050	10/25/2019	ND	1.95	97.3	2.00	2.24	
Ethylbenzene*	<0.050	0.050	10/25/2019	ND	1.91	95.4	2.00	1.72	
Total Xylenes*	<0.150	0.150	10/25/2019	ND	5.85	97.4	6.00	2.18	
Total BTX	<0.300	0.300	10/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3600	16.0	10/24/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	202	101	200	3.87	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	200	100	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 79.0 % 41-142

Surrogate: 1-Chlorooctadecane 79.3 % 37.6-147

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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 22 @ 6" (H903594-22)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/25/2019	ND	1.89	94.5	2.00	3.92		
Toluene*	<0.050	0.050	10/25/2019	ND	1.95	97.3	2.00	2.24		
Ethylbenzene*	<0.050	0.050	10/25/2019	ND	1.91	95.4	2.00	1.72		
Total Xylenes*	<0.150	0.150	10/25/2019	ND	5.85	97.4	6.00	2.18		
Total BTX	<0.300	0.300	10/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	672	16.0	10/24/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	202	101	200	3.87	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	200	100	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 83.8 % 41-142

Surrogate: 1-Chlorooctadecane 83.8 % 37.6-147

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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 23 @ 6" (H903594-23)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2019	ND	1.89	94.5	2.00	3.92	
Toluene*	<0.050	0.050	10/25/2019	ND	1.95	97.3	2.00	2.24	
Ethylbenzene*	<0.050	0.050	10/25/2019	ND	1.91	95.4	2.00	1.72	
Total Xylenes*	<0.150	0.150	10/25/2019	ND	5.85	97.4	6.00	2.18	
Total BTX	<0.300	0.300	10/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/24/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	202	101	200	3.87	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	200	100	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 85.0 % 41-142

Surrogate: 1-Chlorooctadecane 84.4 % 37.6-147

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Analytical Results For:

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 Fax To: (575) 396-1429

Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 24 @ 6" (H903594-24)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/25/2019	ND	1.89	94.5	2.00	3.92		
Toluene*	<0.050	0.050	10/25/2019	ND	1.95	97.3	2.00	2.24		
Ethylbenzene*	<0.050	0.050	10/25/2019	ND	1.91	95.4	2.00	1.72		
Total Xylenes*	<0.150	0.150	10/25/2019	ND	5.85	97.4	6.00	2.18		
Total BTX	<0.300	0.300	10/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	10/24/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	202	101	200	3.87	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	200	100	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 77.1 % 41-142

Surrogate: 1-Chlorooctadecane 76.7 % 37.6-147

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 Fax To: (575) 396-1429

Received:	10/21/2019	Sampling Date:	10/17/2019
Reported:	10/28/2019	Sampling Type:	Soil
Project Name:	SRO STATE COM #10	Sampling Condition:	Cool & Intact
Project Number:	11382	Sample Received By:	Tamara Oldaker
Project Location:	COG - RURAL EDDY CO		

Sample ID: FL - 25 @ 4' (H903594-25)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2019	ND	1.89	94.5	2.00	3.92	
Toluene*	<0.050	0.050	10/25/2019	ND	1.95	97.3	2.00	2.24	
Ethylbenzene*	<0.050	0.050	10/25/2019	ND	1.91	95.4	2.00	1.72	
Total Xylenes*	<0.150	0.150	10/25/2019	ND	5.85	97.4	6.00	2.18	
Total BTX	<0.300	0.300	10/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/24/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	202	101	200	3.87	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	200	100	200	3.74	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 64.6 % 41-142

Surrogate: 1-Chlorooctadecane 64.0 % 37.6-147

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Analytical Results For:

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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 26 @ 1.5' (H903594-26)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2019	ND	1.89	94.5	2.00	3.92	
Toluene*	<0.050	0.050	10/25/2019	ND	1.95	97.3	2.00	2.24	
Ethylbenzene*	<0.050	0.050	10/25/2019	ND	1.91	95.4	2.00	1.72	
Total Xylenes*	<0.150	0.150	10/25/2019	ND	5.85	97.4	6.00	2.18	
Total BTX	<0.300	0.300	10/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	10/24/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	220	110	200	17.2	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	225	112	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 77.4 % 41-142

Surrogate: 1-Chlorooctadecane 77.4 % 37.6-147

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 Lovington NM, 88260
 Fax To: (575) 396-1429

Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 27 @ 1.5' (H903594-27)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2019	ND	1.89	94.5	2.00	3.92	
Toluene*	<0.050	0.050	10/25/2019	ND	1.95	97.3	2.00	2.24	
Ethylbenzene*	<0.050	0.050	10/25/2019	ND	1.91	95.4	2.00	1.72	
Total Xylenes*	<0.150	0.150	10/25/2019	ND	5.85	97.4	6.00	2.18	
Total BTX	<0.300	0.300	10/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	10/24/2019	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	220	110	200	17.2	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	225	112	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 69.5 % 41-142

Surrogate: 1-Chlorooctadecane 68.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Etech Environmental & Safety Solutions
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 Fax To: (575) 396-1429

Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: FL - 28 @ 1.5' (H903594-28)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2019	ND	1.89	94.5	2.00	3.92	
Toluene*	<0.050	0.050	10/25/2019	ND	1.95	97.3	2.00	2.24	
Ethylbenzene*	<0.050	0.050	10/25/2019	ND	1.91	95.4	2.00	1.72	
Total Xylenes*	<0.150	0.150	10/25/2019	ND	5.85	97.4	6.00	2.18	
Total BTX	<0.300	0.300	10/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	10/24/2019	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	220	110	200	17.2	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	225	112	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 77.0 % 41-142

Surrogate: 1-Chlorooctadecane 75.7 % 37.6-147

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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: WW 1 @ 0-3' (H903594-29)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/25/2019	ND	1.89	94.5	2.00	3.92		
Toluene*	<0.050	0.050	10/25/2019	ND	1.95	97.3	2.00	2.24		
Ethylbenzene*	<0.050	0.050	10/25/2019	ND	1.91	95.4	2.00	1.72		
Total Xylenes*	<0.150	0.150	10/25/2019	ND	5.85	97.4	6.00	2.18		
Total BTEx	<0.300	0.300	10/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	10/24/2019	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	220	110	200	17.2	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	225	112	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 82.2 % 41-142

Surrogate: 1-Chlorooctadecane 82.5 % 37.6-147

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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: NW 1 @ 0-2' (H903594-30)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2019	ND	1.89	94.5	2.00	3.92	
Toluene*	<0.050	0.050	10/25/2019	ND	1.95	97.3	2.00	2.24	
Ethylbenzene*	<0.050	0.050	10/25/2019	ND	1.91	95.4	2.00	1.72	
Total Xylenes*	<0.150	0.150	10/25/2019	ND	5.85	97.4	6.00	2.18	
Total BTX	<0.300	0.300	10/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	10/24/2019	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	220	110	200	17.2	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	225	112	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 80.4 % 41-142

Surrogate: 1-Chlorooctadecane 80.7 % 37.6-147

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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: NW 2 @ 0-6.5' (H903594-31)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/25/2019	ND	1.89	94.5	2.00	3.92		
Toluene*	<0.050	0.050	10/25/2019	ND	1.95	97.3	2.00	2.24		
Ethylbenzene*	<0.050	0.050	10/25/2019	ND	1.91	95.4	2.00	1.72		
Total Xylenes*	<0.150	0.150	10/25/2019	ND	5.85	97.4	6.00	2.18		
Total BTX	<0.300	0.300	10/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	10/24/2019	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	220	110	200	17.2	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	225	112	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 86.5 % 41-142

Surrogate: 1-Chlorooctadecane 87.7 % 37.6-147

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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: NW 3 @ 00-1' (H903594-32)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/25/2019	ND	1.89	94.5	2.00	3.92	
Toluene*	<0.050	0.050	10/25/2019	ND	1.95	97.3	2.00	2.24	
Ethylbenzene*	<0.050	0.050	10/25/2019	ND	1.91	95.4	2.00	1.72	
Total Xylenes*	<0.150	0.150	10/25/2019	ND	5.85	97.4	6.00	2.18	
Total BTX	<0.300	0.300	10/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4080	16.0	10/24/2019	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	220	110	200	17.2	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	225	112	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 72.2 % 41-142

Surrogate: 1-Chlorooctadecane 75.7 % 37.6-147

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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW 1 @ 0-6" (H903594-33)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2019	ND	1.91	95.3	2.00	2.39		
Toluene*	<0.050	0.050	10/24/2019	ND	1.88	94.1	2.00	1.88		
Ethylbenzene*	<0.050	0.050	10/24/2019	ND	1.91	95.4	2.00	1.95		
Total Xylenes*	<0.150	0.150	10/24/2019	ND	5.73	95.6	6.00	1.89		
Total BTX	<0.300	0.300	10/24/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	608	16.0	10/24/2019	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	220	110	200	17.2	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	225	112	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 76.7 % 41-142

Surrogate: 1-Chlorooctadecane 76.5 % 37.6-147

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 Fax To: (575) 396-1429

Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW 2 @ 0-6.5' (H903594-34)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2019	ND	1.91	95.3	2.00	2.39	
Toluene*	<0.050	0.050	10/24/2019	ND	1.88	94.1	2.00	1.88	
Ethylbenzene*	<0.050	0.050	10/24/2019	ND	1.91	95.4	2.00	1.95	
Total Xylenes*	<0.150	0.150	10/24/2019	ND	5.73	95.6	6.00	1.89	
Total BTX	<0.300	0.300	10/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/24/2019	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	220	110	200	17.2	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	225	112	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 81.4 % 41-142

Surrogate: 1-Chlorooctadecane 81.3 % 37.6-147

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Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW 3 @ 0-1.5' (H903594-35)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2019	ND	1.91	95.3	2.00	2.39	
Toluene*	<0.050	0.050	10/24/2019	ND	1.88	94.1	2.00	1.88	
Ethylbenzene*	<0.050	0.050	10/24/2019	ND	1.91	95.4	2.00	1.95	
Total Xylenes*	<0.150	0.150	10/24/2019	ND	5.73	95.6	6.00	1.89	
Total BTX	<0.300	0.300	10/24/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	10/24/2019	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	220	110	200	17.2	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	225	112	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 84.4 % 41-142

Surrogate: 1-Chlorooctadecane 85.1 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

Etech Environmental & Safety Solutions
 JOEL LOWRY
 P.O. Box 301
 Lovington NM, 88260
 Fax To: (575) 396-1429

Received: 10/21/2019
 Reported: 10/28/2019
 Project Name: SRO STATE COM #10
 Project Number: 11382
 Project Location: COG - RURAL EDDY CO

Sampling Date: 10/17/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: EW 1 @ 0-1.5' (H903594-36)

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2019	ND	1.91	95.3	2.00	2.39		
Toluene*	<0.050	0.050	10/24/2019	ND	1.88	94.1	2.00	1.88		
Ethylbenzene*	<0.050	0.050	10/24/2019	ND	1.91	95.4	2.00	1.95		
Total Xylenes*	<0.150	0.150	10/24/2019	ND	5.73	95.6	6.00	1.89		
Total BTX	<0.300	0.300	10/24/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1880	16.0	10/24/2019	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/24/2019	ND	220	110	200	17.2	
DRO >C10-C28*	<10.0	10.0	10/24/2019	ND	225	112	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	10/24/2019	ND					

Surrogate: 1-Chlorooctane 80.7 % 41-142

Surrogate: 1-Chlorooctadecane 81.3 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Etech Environmental & Safety Solutions, Inc.		BILL TO		ANALYSIS REQUEST															
Project Manager: Joel Lowry		P.O. #:																	
Address: P.O. Box 301		Company: Concho																	
City: Lovington		Attn:																	
State: NM Zip: 88260		Address:																	
Phone #: (575) 396-2378 Fax #: (575) 396-1429		City:																	
Project #: 11382 Project Owner: Concho		State:																	
Project Name: SRO State Com #10		Zip:																	
Project Location: Rural Eddy		Phone #:																	
Sampler Name: Joel Lowry		Fax #:																	
FOR LAB USE ONLY																			
Lab I.D. Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX				PRESERV.		SAMPLING							
1 FL-1 @ 1'		c 1		x		GROUNDWATER				DATE		TIME		Chloride					
2 FL-2 @ 1-1.5'		c 1		x				10/17/19		8:30		x		x		x			
3 FL-3 @ 18"		c 1		x				10/17/19		8:40		x		x		x			
4 FL-4 @ 1-1.5'		c 1		x				10/17/19		8:50		x		x		x			
5 FL-5 @ 1-1.5'		c 1		x				10/17/19		9:00		x		x		x			
6 FL-6 @ 1'		c 1		x				10/17/19		9:10		x		x		x			
7 FL-7 @ 6.5'		c 1		x				10/17/19		9:20		x		x		x			
8 FL-8 @ 6.5'		c 1		x				10/17/19		9:30		x		x		x			
9 FL-9 @ 6.5'		c 1		x				10/17/19		9:40		x		x		x			
10 FL-10 @ 6.5'		c 1		x				10/17/19		9:50		x		x		x			
								10/17/19		10:00		x		x		x			

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Relinquished By:	Date: 10-21-19	Received By:	Date: 10-21-19
Relinquished By:	Time: 11:05	Received By:	Time: 11:05
Relinquished By:		Received By:	

Delivered By: (Circle One) 1.0c #97 Sample Condition Cool Intact ☒ Yes ☐ No ☐ Yes ☐ No CHECKED BY: (Initials) Y2

Sampler - UPS - Bus - Other: Collected 3.0c

FORM-006
Revision 1.0

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

Please email results to joel@etechnv.com

REMARKS:

Phone Result: ☐ Yes ☐ No Add'l Phone #:

Fax Result: ☐ Yes ☐ No Add'l Fax #:

24 jo 04 ebgd



ARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Etech Environmental & Safety Solutions, Inc.		BILL TO		ANALYSIS REQUEST																				
Project Manager: Joel Lowry		P.O. #:																						
Address: P.O. Box 301		Company:		Concho																				
City: Lovington		Attn:																						
Phone #: (575) 396-2378		Address:																						
Project #: 11382		City:																						
Project Name: SRO State Com #10		State:		Zip:																				
Project Location: Rural Eddy		Phone #:																						
Sampler Name: Joel Lowry		Fax #:																						
FOR LAB USE ONLY																								
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX			PRESERV.			SAMPLING														
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME										
11	FL-11 @ 6"	C	1	X									10/17/19	10:10	X	X	X							
12	FL-12 @ 6"	C	1	X									10/17/19	10:20	X	X	X							
13	FL-13 @ 6"	C	1	X									10/17/19	10:30	X	X	X							
14	FL-14 @ 2'	C	1	X									10/17/19	10:40	X	X	X							
15	FL-15 @ 2'	C	1	X									10/17/19	10:50	X	X	X							
16	FL-16 @ 2'	C	1	X									10/17/19	11:00	X	X	X							
17	FL-17 @ 6"	C	1	X									10/17/19	11:10	X	X	X							
18	FL-18 @ 6"	C	1	X									10/17/19	11:20	X	X	X							
19	FL-19 @ 6"	C	1	X									10/17/19	11:30	X	X	X							
20	FL-20 @ 6"	C	1	X									10/17/19	11:40	X	X	X							

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Relinquished By:	Date: 10-21-19	Received By:	Phone Result:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Date: 11-05-19	Received By:	Fax Result:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Add'l Fax #:
REMARKS:						

Delivered By: (Circle One) 1.6c #497 Sample Condition Cool ☒ Intact ☐ Yes ☐ No ☐ No

Sampler - UPS - Bus - Other: Corrupted 2.0c

CHECKED BY: (Initials) YS

Please email results to joel@etecheny.com



101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

ANALYSIS REQUEST

FORM-006
Revision 1.0

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Certificate of Analysis Summary 643396

COG Operating LLC, Artesia, NM

Project Name: SRO State Com #1

Project Id:

Contact: Dakota Neel

Project Location:

Date Received in Lab: Fri Nov-15-19 01:10 pm

Report Date: 18-NOV-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	643396-001	643396-002	643396-003	643396-004	643396-005	643396-006
	<i>Field Id:</i>	FL-1	FL-3	FL-6	FL-21	FL-22	NW-3
	<i>Depth:</i>	1.5- ft	2- ft	1.5- ft	1- ft	1- ft	0-2 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Nov-13-19 13:30	Nov-13-19 13:35	Nov-13-19 13:40	Nov-13-19 13:45	Nov-13-19 13:50	Nov-13-19 13:55
Chloride by EPA 300	<i>Extracted:</i>	Nov-18-19 09:11		Nov-15-19 15:00	Nov-15-19 15:00	Nov-15-19 15:00	Nov-18-19 09:11
	<i>Analyzed:</i>	Nov-18-19 09:33		Nov-15-19 18:23	Nov-15-19 18:30	Nov-15-19 18:37	Nov-18-19 09:39
	<i>Units/RL:</i>	mg/kg RL		mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		4290 99.8		1690 99.4	<10.0 10.0	243 50.2	656 101
TPH By SW8015 Mod	<i>Extracted:</i>		Nov-15-19 17:00				
	<i>Analyzed:</i>		Nov-16-19 03:25				
	<i>Units/RL:</i>		mg/kg RL				
Gasoline Range Hydrocarbons			<50.3 50.3				
Diesel Range Organics			<50.3 50.3				
Motor Oil Range Hydrocarbons (MRO)			<50.3 50.3				
Total TPH			<50.3 50.3				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.9%

Jessica Kramer
Project Assistant

Analytical Report 643396

for COG Operating LLC

Project Manager: Dakota Neel

SRO State Com #1

18-NOV-19

Collected By: Client



**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)

Xenco-Carlsbad (LELAP): Louisiana (05092)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Tampa: Florida (E87429), North Carolina (483)



18-NOV-19

Project Manager: **Dakota Neel**

COG Operating LLC

2407 Pecos Avenue

Artesia, NM 88210

Reference: XENCO Report No(s): **643396**

SRO State Com #1

Project Address:

Dakota Neel:

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) 643396. 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. 643396 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,

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

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 643396****COG Operating LLC, Artesia, NM**

SRO State Com #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FL-1	S	11-13-19 13:30	1.5 ft	643396-001
FL-3	S	11-13-19 13:35	2 ft	643396-002
FL-6	S	11-13-19 13:40	1.5 ft	643396-003
FL-21	S	11-13-19 13:45	1 ft	643396-004
FL-22	S	11-13-19 13:50	1 ft	643396-005
NW-3	S	11-13-19 13:55	0 - 2 ft	643396-006



CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: SRO State Com #1

Project ID:

Work Order Number(s): 643396

Report Date: 18-NOV-19

Date Received: 11/15/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

**Certificate of Analytical Results 643396****COG Operating LLC, Artesia, NM**

SRO State Com #1

Sample Id: **FL-1**
Lab Sample Id: 643396-001

Matrix: Soil
Date Collected: 11.13.19 13.30

Date Received: 11.15.19 13.10
Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 11.18.19 09.11

Basis: Wet Weight

Seq Number: 3107762

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4290	99.8	mg/kg	11.18.19 09.33		10



Certificate of Analytical Results 643396

COG Operating LLC, Artesia, NM

SRO State Com #1

Sample Id: **FL-3**
Lab Sample Id: 643396-002

Matrix: Soil
Date Collected: 11.13.19 13.35

Date Received: 11.15.19 13.10
Sample Depth: 2 ft

Analytical Method: TPH By SW8015 Mod

Prep Method: SW8015P

Tech: DTH

% Moisture:

Analyst: DTH

Date Prep: 11.15.19 17.00

Basis: Wet Weight

Seq Number: 3107743

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.3	50.3	mg/kg	11.16.19 03.25	U	1
Diesel Range Organics	C10C28DRO	<50.3	50.3	mg/kg	11.16.19 03.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	11.16.19 03.25	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	11.16.19 03.25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	96	%	70-135	11.16.19 03.25		
o-Terphenyl	84-15-1	104	%	70-135	11.16.19 03.25		

**Certificate of Analytical Results 643396****COG Operating LLC, Artesia, NM**

SRO State Com #1

Sample Id: **FL-6**
Lab Sample Id: 643396-003

Matrix: Soil
Date Collected: 11.13.19 13.40

Date Received: 11.15.19 13.10
Sample Depth: 1.5 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 11.15.19 15.00

Basis: Wet Weight

Seq Number: 3107753

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1690	99.4	mg/kg	11.15.19 18.23		10

**Certificate of Analytical Results 643396****COG Operating LLC, Artesia, NM**

SRO State Com #1

Sample Id: **FL-21**

Matrix: Soil

Date Received: 11.15.19 13.10

Lab Sample Id: 643396-004

Date Collected: 11.13.19 13.45

Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 11.15.19 15.00

Basis: Wet Weight

Seq Number: 3107753

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	11.15.19 18.30	U	1

**Certificate of Analytical Results 643396****COG Operating LLC, Artesia, NM**

SRO State Com #1

Sample Id: **FL-22**

Matrix: Soil

Date Received: 11.15.19 13.10

Lab Sample Id: 643396-005

Date Collected: 11.13.19 13.50

Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 11.15.19 15.00

Basis: Wet Weight

Seq Number: 3107753

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	243	50.2	mg/kg	11.15.19 18.37		5

**Certificate of Analytical Results 643396****COG Operating LLC, Artesia, NM**

SRO State Com #1

Sample Id: **NW-3**
Lab Sample Id: 643396-006

Matrix: Soil
Date Collected: 11.13.19 13.55

Date Received: 11.15.19 13.10
Sample Depth: 0 - 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 11.18.19 09.11

Basis: Wet Weight

Seq Number: 3107762

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	656	101	mg/kg	11.18.19 09.39		10



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



COG Operating LLC

SRO State Com #1

Analytical Method: Chloride by EPA 300

Seq Number: 3107753

MB Sample Id: 7690447-1-BLK

Matrix: Solid

LCS Sample Id: 7690447-1-BKS

Prep Method: E300P

Date Prep: 11.15.19

LCSD Sample Id: 7690447-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	247	99	247	99	90-110	0	20	mg/kg	11.15.19 16:10	

Analytical Method: Chloride by EPA 300

Seq Number: 3107752

MB Sample Id: 7690516-1-BLK

Matrix: Solid

LCS Sample Id: 7690516-1-BKS

Prep Method: E300P

Date Prep: 11.18.19

LCSD Sample Id: 7690516-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	246	98	246	98	90-110	0	20	mg/kg	11.18.19 09:21	

Analytical Method: Chloride by EPA 300

Seq Number: 3107753

Parent Sample Id: 643336-006

Matrix: Soil

MS Sample Id: 643336-006 S

Prep Method: E300P

Date Prep: 11.15.19

MSD Sample Id: 643336-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	20.6	201	218	98	226	103	90-110	4	20	mg/kg	11.15.19 17:58	

Analytical Method: Chloride by EPA 300

Seq Number: 3107753

Parent Sample Id: 643339-001

Matrix: Soil

MS Sample Id: 643339-001 S

Prep Method: E300P

Date Prep: 11.15.19

MSD Sample Id: 643339-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	554	200	751	99	762	103	90-110	1	20	mg/kg	11.15.19 16:29	

Analytical Method: Chloride by EPA 300

Seq Number: 3107762

Parent Sample Id: 643211-002

Matrix: Soil

MS Sample Id: 643211-002 S

Prep Method: E300P

Date Prep: 11.18.19

MSD Sample Id: 643211-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	255	198	455	101	461	104	90-110	1	20	mg/kg	11.18.19 09:57	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



COG Operating LLC

SRO State Com #1

Analytical Method: TPH By SW8015 Mod

Seq Number: 3107743

MB Sample Id: 7690519-1-BLK

Matrix: Solid

LCS Sample Id: 7690519-1-BKS

Prep Method: SW8015P

Date Prep: 11.15.19

LCSD Sample Id: 7690519-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons	<50.0	1000	896	90	952	95	70-135	6	35	mg/kg	11.16.19 02:25	
Diesel Range Organics	<11.5	1000	1010	101	991	99	70-135	2	35	mg/kg	11.16.19 02:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		122		112		70-135	%	11.16.19 02:25
o-Terphenyl	103		105		106		70-135	%	11.16.19 02:25

Analytical Method: TPH By SW8015 Mod

Seq Number: 3107743

Matrix: Solid

MB Sample Id: 7690519-1-BLK

Prep Method: SW8015P

Date Prep: 11.15.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.16.19 02:25	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3107743

Matrix: Soil

Parent Sample Id: 643409-006

MS Sample Id: 643409-006 S

Prep Method: SW8015P

Date Prep: 11.15.19

MSD Sample Id: 643409-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons	<50.2	1000	1120	112	963	96	70-135	15	35	mg/kg	11.16.19 03:05	
Diesel Range Organics	614	1000	1140	53	1030	42	70-135	10	35	mg/kg	11.16.19 03:05	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	131		121		70-135	%	11.16.19 03:05
o-Terphenyl	133		123		70-135	%	11.16.19 03:05

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

Setting the Standard since 1990
Stafford, Texas (281-240-4200)
Dallas Texas (214-902-0300)

San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

CHAIN OF CUSTODY

Page 1 Of 1

Client / Reporting Information			Project Information			Analytical Information		Matrix Codes								
Company Name / Branch: COG Operating LLC			Project Name/Number: SRO State Corn #10 Project Location:													
Company Address:			Email: dnee@concho.com Phone No: 575-746-2010 siltchuckd@concho.com													
Project Contact: Dakota Neel			Invoice To: COG Operating LLC Attn: Dakota Neel 2208 W Main Street Artesia, NM 88210													
Sampler's Name: Dakota Neel			PO Number:													
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	Number of preserved bottles				TPH Extended	BTEX	CHLORIDES	Notes:	Field Comments
1	FL-1	1.5'	11/13/19	1:30:00 PM	S	1							X			
2	FL-3	2'	11/13/19	1:35:00 PM	S	1										
3	FL-6	1.5'	11/13/19	1:40:00 PM	S	1										
4	FL-21	1'	11/13/19	1:45:00 PM	S	1							X			
5	FL-22	1'	11/13/19	1:50:00 PM	S	1							X			
6	NW-3	0-2'	11/13/19	1:55:00 PM	S	1							X			
7																
8																
9																
10																
Turnaround Time (Business days)																
<input type="checkbox"/> Same Day TAT		<input type="checkbox"/> 5 Day TAT		<input type="checkbox"/> Level II Std QC		<input type="checkbox"/> Level IV (Full Data Pkg/raw data)										
<input checked="" type="checkbox"/> Next Day EMERGENCY		<input type="checkbox"/> 7 Day TAT		<input type="checkbox"/> Level III Std QC+Forms		<input type="checkbox"/> TRRP Level IV										
<input type="checkbox"/> 2 Day EMERGENCY		<input type="checkbox"/> Contract TAT		<input type="checkbox"/> Level 3 (CLP Forms)		<input type="checkbox"/> UST / RG -411										
<input type="checkbox"/> 3 Day EMERGENCY				<input type="checkbox"/> TRRP Checklist												
TAT Starts Day received by Lab, if received by 5:00 pm																
Relinquished by Sampler:		Date Time: 11/15/2019		Received By: [Signature]		Retained By:		FED-EX / UPS: Tracking #								
Relinquished by:		Date Time:		Received By:		Custody Seal #		Preserved where applicable		On Ice		Cooler Temp.		Thermo Corr. Factor		
Relinquished by:		Date Time:		Received By:		Custody Seal #		Preserved where applicable		On Ice		Cooler Temp.		Thermo Corr. Factor		

Notice: Notice Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.



Client: COG Operating LLC

Date/ Time Received: 11/15/2019 01:10:00 PM

Work Order #: 643396

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

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?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#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)?	No
#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:

Elizabeth McClellan

Date: 11/15/2019

Checklist reviewed by:

Jessica Kramer

Date: 11/18/2019

APPENDIX D

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 NM Oil Conservation Div.
Energy Minerals and Natural Dist. II - Artesia
Resources Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Received Submit to appropriate OCD District office
11/06/2018

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # (assigned by OCD)
Contact mailing address	

Location of Release Source

Latitude _____ Longitude _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# (if applicable)

Unit Letter	Section	Township	Range	County

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)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input type="checkbox"/> 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

<input type="checkbox"/> The source of the release has been stopped.	
<input type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> 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: _____	Title: _____
Signature: <u>Delann Opreant</u>	Date: _____
email: _____	Telephone: _____
<u>OCD Only</u>	
Received by: <u>Ana Maria Buitrago</u>	Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: _____ Title: _____

Signature:  _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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


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

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

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

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

Printed Name: _____ Title: _____

Signature:  Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

Printed Name: _____ Title: _____

Signature:  _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

APPENDIX E



☀ 129°SE (T) ● 32.077358°, -104.083058° ±16ft ▲ 2944ft



13 Nov 2019, 13:34:39



☀ 157°SE (T) ● 32.077363°, -104.083052° ±16ft ▲ 2944ft



13 Nov 2019, 13:34:43

NE

E

SE

S

60

90

120

150

180

210

☀ 110°E (T) ● 32.077362°, -104.083052° ±16ft ▲ 2944ft



13 Nov 2019, 13:34:46