SITE INFORMATION

Report Type: Revised Closure 1RP-5480

General Site Information:						
Site:	**Cabo Blanco State #001H**					
Company:	**COG Operating LLC**					
Section, Township and Range	**Unit B**	**Sec. 04**	**T 24S**	**R 33E**		
Lease Number:	**API No.**					
County:	**Lea County**					
GPS:	**32.2532**			**-103.5744**		
Surface Owner:	**State**					
Directions:	From the intersection of HWY 128 and CR 2 Turn North on HWY 128 and go 2.97 miles and turn west and go .27 miles and arrive.					

Release Data:	
Date Released:	4/23/2019
Type Release:	Produced Water
Source of Contamination:	Flowline
Fluid Released:	25 bbls
Fluids Recovered:	20 bbls

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

Site Characterization	
Depth to Groundwater:	*81'*

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

TETRA TECH

May 11, 2020

Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 88240

Re: Revised - Closure Report for the COG Operating, LLC, Cabo Blanco State #001H, Unit B, Section 04, Township 24 South, Range 33 East, Lea County, New Mexico.
1RP-5480

To Whom It May Concern:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating, LLC (COG) to assess a release that occurred at the Cabo Blanco State #001H, Unit B, Section 04, Township 24 South, Range 33 East, occurred at the Lea County, New Mexico (Site). The spill site coordinates are 32.2532°, -103.5744 °. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Report, the release occurred on April 23, 2019, and released approximately 25 barrels of produced due to a 3rd party company striking a flowline. A vacuum truck was used to remove all freestanding fluids, recovering approximately 20 barrels of produced water. The release impacted an area along the north edge of the lease road and on the lease road measuring approximately 40' x 10' and migrated into the pasture impacting an area measuring 104' x 8'. The C-141 form is included in Appendix A.

Tetra Tech previously submitted a closure report, dated October 22, 2019, which was denied by the NMOCD due to the impact left on the lease road. The NMOCD requested the impact on the lease road be addressed.

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. The site is in a low karst potential area. Two wells are near the site and listed in the New Mexico Office of the State Engineers website. The nearest well is listed in Section 10, Township 24 South, Range 33 East, approximately 1.33 miles southeast of the site, and has a reported depth to groundwater of 20 feet below ground surface. However, it was completed in 1920. The other well is listed in Section 01, Township 24 South, Range 33 East, approximately 3.33 miles east of the site, and has a reported depth to groundwater of 81 feet below ground surface. The well was installed in February 2017. In addition, the surface elevation of this site is 3,641' and the surface elevation of the 20' well is approximately 3,590'. Based on the relative elevation the depth to groundwater is estimated to be around 70' below surface. The groundwater data is shown in Appendix B.

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

TETRA TECH

Regulatory

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

Soil Assessment and Analytical Results

Auger Holes- Lease Road

On July 16, 2019, Tetra Tech personnel were onsite to evaluate and sample the release area. A total of two (2) auger holes (AH-1 and AH-2) were installed near the source area and on the lease road to total depths ranging from 0-6" and 3.5' below surface. Deeper samples were not collected due to a dense formation in the area. Selected soil samples were collected and submitted to the laboratory for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B, and Chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The sample locations are shown on Figure 3.

Referring to Table 1, none of the samples (AH-1 and AH-2) showed benzene, total BTEX, or TPH concentrations above the RRALs. The chloride concentrations ranging from 758 mg/kg to 2,410 mg/kg.

Trenches – Pasture

On July 30, 2019, Tetra Tech personnel returned to the site and install four (4) backhoe sample trenches (T-1 through T-4) to assess the pasture area. Selected soil samples were collected and submitted to the laboratory for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B, and Chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The sample locations are shown on Figure 3.

Referring to Table 1, none of the samples analyzed showed TPH, benzene, or total BTEX concentrations above the laboratory reporting limits. Additionally, no chloride concentrations above the RRAL were detected in the area. The impact in the pasture did not show any concentrations above the RRAL or reclamation standards, which appear to have been affected by the heavy rains in the area.

Remediation Activities

Lease Road - Data Summary

Tetra Tech personnel were onsite February 11, 2020, before remediation activities occurred to re-sample and re-evaulate the areas of auger holes (AH-1 and AH-2). The two (2) auger holes that were installed in the release range from surface to depth of 3.0'-3.5' below surface. Referring to Table 1, the area of auger hole (AH-1) did not show chloride concentrations above the RRALs. The area of auger hole (AH-2) showed chloride concentrations of 1,330 mg/kg at surface to 1.0', and 800 mg/kg at 1.0'-1.5' below surface.

TETRA TECH

Lease Road Remediation

Tetra Tech personnel were onsite February 25, 2020, to supervise the remediation activities. The areas were excavated, as shown on Figure 4 and highlighted (green) on Table 1. The area of AH-2 was excavated to depth of 2.0' below surface. Once excavated, bottom and sidewall confirmation samples were collected every 200 square feet to ensure proper removal of the impacted soils. The samples were submitted to the laboratory to be analyzed for TPH method 8015 extended, BTEX method 8021B, and Chloride by method 300.0. The sampling results are summarized in Table 1. The excavation area and depths are shown on Figure 4.

Referring to Table 1, none of the confirmation samples showed benzene, total BTEX, or TPH concentrations above the RRALs. The area of Bottom Hole-1 showed a chloride concentration of 48.0 mg/kg at 2.0' below surface. The sidewall samples (NSW, SSW, ESW, and WSW) showed chloride concentrations ranging from 48.0 mg/kg to 112 mg/kg.

Approximately 15 cubic yards of material were excavated and transported offsite for proper disposal. The area was then backfilled with clean material to surface grade.

Conclusion and Recommendation

Based on the results, COG requests closure of this spill issue. The final C-141 is included in Appendix A. If you have any questions or comments concerning the assessment activities for this site, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Mike Carmona,
Geologist

Figures

SITE LOCATION

N
W E
S

0 10,416.5 20,833

Approximate Scale in Feet

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

STATE LOCATOR MAP

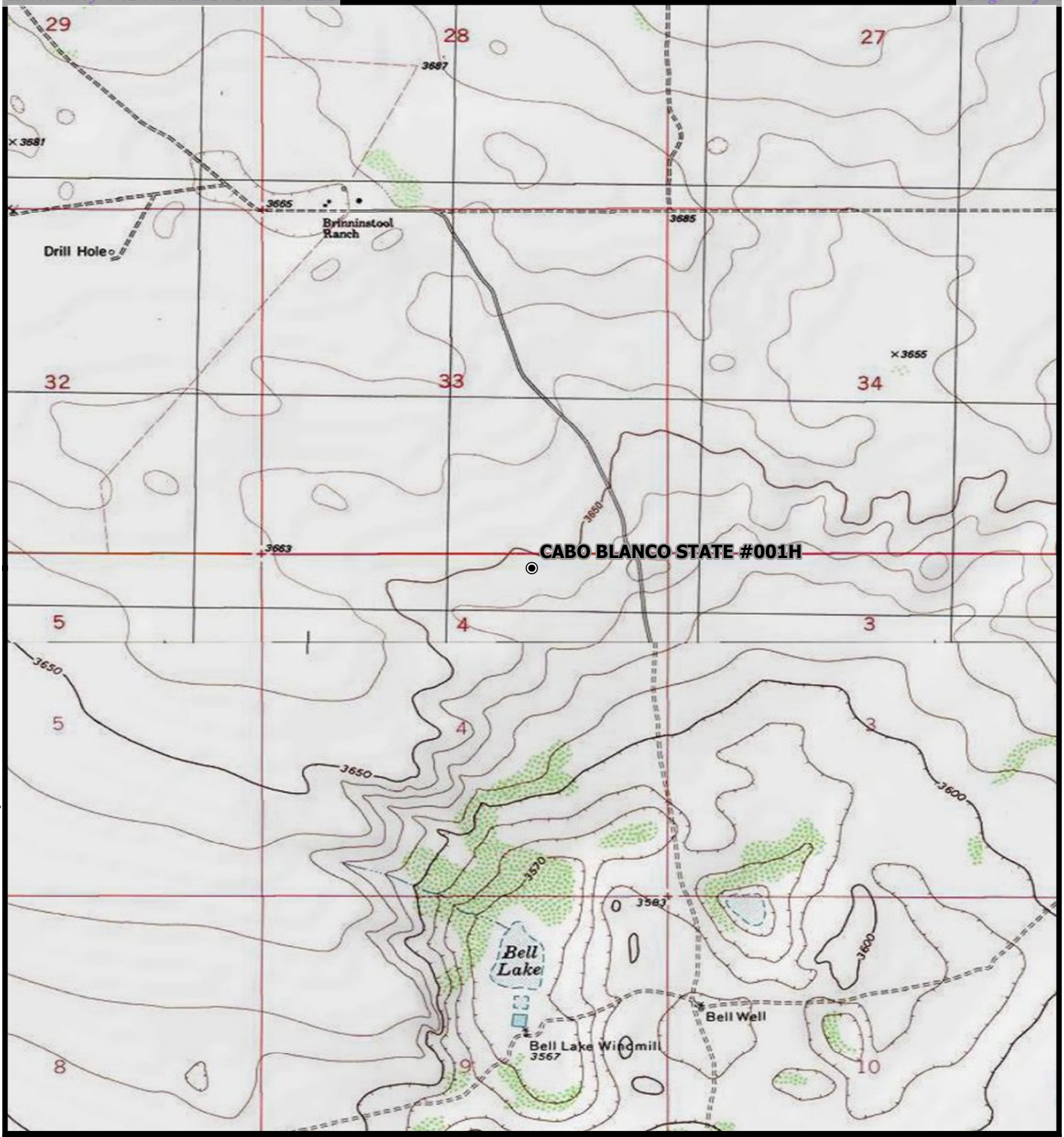
OVERVIEW MAP
CABO BLANCO STATE #001H
Property Located at coordinates 32.2532°,-103.5744°
LEA COUNTY, TEXAS

CONCHO

Project #:
212C-MD-01849

FIGURE
1

Document Path: C:\Users\MISTI.MORGAN\Desktop\project folder\212C-MD-01849 Cabo Blanco State #001H\MXD\212C-MD-01849 CABO BLANCO STATE #001H fig. 1.mxd



SITE LOCATION

TOPOGRAPHIC MAP
CABO BLANCO STATE #001H
Property Located at coordinates 32.2532°,-103.5744°
LEA COUNTY, TEXAS

N
W E
S

0 1,000 2,000
Approximate Scale in Feet

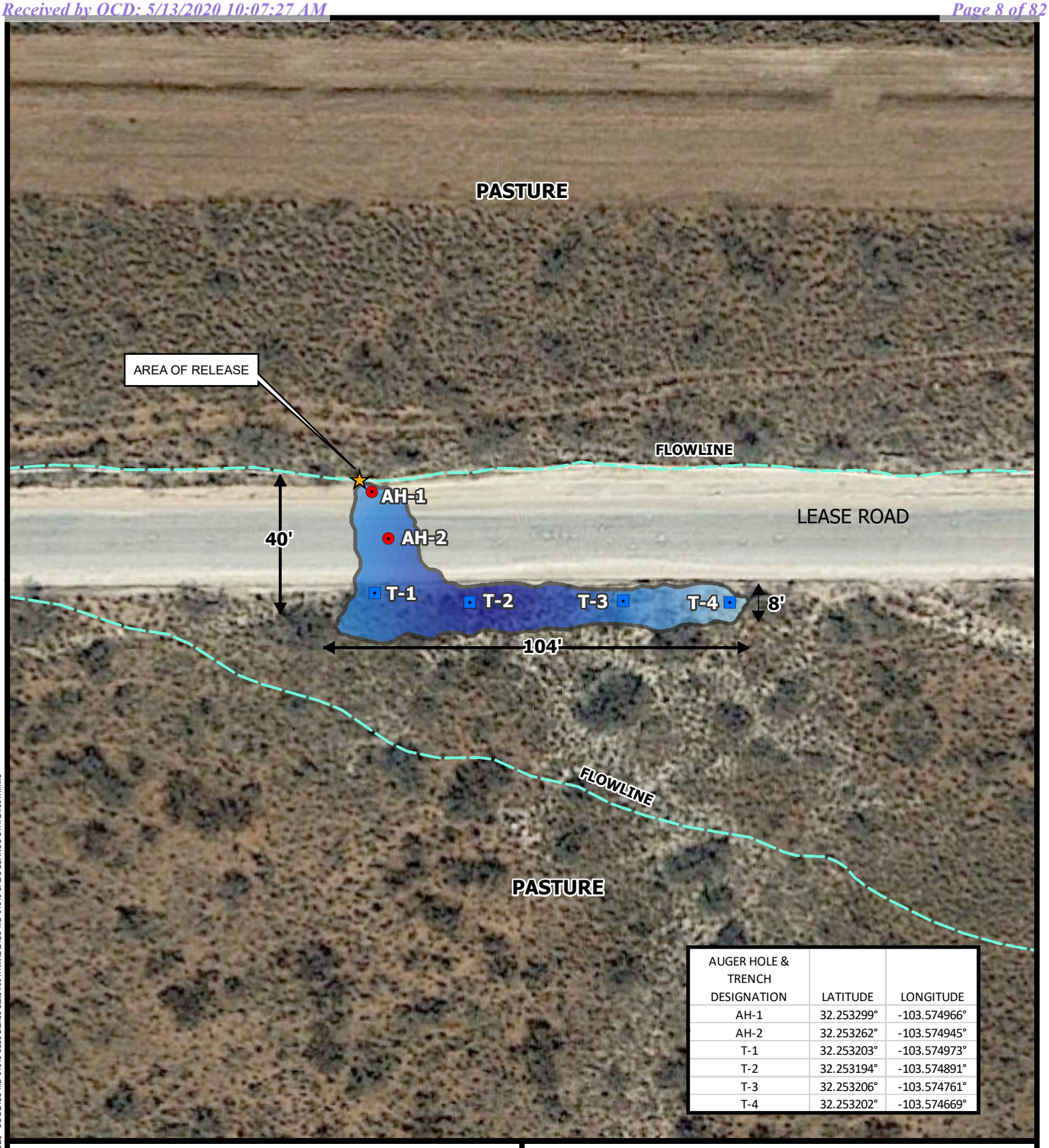
Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed

CONCHO

Project #:
212C-MD-01849

FIGURE
2

Document Path: C:\Users\MISTI.MORGAN\Desktop\project folder\212C-MD-01849 Cabo Blanco State #001H\MXD\212C-MD-01849 CABO BLANCO STATE #001H fig. 2.mxd



AUGER HOLE & TRENCH DESIGNATION	LATITUDE	LONGITUDE
AH-1	32.253299°	-103.574966°
AH-2	32.253262°	-103.574945°
T-1	32.253203°	-103.574973°
T-2	32.253194°	-103.574891°
T-3	32.253206°	-103.574761°
T-4	32.253202°	-103.574669°

AUGER HOLE SAMPLE LOCATIONS
TRENCH SAMPLE LOCATION
FLOWLINE
AFFECTED SPILL AREA

N
W E
S

0 20 40
Approximate Scale in Feet

Source: "New Mexico". 32°15'11.52"N, 103°34'27.84"W. **Google Earth**. February 2017. September 11, 2019.

SPILL ASSESSMENT MAP
CABO BLANCO STATE #001H
Property Located at coordinates 32.2532°,-103.5744°
LEA COUNTY, TEXAS

CONCHO

Project #:
212C-MD-01849

FIGURE
3

Date: 10/22/2019 Document Path: H:\GIS\CONCHO RESOURCES - COG\212C-MD-01849 Cabo Blanco State #001H\MXD\212C-MD-01849 CABO BLANCO STATE #001H.mxd

BH BOTTOM HOLE SAMPLE LOCATION

SIDEWALL SAMPLE LOCATIONS

FLOWLINE

2.0' bgs EXCAVATION DEPTH AREA

N
W E
S

0 10 20

Approximate Scale in Feet

Source: "New Mexico". 32°15'11.52"N, 103°34'27.84"W. **Google Earth**. February 2017. September 11, 2019.

EXCAVATION AREA & DEPTH MAP
CABO BLANCO STATE #001H
Property Located at coordinates 32.2532°,-103.5744°
LEA COUNTY, TEXAS

CONCHO

Project #:
212C-MD-01849

FIGURE
4

Date: 5/8/2020 Document Path: H:\GIS\CONCHO RESOURCES - COG\212C-MD-01849 Cabo Blanco State #001H\MXD\212C-MD-01849 CABO BLANCO STATE #001H fig. 4.mxd

Tables

Table 1
COG
Cabo Blanco State #1H
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Excavation Depth	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	ORO	Total						
AH-1	7/16/2019	0-1	-	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**1,800**
	"	1-1.5	-	X		<14.9	<14.9	<14.9	<14.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**1,080**
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	-	**2,410**
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	-	**1,010**
AH-1	2/11/2020	0-1	-	X		-	-	-	-	-	-	-	-	-	144
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	-	32.0
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	-	32.0
AH-2	7/16/2019	0-0.5	-		X	<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	**1,140**
	"	0.5-1	-		X	<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	**758**
AH-2	2/11/2020	0-1	-		X	-	-	-	-	-	-	-	-	-	**1,330**
	"	1-1.5	-		X	-	-	-	-	-	-	-	-	-	**800**
T-1	7/30/2019	0-1	-	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	18.5
	"	1	-	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	407
	"	2	-	X		-	-	-	-	-	-	-	-	-	14.9
	"	3	-	X		-	-	-	-	-	-	-	-	-	13.3
	"	4	-	X		-	-	-	-	-	-	-	-	-	40.6
	"	5	-	X		-	-	-	-	-	-	-	-	-	54.8
T-2	7/30/2019	0-1	-	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	85.6
	"	1	-	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	145
	"	2	-	X		-	-	-	-	-	-	-	-	-	113
	"	3	-	X		-	-	-	-	-	-	-	-	-	22.5
	"	4	-	X		-	-	-	-	-	-	-	-	-	20.2
	"	5	-	X		-	-	-	-	-	-	-	-	-	19.0
T-3	7/30/2019	0-1	-	X		<14.9	<14.9	<14.9	<14.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	44.8
	"	1	-	X		<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	0.00229	<0.00199	0.00229	33.6
	"	2	-	X		-	-	-	-	-	-	-	-	-	20.6
	"	3	-	X		-	-	-	-	-	-	-	-	-	575
	"	4	-	X		-	-	-	-	-	-	-	-	-	384
	"	5	-	X		-	-	-	-	-	-	-	-	-	507
	"	6	-	X		-	-	-	-	-	-	-	-	-	52.9
	"	7	-	X		-	-	-	-	-	-	-	-	-	19.4
	"	8	-	X		-	-	-	-	-	-	-	-	-	52.4
T-4	7/30/2019	0-1	C	X		<15.0	<15.0	<15.0	<15.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	262
	"	1	-	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	95.4
	"	2	-	X		-	-	-	-	-	-	-	-	-	22.2
	"	3	-	X		-	-	-	-	-	-	-	-	-	24.0
	"	4	-	X		-	-	-	-	-	-	-	-	-	36.7
	"	5	-	X		-	-	-	-	-	-	-	-	-	42.9
Bottom Hole 1	2/25/2020	-	2.0	-		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	48.0
NSW	"	-	-	-		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	80.0
SSW	"	-	-	-		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	48.0
WSW	"	-	-	-		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	48.0
ESW	"	-	-	-		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	112

(-) Not Analyzed

Excavated

Photos

TETRA TECH

May 11, 2020

Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 88240

Re: Revised - Closure Report for the COG Operating, LLC, Cabo Blanco State #001H, Unit B, Section 04, Township 24 South, Range 33 East, Lea County, New Mexico.
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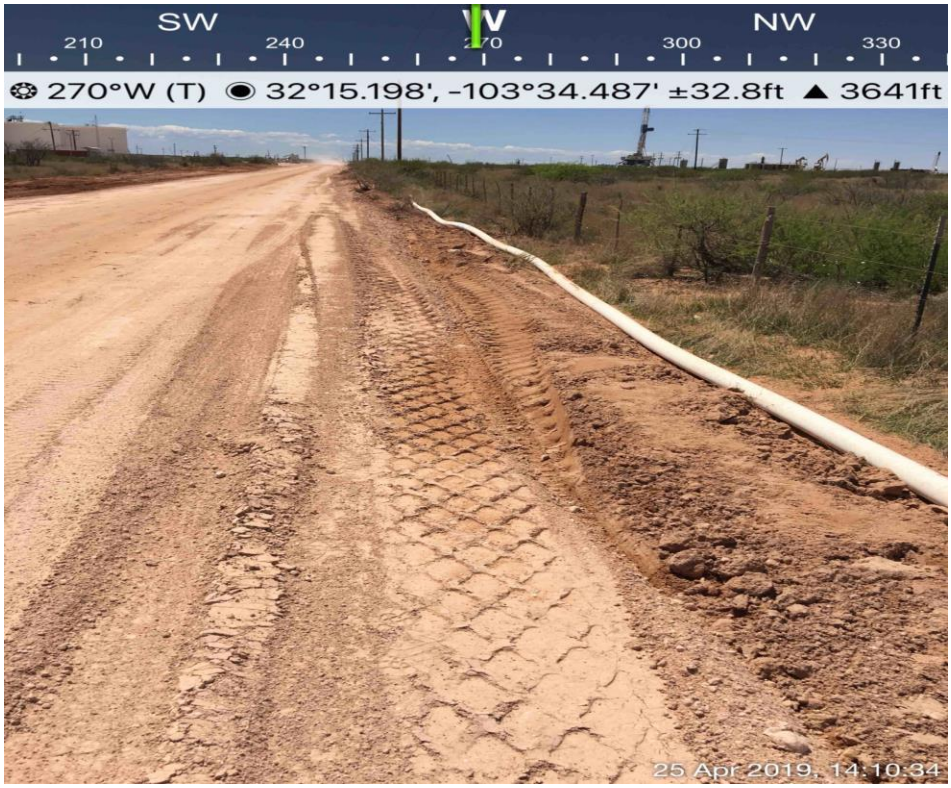
Tetra Tech
901 West Wall St, Suite 100, Midland, TX 79701
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

COG Operating LLC
Cabo Blanco State #1H
Lea County, New Mexico

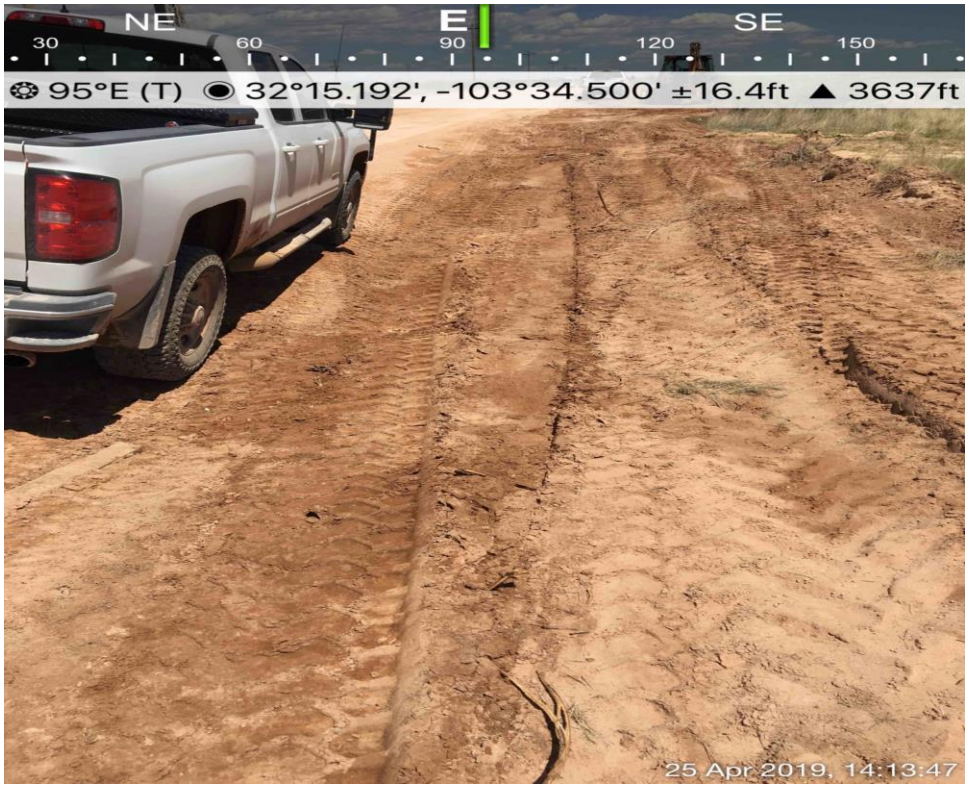


View West – Area of AH-1

View South –Area of AH-2

COG Operating LLC
Cabo Blanco State #1H
Lea County, New Mexico

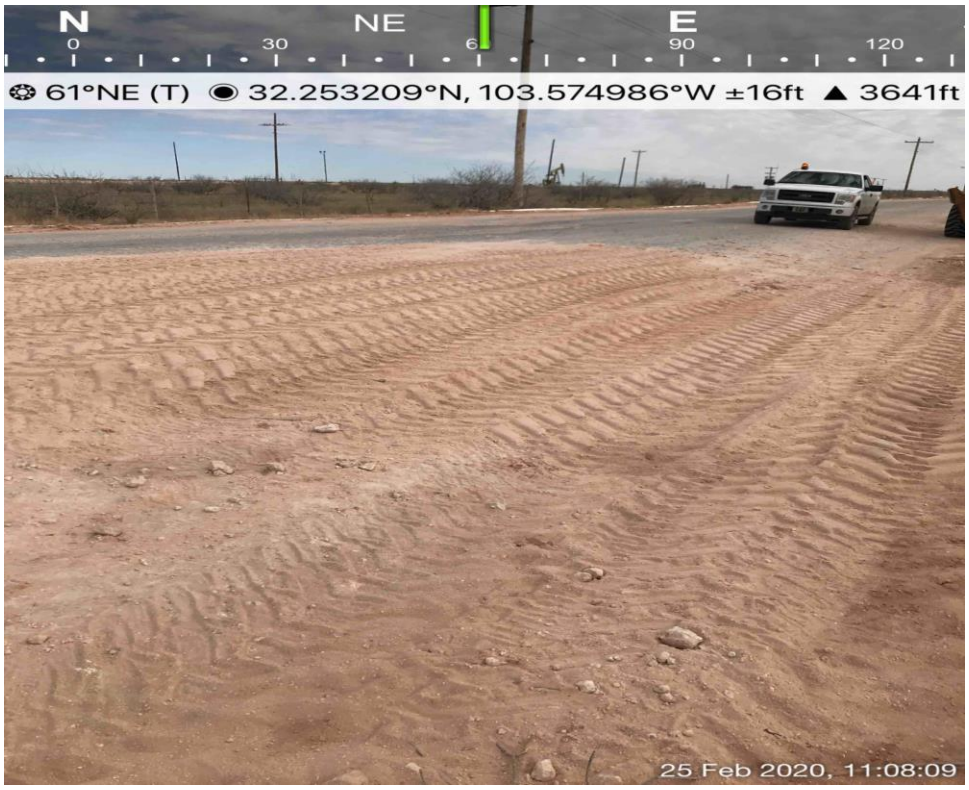
View West – Area of T-1, T,2,T3, and T4



View East- Area of T-1, T,2,T3, and T4

COG Operating LLC
Cabo Blanco State #1H
Lea County, New Mexico

View West – Area of Bottom Hole and Sidewalls



View Northeast- Area Backfilled

Appendix A

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	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)

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Initial Response

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

- ☐ The source of the release has been stopped.
- ☐ The impacted area has been secured to protect human health and the environment.
- ☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☐ All free liquids and recoverable materials have been removed and managed appropriately.

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

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

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

Printed Name: _____ Title: _____

Signature: DeLinn Grant Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Dylan Rose-Coss Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

State of New Mexico
Oil Conservation Division

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	

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 B

Water Well Data
Average Depth to Groundwater (ft)
COG Cabo Blanco State #001H
Lea County, New Mexico

23 South 32 East

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

23 South 33 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19 400	20 400	21	22	23	24
30	29	28 400	27	26 225	25 225
31	32	33	34	35	36

23 South 34 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

24 South 32 East

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

24 South 33 East

6	5	4 Site	3	2	1 81
7	8	9	10 20 24.6	11	12
18	17	16 415	15	14 575	13 390
19	20	21	22	23 110 208	24 16.9
30	29	28	27	26	25 30
31	32	33 70 93.2	34	35	36

24 South 34 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 32 East

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

25 South 33 East

6	5	4	3 172	2	1
7	8	9	10	11 140	12 200
18	17	16	15	14	13
19	20 200	21 120	22	23	24
30	29	28	27 125	26	25
31 257	32	33	34	35	36

25 South 34 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

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

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

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

34 NMOCD - Groundwater Data

123 Tetra Tech installed temporary wells and field water level

143 NMOCD Groundwater map well location

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y		Depth Well	Depth Water	Water Column
C 02308		CUB	LE	1	3	1	10	24S	33E	634953	3567364*		40	20	20
C 02309		CUB	LE	2	2	2	25	24S	33E	639638	3562994*		60	30	30
C 02310		CUB	LE	2	3	2	33	24S	33E	634437	3560918*		120	70	50
C 02311		CUB	LE	2	3	2	33	24S	33E	634437	3560918*		120	70	50
C 02430		CUB	LE	3	3	3	16	24S	33E	633377	3564732*		643	415	228
C 02431		CUB	LE	4	4	4	17	24S	33E	633175	3564728*		525	415	110
C 02432		CUB	LE	4	4	4	17	24S	33E	633175	3564728*		640	415	225
C 02563		CUB	LE	1	4	2	33	24S	33E	634639	3560923*		120		
C 02564		CUB	LE	2	4	2	33	24S	33E	634839	3560923*		120		
C 02890		C	LE		2	4	29	24S	33E	633114	3562012*		500		
C 03565 POD3		CUB	LE		3	4	08	24S	33E	632763	3566546			1533	
C 03591 POD1		CUB	LE	2	1	4	05	24S	33E	632731	3568518				
C 03600 POD1		CUB	LE	2	2	1	26	24S	33E	637275	3563023				
C 03600 POD2		CUB	LE	4	4	1	25	24S	33E	638824	3562329				
C 03600 POD3		CUB	LE	3	4	2	26	24S	33E	637784	3562340				
C 03600 POD4		CUB	LE	3	3	1	26	24S	33E	636617	3562293				
C 03600 POD5		CUB	LE	3	2	4	26	24S	33E	637857	3562020				
C 03600 POD6		CUB	LE	3	1	4	26	24S	33E	637383	3562026				
C 03600 POD7		CUB	LE	3	1	3	26	24S	33E	636726	3561968				
C 03601 POD1		CUB	LE	4	4	2	23	24S	33E	638124	3563937				
C 03601 POD2		CUB	LE	3	2	4	23	24S	33E	637846	3563588				
C 03601 POD3		CUB	LE	1	3	3	24	24S	33E	638142	3563413				
C 03601 POD4		CUB	LE	3	3	3	24	24S	33E	638162	3561375				
C 03601 POD5		CUB	LE	2	4	4	23	24S	33E	637988	3563334				
C 03601 POD6		CUB	LE	1	4	4	23	24S	33E	637834	3563338				
C 03601 POD7		CUB	LE	4	4	4	23	24S	33E	637946	3563170				
C 03602 POD2		CUB	LE	4	4	1	25	24S	33E	638824	3562329				
C 03603 POD1		CUB	LE	3	2	2	35	24S	33E	637805	3561225				
C 03603 POD2		CUB	LE	3	1	2	35	24S	33E	637384	3561167				
C 03603 POD3		CUB	LE	4	1	1	35	24S	33E	636890	3561092				
C 03603 POD4		CUB	LE	3	2	4	35	24S	33E	637789	3560461				
C 03603 POD5		CUB	LE	3	3	2	35	24S	33E	636745	3560767				
C 03603 POD6		CUB	LE	3	1	3	35	24S	33E	636749	3560447				
C 03662 POD1		C	LE	3	1	2	23	24S	33E	637342	3564428		550	110	440
C 03666 POD1		C	LE	2	3	4	13	24S	33E	639132	3565078		650	390	260
C 03679 POD1		C	ED	1	4	2	14	24S	33E	603567	3581547		700	575	125
C 03917 POD1		C	LE	4	1	3	13	24S	33E	638374	3565212		600	420	180
C 04014 POD2		CUB	LE	4	4	2	01	24S	33E	639656	3568917		95	81	14
C 04014 POD3		CUB	LE	2	4	2	01	24S	33E	639497	3569007		95	87	8
C 04014 POD4		CUB	LE	3	4	2	01	24S	33E	639295	3568859		96	86	10
C 04014 POD5		CUB	LE	1	4	2	01	24S	33E	639284	3569086		95	85	10

Average Depth to Water: **300 feet**

Minimum Depth: **20 feet**

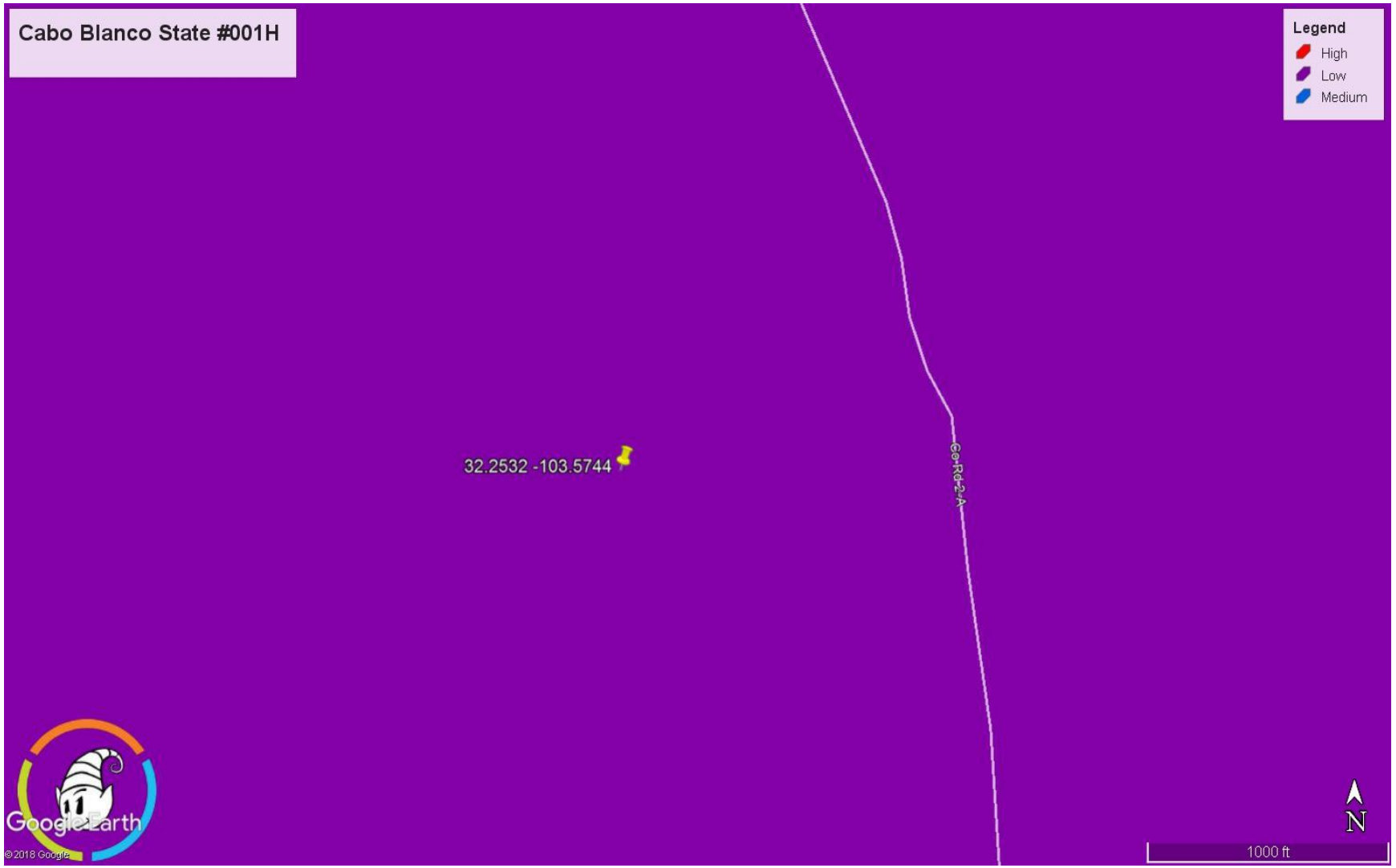
Maximum Depth: **1533 feet**

Record Count: 41

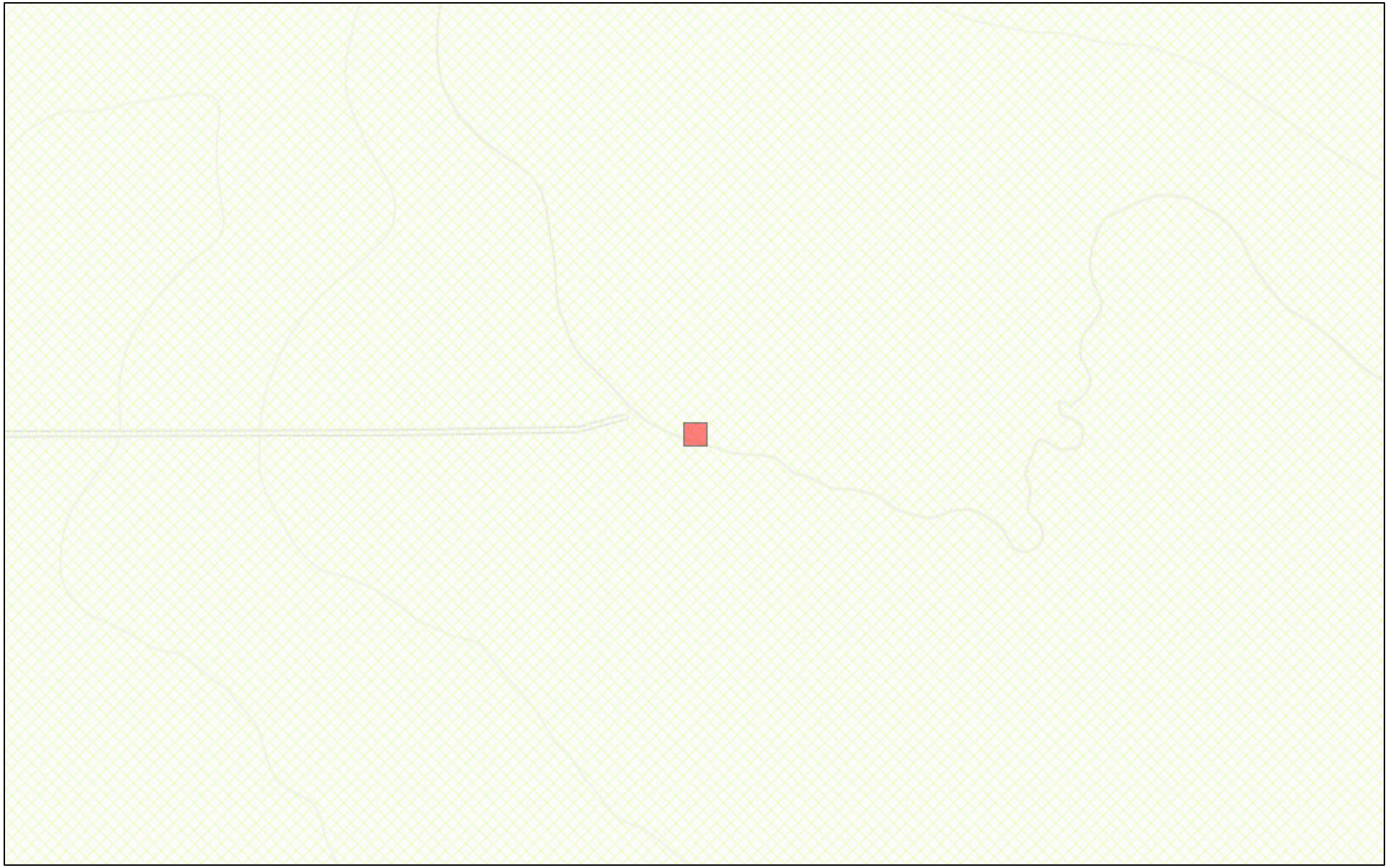
PLSS Search:

Township: 24S **Range:** 33E

***UTM location was derived from PLSS - see Help**


Cabo Blanco State #001H
Legend
High
Low
Medium
32.2532 -103.5744
Co Rd 2-A
Google Earth
© 2018 Google
N
1000 ft

New Mexico NFHL Data



March 13, 2019

1:4,514

0 0.0375 0.075 0.15 mi

0 0.05 0.1 0.2 km

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

Appendix C

Analytical Report 631202

for

Tetra Tech- Midland

Project Manager: Mike Carmona

Cabo Blanco State #001H (4-23-19)

22-JUL-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

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

22-JUL-19

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

Reference: XENCO Report No(s): **631202**
Cabo Blanco State #001H (4-23-19)
Project Address: Lea County, New Mexico

Mike Carmona:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 631202. 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. 631202 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 631202

Tetra Tech- Midland, Midland, TX

Cabo Blanco State #001H (4-23-19)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
AH-1 (0-1')	S	07-16-19 00:00		631202-001
AH-1 (1-1.5')	S	07-16-19 00:00		631202-002
AH-1 (2-2.5')	S	07-16-19 00:00		631202-003
AH-1 (3-3.5')	S	07-16-19 00:00		631202-004
AH-2 (0-6")	S	07-16-19 00:00		631202-005
AH-2 (6"-12")	S	07-16-19 00:00		631202-006

CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: Cabo Blanco State #001H (4-23-19)

Project ID:
Work Order Number(s): *631202*

Report Date: *22-JUL-19*
Date Received: *07/17/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3095867 TPH by SW8015 Mod

Surrogate o-Terphenyl recovered above QC limits. Samples affected are: 7682339-1-BKS,7682339-1-BSD,631202-006.

Batch: LBA-3095963 BTEX by EPA 8021B

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

Certificate of Analysis Summary 631202

Tetra Tech- Midland, Midland, TX

Project Name: Cabo Blanco State #001H (4-23-19)

Project Id:

Contact: Mike Carmona

Project Location: Lea County, New Mexico

Date Received in Lab: Wed Jul-17-19 01:54 pm

Report Date: 22-JUL-19

Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	631202-001		631202-002		631202-003		631202-004		631202-005		631202-006	
	Field Id:	AH-1 (0-1')		AH-1 (1-1.5')		AH-1 (2-2.5')		AH-1 (3-3.5')		AH-2 (0-6")		AH-2 (6"-12")	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-16-19 00:00		Jul-16-19 00:00		Jul-16-19 00:00		Jul-16-19 00:00		Jul-16-19 00:00		Jul-16-19 00:00	
BTEX by EPA 8021B	***Extracted:***	Jul-17-19 14:23		Jul-17-19 14:23						Jul-17-19 14:23		Jul-17-19 14:23	
	Analyzed:	Jul-20-19 09:37		Jul-20-19 09:58						Jul-20-19 03:22		Jul-20-19 10:38	
	Units/RL:	mg/kg	RL	mg/kg	RL					mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00201	0.00201					<0.00199	0.00199	<0.00199	0.00199
Toluene		<0.00200	0.00200	<0.00201	0.00201					<0.00199	0.00199	<0.00199	0.00199
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201					<0.00199	0.00199	<0.00199	0.00199
m,p-Xylenes		<0.00401	0.00401	<0.00402	0.00402					<0.00398	0.00398	<0.00398	0.00398
o-Xylene		<0.00200	0.00200	<0.00201	0.00201					<0.00199	0.00199	<0.00199	0.00199
Total Xylenes		<0.00200	0.00200	<0.00201	0.00201					<0.00199	0.00199	<0.00199	0.00199
Total BTEX		<0.00200	0.00200	<0.00201	0.00201					<0.00199	0.00199	<0.00199	0.00199
Chloride by EPA 300	***Extracted:***	Jul-18-19 13:40		Jul-18-19 13:40		Jul-18-19 13:40		Jul-18-19 13:40		Jul-18-19 13:40		Jul-18-19 13:40	
	Analyzed:	Jul-18-19 15:59		Jul-18-19 16:40		Jul-18-19 16:47		Jul-18-19 19:07		Jul-18-19 19:13		Jul-18-19 19:20	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1800	25.0	1080	5.05	2410	25.0	1010	4.95	1140	5.01	758	4.98
TPH by SW8015 Mod	***Extracted:***	Jul-18-19 08:00		Jul-18-19 08:00						Jul-18-19 08:00		Jul-18-19 08:00	
	Analyzed:	Jul-18-19 12:40		Jul-18-19 13:53						Jul-18-19 14:17		Jul-18-19 14:42	
	Units/RL:	mg/kg	RL	mg/kg	RL					mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<14.9	14.9					<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<14.9	14.9					<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<14.9	14.9					<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<14.9	14.9					<15.0	15.0	<15.0	15.0

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

Jessica Kramer
Project Assistant

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

Form 2 - Surrogate Recoveries

Project Name: Cabo Blanco State #001H (4-23-19)

Work Orders : 631202,

Project ID:

Lab Batch #: 3095867 **Sample:** 631202-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/18/19 12:40

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	99.9	127	70-135	
o-Terphenyl	67.0	50.0	134	70-135	

Lab Batch #: 3095867 **Sample:** 631202-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/18/19 13:53

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	99.6	114	70-135	
o-Terphenyl	59.9	49.8	120	70-135	

Lab Batch #: 3095867 **Sample:** 631202-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/18/19 14:17

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	99.9	119	70-135	
o-Terphenyl	61.5	50.0	123	70-135	

Lab Batch #: 3095867 **Sample:** 631202-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/18/19 14:42

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	69.5	50.0	139	70-135	**

Lab Batch #: 3095963 **Sample:** 631202-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/20/19 03:22

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	70-130	
4-Bromofluorobenzene	0.0313	0.0300	104	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: Cabo Blanco State #001H (4-23-19)

Work Orders : 631202,

Project ID:

Lab Batch #: 3095963 **Sample:** 631202-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/20/19 09:37

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0292	0.0300	97	70-130	
4-Bromofluorobenzene	0.0325	0.0300	108	70-130	

Lab Batch #: 3095963 **Sample:** 631202-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/20/19 09:58

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0310	0.0300	103	70-130	
4-Bromofluorobenzene	0.0323	0.0300	108	70-130	

Lab Batch #: 3095963 **Sample:** 631202-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/20/19 10:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	70-130	
4-Bromofluorobenzene	0.0326	0.0300	109	70-130	

Lab Batch #: 3095867 **Sample:** 7682339-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/18/19 11:27

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	63.6	50.0	127	70-135	

Lab Batch #: 3095963 **Sample:** 7682226-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/19/19 04:59

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0291	0.0300	97	70-130	
4-Bromofluorobenzene	0.0282	0.0300	94	70-130	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries

Project Name: Cabo Blanco State #001H (4-23-19)

Work Orders : 631202,

Project ID:

Lab Batch #: 3095867 **Sample:** 7682339-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/18/19 11:51

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	72.0	50.0	144	70-135	**

Lab Batch #: 3095963 **Sample:** 7682226-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/19/19 02:58

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	70-130	
4-Bromofluorobenzene	0.0306	0.0300	102	70-130	

Lab Batch #: 3095867 **Sample:** 7682339-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/18/19 12:15

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	72.3	50.0	145	70-135	**

Lab Batch #: 3095963 **Sample:** 7682226-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/19/19 03:19

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0298	0.0300	99	70-130	
4-Bromofluorobenzene	0.0335	0.0300	112	70-130	

Lab Batch #: 3095867 **Sample:** 631202-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/18/19 13:04

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	99.7	105	70-135	
o-Terphenyl	63.7	49.9	128	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: Cabo Blanco State #001H (4-23-19)

Work Orders : 631202,

Project ID:

Lab Batch #: 3095963 **Sample:** 630893-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/19/19 06:04

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	70-130	
4-Bromofluorobenzene	0.0265	0.0300	88	70-130	

Lab Batch #: 3095867 **Sample:** 631202-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/18/19 13:28

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	99.8	106	70-135	
o-Terphenyl	64.3	49.9	129	70-135	

Lab Batch #: 3095963 **Sample:** 630893-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 07/19/19 06:25

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0299	0.0300	100	70-130	
4-Bromofluorobenzene	0.0341	0.0300	114	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: Cabo Blanco State #001H (4-23-19)

Work Order #: 631202 **Project ID:**

Analyst: FOV **Date Prepared:** 07/17/2019 **Date Analyzed:** 07/19/2019

Lab Batch ID: 3095963 **Sample:** 7682226-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.100	0.107	107	0.100	0.110	110	3	70-130	35	
Toluene	<0.00200	0.100	0.105	105	0.100	0.106	106	1	70-130	35	
Ethylbenzene	<0.00200	0.100	0.117	117	0.100	0.119	119	2	70-130	35	
m,p-Xylenes	<0.00400	0.200	0.234	117	0.200	0.241	121	3	70-130	35	
o-Xylene	<0.00200	0.100	0.112	112	0.100	0.117	117	4	70-130	35	

Analyst: CHE **Date Prepared:** 07/18/2019 **Date Analyzed:** 07/18/2019

Lab Batch ID: 3095818 **Sample:** 7682294-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.858	250	233	93	250	232	93	0	90-110	20	

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

BS / BSD Recoveries

Project Name: Cabo Blanco State #001H (4-23-19)

Work Order #: 631202 **Project ID:**

Analyst: ARM **Date Prepared:** 07/18/2019 **Date Analyzed:** 07/18/2019

Lab Batch ID: 3095867 **Sample:** 7682339-1-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	1150	115	1000	1150	115	0	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	1120	112	1000	1150	115	3	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: Cabo Blanco State #001H (4-23-19)

Work Order # : 631202 **Project ID:**

Lab Batch ID: 3095963 **QC- Sample ID:** 630893-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/19/2019 **Date Prepared:** 07/17/2019 **Analyst:** FOV

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	<0.00198	0.0992	0.0835	84	0.0998	0.0893	89	7	70-130	35	
Toluene	<0.00198	0.0992	0.0798	80	0.0998	0.0861	86	8	70-130	35	
Ethylbenzene	<0.00198	0.0992	0.0840	85	0.0998	0.0915	92	9	70-130	35	
m,p-Xylenes	<0.00397	0.198	0.167	84	0.200	0.185	93	10	70-130	35	
o-Xylene	<0.00198	0.0992	0.0763	77	0.0998	0.0865	87	13	70-130	35	

Lab Batch ID: 3095818 **QC- Sample ID:** 631162-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/18/2019 **Date Prepared:** 07/18/2019 **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	269	249	485	87	249	485	87	0	90-110	20	X

Lab Batch ID: 3095818 **QC- Sample ID:** 631307-007 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/18/2019 **Date Prepared:** 07/18/2019 **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	273	250	485	85	250	486	85	0	90-110	20	X

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: Cabo Blanco State #001H (4-23-19)

Work Order # : 631202 **Project ID:**

Lab Batch ID: 3095867 **QC- Sample ID:** 631202-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/18/2019 **Date Prepared:** 07/18/2019 **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)	8.18	997	1170	117	998	1150	114	2	70-135	20	
Diesel Range Organics (DRO)	14.7	997	1120	111	998	1180	117	5	70-135	20	

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

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

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

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

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

631202

Analysis Request of Chain of Custody Record

Page 1 of 1

Tetra Tech, Inc.

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

Client Name:	COG	Site Manager:	Mike Carmona
Project Name:	Cabo Blanco State #001H (4-23-19)		
Project Location: (county, state)	Lea County, New Mexico	Project #:	
Invoice to:	COG Ike Tavarez		
Receiving Laboratory:	Xenco Labs	Sampler Signature:	Mike Carmona
Comments:			

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	TIME	MATRIX WATER	SOIL	PRESERVATIVE METHOD HCL	HNO_3	ICE	None	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	Hold
	AH-1 (0-1')	7/16/2019			X			X		1	N	x		x												x				
	AH-1 (1-1.5')	7/16/2019			X			X		1	N	x		x												x				
	AH-1 (2'-2.5')	7/16/2019			X			X		1	N															x				
	AH-1 (3'-3.5')	7/16/2019			X			X		1	N															x				
	AH-2 (0-6")	7/16/2019			X			X		1	N	x		x												x				
	AH-2 (6"-12")	7/16/2019			X			X		1	N	x		x												x				

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Mike Carmona (signature)	7/16/19		(signature)	7/17/19	
(signature)	7/17/19		(signature)	7/17/19	1354

LAB USE ONLY
Sample Temperature
0.3/0.5
-0.2 0.8

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

(Circle) **HAND DELIVERED** (circled) FEDEX UPS Tracking #: ______

ORIGINAL COPY

Final 1.000

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 07/17/2019 01:54:00 PM

Work Order #: 631202

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 07/17/2019

Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 07/17/2019

Jessica Kramer

Analytical Report 632659

for

Tetra Tech- Midland

Project Manager: Mike Carmona

Cabo Blanco State 1H (4-29-19)

212C-MD-01849

05-AUG-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

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

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

05-AUG-19

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

Reference: XENCO Report No(s): **632659**
Cabo Blanco State 1H (4-29-19)
Project Address: Lea County, New Mexico

Mike Carmona:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 632659. 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. 632659 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 632659

Tetra Tech- Midland, Midland, TX

Cabo Blanco State 1H (4-29-19)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-1 (0-1')	S	07-30-19 00:00		632659-001
T-1 (1')	S	07-30-19 00:00		632659-002
T-1 (2')	S	07-30-19 00:00		632659-003
T-1 (3')	S	07-30-19 00:00		632659-004
T-1 (4')	S	07-30-19 00:00		632659-005
T-1 (5')	S	07-30-19 00:00		632659-006
T-2 (0-1')	S	07-30-19 00:00		632659-007
T-2 (1')	S	07-30-19 00:00		632659-008
T-2(2')	S	07-30-19 00:00		632659-009
T-2(3')	S	07-30-19 00:00		632659-010
T-2 (4')	S	07-30-19 00:00		632659-011
T-2 (5')	S	07-30-19 00:00		632659-012
T-3 (0-1')	S	07-30-19 00:00		632659-013
T-3 (1')	S	07-30-19 00:00		632659-014
T-3 (2')	S	07-30-19 00:00		632659-015
T-3(3')	S	07-30-19 00:00		632659-016
T-3 (4')	S	07-30-19 00:00		632659-017
T-3 (5')	S	07-30-19 00:00		632659-018
T-3(6')	S	07-30-19 00:00		632659-019
T-3 (7')	S	07-30-19 00:00		632659-020
T-3 (8')	S	07-30-19 00:00		632659-021
T-4 (0-1')	S	07-30-19 00:00		632659-022
T-4 (1')	S	07-30-19 00:00		632659-023
T-4 (2')	S	07-30-19 00:00		632659-024
T-4 (3')	S	07-30-19 00:00		632659-025
T-4 (4')	S	07-30-19 00:00		632659-026
T-4(5')	S	07-30-19 00:00		632659-027

Version: 1.%

CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: Cabo Blanco State 1H (4-29-19)

Project ID: *212C-MD-01849*
Work Order Number(s): *632659*

Report Date: *05-AUG-19*
Date Received: *07/31/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3097186 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3097307 Chloride by EPA 300
Lab Sample ID 632659-026 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 632659-026, -027.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analysis Summary 632659

Tetra Tech- Midland, Midland, TX

Project Name: Cabo Blanco State 1H (4-29-19)

Project Id: 212C-MD-01849
Contact: Mike Carmona
Project Location: Lea County, New Mexico

Date Received in Lab: Wed Jul-31-19 04:22 pm
Report Date: 05-AUG-19
Project Manager: Jessica Kramer

Analysis Requested		632659-001		632659-002		632659-003		632659-004		632659-005		632659-006	
	Field Id:	T-1 (0-1')		T-1 (1')		T-1 (2')		T-1 (3')		T-1 (4')		T-1 (5')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-30-19 00:00		Jul-30-19 00:00		Jul-30-19 00:00		Jul-30-19 00:00		Jul-30-19 00:00		Jul-30-19 00:00	
BTEX by EPA 8021B	Extracted:	Jul-31-19 17:00		Jul-31-19 17:00									
	Analyzed:	Aug-01-19 08:55		Aug-01-19 09:15									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Benzene		<0.00200	0.00200	<0.00200	0.00200								
Toluene		<0.00200	0.00200	<0.00200	0.00200								
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200								
m,p-Xylenes		<0.00399	0.00399	<0.00400	0.00400								
o-Xylene		<0.00200	0.00200	<0.00200	0.00200								
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200								
Total BTEX		<0.00200	0.00200	<0.00200	0.00200								
Chloride by EPA 300	Extracted:	Aug-01-19 18:00		Aug-01-19 18:00		Aug-01-19 18:00		Aug-01-19 18:00		Aug-01-19 18:00		Aug-01-19 18:00	
	Analyzed:	Aug-02-19 17:05		Aug-02-19 17:10		Aug-02-19 17:15		Aug-02-19 17:21		Aug-02-19 17:37		Aug-02-19 17:42	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		18.5	5.00	407	5.02	14.9	5.03	13.3	5.05	40.6	4.98	54.8	4.98
TPH by SW8015 Mod	Extracted:	Aug-02-19 09:00		Aug-02-19 09:00									
	Analyzed:	Aug-04-19 13:35		Aug-04-19 14:34									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0								
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0								
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0								
Total TPH		<15.0	15.0	<15.0	15.0								

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 632659

Tetra Tech- Midland, Midland, TX

Project Name: Cabo Blanco State 1H (4-29-19)

Project Id: 212C-MD-01849
Contact: Mike Carmona
Project Location: Lea County, New Mexico

Date Received in Lab: Wed Jul-31-19 04:22 pm
Report Date: 05-AUG-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	632659-007		632659-008		632659-009		632659-010		632659-011		632659-012	
	Field Id:	T-2 (0-1')		T-2 (1')		T-2(2')		T-2(3')		T-2 (4')		T-2 (5')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-30-19 00:00		Jul-30-19 00:00		Jul-30-19 00:00		Jul-30-19 00:00		Jul-30-19 00:00		Jul-30-19 00:00	
BTEX by EPA 8021B	*Extracted:*	Jul-31-19 17:00		Jul-31-19 17:00									
	Analyzed:	Aug-01-19 09:35		Aug-01-19 09:56									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Benzene		<0.00200	0.00200	<0.00200	0.00200								
Toluene		<0.00200	0.00200	<0.00200	0.00200								
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200								
m,p-Xylenes		<0.00400	0.00400	<0.00400	0.00400								
o-Xylene		<0.00200	0.00200	<0.00200	0.00200								
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200								
Total BTEX		<0.00200	0.00200	<0.00200	0.00200								
Chloride by EPA 300	*Extracted:*	Aug-01-19 18:00		Aug-01-19 18:00		Aug-01-19 18:00		Aug-01-19 18:00		Aug-01-19 18:00		Aug-01-19 18:00	
	Analyzed:	Aug-02-19 17:59		Aug-02-19 18:04		Aug-02-19 18:10		Aug-02-19 18:15		Aug-02-19 18:20		Aug-02-19 18:26	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		85.6	4.97	145	5.00	113	5.02	22.5	5.05	20.2	5.03	19.0	4.98
TPH by SW8015 Mod	*Extracted:*	Aug-02-19 09:00		Aug-02-19 09:00									
	Analyzed:	Aug-04-19 14:54		Aug-04-19 15:14									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0								
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0								
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0								
Total TPH		<15.0	15.0	<15.0	15.0								

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Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 632659

Tetra Tech- Midland, Midland, TX

Project Name: Cabo Blanco State 1H (4-29-19)

Project Id: 212C-MD-01849
Contact: Mike Carmona
Project Location: Lea County, New Mexico

Date Received in Lab: Wed Jul-31-19 04:22 pm
Report Date: 05-AUG-19
Project Manager: Jessica Kramer

Analysis Requested		Lab Id:	632659-013		632659-014		632659-015		632659-016		632659-017		632659-018	
		Field Id:	T-3 (0-1')		T-3 (1')		T-3 (2')		T-3(3')		T-3 (4')		T-3 (5')	
		Depth:												
		Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
		Sampled:	Jul-30-19 00:00		Jul-30-19 00:00		Jul-30-19 00:00		Jul-30-19 00:00		Jul-30-19 00:00		Jul-30-19 00:00	
BTEX by EPA 8021B		Extracted:	Jul-31-19 17:00		Jul-31-19 17:00									
		Analyzed:	Aug-01-19 10:16		Aug-01-19 10:36									
		Units/RL:	mg/kg	RL	mg/kg	RL								
Benzene			<0.00200	0.00200	<0.00199	0.00199								
Toluene			<0.00200	0.00200	<0.00199	0.00199								
Ethylbenzene			<0.00200	0.00200	<0.00199	0.00199								
m,p-Xylenes			<0.00400	0.00400	<0.00398	0.00398								
o-Xylene			<0.00200	0.00200	<0.00199	0.00199								
Total Xylenes			<0.00200	0.00200	<0.00199	0.00199								
Total BTEX			<0.00200	0.00200	<0.00199	0.00199								
Chloride by EPA 300		Extracted:	Aug-01-19 18:00		Aug-01-19 18:30		Aug-01-19 18:30		Aug-01-19 18:30		Aug-01-19 18:30		Aug-01-19 18:30	
		Analyzed:	Aug-02-19 18:31		Aug-02-19 01:03		Aug-02-19 01:22		Aug-02-19 01:28		Aug-02-19 01:35		Aug-02-19 01:41	
		Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride			44.8	4.96	33.6	5.04	20.6	5.01	575	5.01	384	5.00	507	4.96
TPH by SW8015 Mod		Extracted:	Aug-02-19 09:00		Aug-02-19 09:00									
		Analyzed:	Aug-04-19 15:34		Aug-04-19 15:54									
		Units/RL:	mg/kg	RL	mg/kg	RL								
Gasoline Range Hydrocarbons (GRO)			<14.9	14.9	<15.0	15.0								
Diesel Range Organics (DRO)			<14.9	14.9	<15.0	15.0								
Motor Oil Range Hydrocarbons (MRO)			<14.9	14.9	<15.0	15.0								
Total TPH			<14.9	14.9	<15.0	15.0								

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 632659

Tetra Tech- Midland, Midland, TX

Project Name: Cabo Blanco State 1H (4-29-19)

Project Id: 212C-MD-01849
Contact: Mike Carmona
Project Location: Lea County, New Mexico

Date Received in Lab: Wed Jul-31-19 04:22 pm
Report Date: 05-AUG-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	632659-019		632659-020		632659-021		632659-022		632659-023		632659-024	
	Field Id:	T-3(6')		T-3 (7')		T-3 (8')		T-4 (0-1')		T-4 (1')		T-4 (2')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-30-19 00:00		Jul-30-19 00:00		Jul-30-19 00:00		Jul-30-19 00:00		Jul-30-19 00:00		Jul-30-19 00:00	
BTEX by EPA 8021B	*Extracted:*							Jul-31-19 17:00		Jul-31-19 17:00			
	Analyzed:							Aug-01-19 10:56		Aug-01-19 11:16			
	Units/RL:							mg/kg	RL	mg/kg	RL		
Benzene								<0.00198	0.00198	<0.00200	0.00200		
Toluene								<0.00198	0.00198	<0.00200	0.00200		
Ethylbenzene								<0.00198	0.00198	<0.00200	0.00200		
m,p-Xylenes								<0.00397	0.00397	<0.00400	0.00400		
o-Xylene								<0.00198	0.00198	<0.00200	0.00200		
Total Xylenes								<0.00198	0.00198	<0.00200	0.00200		
Total BTEX								<0.00198	0.00198	<0.00200	0.00200		
Chloride by EPA 300	*Extracted:*	Aug-01-19 18:30		Aug-01-19 18:30		Aug-01-19 18:30		Aug-01-19 18:30		Aug-01-19 18:30		Aug-01-19 18:30	
	Analyzed:	Aug-02-19 02:00		Aug-02-19 02:06		Aug-02-19 02:13		Aug-02-19 02:19		Aug-02-19 02:25		Aug-02-19 02:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		52.9	4.95	19.4	4.96	52.4	5.03	262	5.04	95.4	5.01	22.2	5.01
TPH by SW8015 Mod	*Extracted:*							Aug-02-19 09:00		Aug-02-19 09:00			
	Analyzed:							Aug-04-19 16:14		Aug-04-19 16:35			
	Units/RL:							mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)								<15.0	15.0	<15.0	15.0		
Diesel Range Organics (DRO)								<15.0	15.0	<15.0	15.0		
Motor Oil Range Hydrocarbons (MRO)								<15.0	15.0	<15.0	15.0		
Total TPH								<15.0	15.0	<15.0	15.0		

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 632659

Tetra Tech- Midland, Midland, TX

Project Name: Cabo Blanco State 1H (4-29-19)

Project Id: 212C-MD-01849
Contact: Mike Carmona
Project Location: Lea County, New Mexico

Date Received in Lab: Wed Jul-31-19 04:22 pm
Report Date: 05-AUG-19
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	632659-025		632659-026		632659-027					
	Field Id:	T-4 (3')		T-4 (4')		T-4(5')					
	Depth:										
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Jul-30-19 00:00		Jul-30-19 00:00		Jul-30-19 00:00					
Chloride by EPA 300	***Extracted:***	Aug-01-19 18:30		Aug-01-19 17:00		Aug-01-19 17:00					
	Analyzed:	Aug-02-19 02:50		Aug-01-19 21:34		Aug-01-19 21:53					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		24.0	4.95	36.7	4.98	42.9	4.95				

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Version: 1.%

Jessica Kramer
Project Assistant

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

Form 2 - Surrogate Recoveries

Project Name: Cabo Blanco State 1H (4-29-19)

Work Orders : 632659,

Project ID: 212C-MD-01849

Lab Batch #: 3097186 **Sample:** 632659-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/19 08:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0319	0.0300	106	70-130	
4-Bromofluorobenzene	0.0343	0.0300	114	70-130	

Lab Batch #: 3097186 **Sample:** 632659-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/19 09:15

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	0.0336	0.0300	112	70-130	

Lab Batch #: 3097186 **Sample:** 632659-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/19 09:35

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0315	0.0300	105	70-130	
4-Bromofluorobenzene	0.0328	0.0300	109	70-130	

Lab Batch #: 3097186 **Sample:** 632659-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/19 09:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0315	0.0300	105	70-130	
4-Bromofluorobenzene	0.0323	0.0300	108	70-130	

Lab Batch #: 3097186 **Sample:** 632659-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/19 10:16

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0327	0.0300	109	70-130	
4-Bromofluorobenzene	0.0344	0.0300	115	70-130	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Cabo Blanco State 1H (4-29-19)

Work Orders : 632659,

Project ID: 212C-MD-01849

Lab Batch #: 3097186 **Sample:** 632659-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/19 10:36

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0310	0.0300	103	70-130	
4-Bromofluorobenzene	0.0315	0.0300	105	70-130	

Lab Batch #: 3097186 **Sample:** 632659-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/19 10:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0314	0.0300	105	70-130	
4-Bromofluorobenzene	0.0330	0.0300	110	70-130	

Lab Batch #: 3097186 **Sample:** 632659-023 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/19 11:16

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0325	0.0300	108	70-130	
4-Bromofluorobenzene	0.0309	0.0300	103	70-130	

Lab Batch #: 3097503 **Sample:** 632659-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/04/19 13:35

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	99.9	92	70-135	
o-Terphenyl	45.6	50.0	91	70-135	

Lab Batch #: 3097503 **Sample:** 632659-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/04/19 14:34

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.4	99.9	91	70-135	
o-Terphenyl	45.3	50.0	91	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Cabo Blanco State 1H (4-29-19)

Work Orders : 632659,

Project ID: 212C-MD-01849

Lab Batch #: 3097503 **Sample:** 632659-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/04/19 14:54

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.3	99.8	89	70-135	
o-Terphenyl	44.4	49.9	89	70-135	

Lab Batch #: 3097503 **Sample:** 632659-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/04/19 15:14

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.9	99.9	93	70-135	
o-Terphenyl	45.7	50.0	91	70-135	

Lab Batch #: 3097503 **Sample:** 632659-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/04/19 15:34

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.0	99.6	95	70-135	
o-Terphenyl	47.1	49.8	95	70-135	

Lab Batch #: 3097503 **Sample:** 632659-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/04/19 15:54

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.1	100	94	70-135	
o-Terphenyl	46.5	50.0	93	70-135	

Lab Batch #: 3097503 **Sample:** 632659-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/04/19 16:14

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.4	99.7	92	70-135	
o-Terphenyl	45.3	49.9	91	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Cabo Blanco State 1H (4-29-19)

Work Orders : 632659,

Project ID: 212C-MD-01849

Lab Batch #: 3097503 **Sample:** 632659-023 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/04/19 16:35

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.6	99.9	94	70-135	
o-Terphenyl	46.2	50.0	92	70-135	

Lab Batch #: 3097186 **Sample:** 7683198-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/31/19 09:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0306	0.0300	102	70-130	
4-Bromofluorobenzene	0.0288	0.0300	96	70-130	

Lab Batch #: 3097503 **Sample:** 7683384-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/04/19 12:36

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.4	100	88	70-135	
o-Terphenyl	44.7	50.0	89	70-135	

Lab Batch #: 3097186 **Sample:** 7683198-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/31/19 07:52

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	70-130	
4-Bromofluorobenzene	0.0331	0.0300	110	70-130	

Lab Batch #: 3097503 **Sample:** 7683384-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/04/19 12:55

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	48.0	50.0	96	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: Cabo Blanco State 1H (4-29-19)

Work Orders : 632659,

Project ID: 212C-MD-01849

Lab Batch #: 3097186 **Sample:** 7683198-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 07/31/19 08:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	70-130	
4-Bromofluorobenzene	0.0348	0.0300	116	70-130	

Lab Batch #: 3097503 **Sample:** 7683384-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 08/04/19 13:15

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	52.3	50.0	105	70-135	

Lab Batch #: 3097186 **Sample:** 632524-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/19 07:14

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	70-130	
4-Bromofluorobenzene	0.0368	0.0300	123	70-130	

Lab Batch #: 3097503 **Sample:** 632659-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/04/19 13:54

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	99.7	124	70-135	
o-Terphenyl	49.7	49.9	100	70-135	

Lab Batch #: 3097186 **Sample:** 632524-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/01/19 07:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0320	0.0300	107	70-130	
4-Bromofluorobenzene	0.0357	0.0300	119	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.

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Cabo Blanco State 1H (4-29-19)

Work Orders : 632659,

Project ID: 212C-MD-01849

Lab Batch #: 3097503 **Sample:** 632659-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 08/04/19 14:14

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	99.8	116	70-135	
o-Terphenyl	49.4	49.9	99	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.

Version: 1.%

BS / BSD Recoveries

Project Name: Cabo Blanco State 1H (4-29-19)

Work Order #: 632659 **Project ID:** 212C-MD-01849

Analyst: ALG **Date Prepared:** 07/31/2019 **Date Analyzed:** 07/31/2019

Lab Batch ID: 3097186 **Sample:** 7683198-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00200	0.100	0.102	102	0.100	0.0987	99	3	70-130	35	
Toluene	<0.00200	0.100	0.100	100	0.100	0.0947	95	5	70-130	35	
Ethylbenzene	<0.00200	0.100	0.114	114	0.100	0.108	108	5	70-130	35	
m,p-Xylenes	<0.00400	0.200	0.230	115	0.200	0.220	110	4	70-130	35	
o-Xylene	<0.00200	0.100	0.111	111	0.100	0.107	107	4	70-130	35	

Analyst: SPC **Date Prepared:** 08/01/2019 **Date Analyzed:** 08/01/2019

Lab Batch ID: 3097307 **Sample:** 7683354-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	267	107	250	266	106	0	90-110	20	

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

Version: 1.%

BS / BSD Recoveries

Project Name: Cabo Blanco State 1H (4-29-19)

Work Order #: 632659 **Project ID:** 212C-MD-01849

Analyst: SPC **Date Prepared:** 08/01/2019 **Date Analyzed:** 08/02/2019

Lab Batch ID: 3097448 **Sample:** 7683356-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	271	108	250	271	108	0	90-110	20	

Analyst: SPC **Date Prepared:** 08/01/2019 **Date Analyzed:** 08/02/2019

Lab Batch ID: 3097312 **Sample:** 7683357-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	1.88	250	269	108	250	268	107	0	90-110	20	

Analyst: ARM **Date Prepared:** 08/02/2019 **Date Analyzed:** 08/04/2019

Lab Batch ID: 3097503 **Sample:** 7683384-1-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	1010	101	1000	1060	106	5	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	951	95	1000	998	100	5	70-135	20	

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

Version: 1.%

Form 3 - MS / MSD Recoveries

Project Name: Cabo Blanco State 1H (4-29-19)

Work Order # : 632659 **Project ID:** 212C-MD-01849

Lab Batch ID: 3097186 **QC- Sample ID:** 632524-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/01/2019 **Date Prepared:** 07/31/2019 **Analyst:** ALG

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	<0.00199	0.0994	0.0885	89	0.100	0.0799	80	10	70-130	35	
Toluene	<0.00199	0.0994	0.0807	81	0.100	0.0701	70	14	70-130	35	
Ethylbenzene	<0.00199	0.0994	0.0878	88	0.100	0.0747	75	16	70-130	35	
m,p-Xylenes	<0.00398	0.199	0.165	83	0.200	0.135	68	20	70-130	35	X
o-Xylene	<0.00199	0.0994	0.0838	84	0.100	0.0699	70	18	70-130	35	

Lab Batch ID: 3097307 **QC- Sample ID:** 632560-006 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/01/2019 **Date Prepared:** 08/01/2019 **Analyst:** SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	260	252	542	112	252	543	112	0	90-110	20	X

Lab Batch ID: 3097307 **QC- Sample ID:** 632659-026 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/01/2019 **Date Prepared:** 08/01/2019 **Analyst:** SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	36.7	249	311	110	249	313	111	1	90-110	20	X

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: Cabo Blanco State 1H (4-29-19)

Work Order # : 632659 **Project ID:** 212C-MD-01849

Lab Batch ID: 3097312 **QC- Sample ID:** 632659-014 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/02/2019 **Date Prepared:** 08/01/2019 **Analyst:** SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	33.6	252	303	107	252	302	107	0	90-110	20	

Lab Batch ID: 3097312 **QC- Sample ID:** 632659-024 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/02/2019 **Date Prepared:** 08/01/2019 **Analyst:** SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	22.2	251	294	108	251	294	108	0	90-110	20	

Lab Batch ID: 3097448 **QC- Sample ID:** 632623-006 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/02/2019 **Date Prepared:** 08/01/2019 **Analyst:** SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	119	249	369	100	249	368	100	0	90-110	20	

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

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

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

Form 3 - MS / MSD Recoveries

Project Name: Cabo Blanco State 1H (4-29-19)

Work Order # : 632659 **Project ID:** 212C-MD-01849

Lab Batch ID: 3097448 **QC- Sample ID:** 632659-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/02/2019 **Date Prepared:** 08/01/2019 **Analyst:** SPC

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	13.3	253	282	106	253	291	110	3	90-110	20	

Lab Batch ID: 3097503 **QC- Sample ID:** 632659-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/04/2019 **Date Prepared:** 08/02/2019 **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)	<7.98	997	984	99	998	994	100	1	70-135	20	
Diesel Range Organics (DRO)	<8.10	997	919	92	998	939	94	2	70-135	20	

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

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

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

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

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

Analysis Request of Chain of Custody Record

632659

Tetra Tech, Inc.

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

Client Name: COG	**Site Manager:** Mike Carmona
Project Name: Cabo Blanco State 1H (4-29-19)	
Project Location: (county, state) Lea County, New Mexico	**Project #:** 212C-MD-01849
Invoice to: Ike Tavarez	
Receiving Laboratory: Xenco	**Sampler Signature:** Devin Dominguez

Comments: Run deeper sample if Benzene exceeds 10 mg/kg or total BTEX exceeds 50 mg/kg. Run deeper sample if TPH exceeds 100 mg/kg.

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R			Hold
	T-1 (0-1')	7/30/2019			X				X			1	N	X		X												X							
	T-1 (1')	7/30/2019			X				X			1	N	X		X												X							
	T-1 (2')	7/30/2019			X				X			1	N															X							
	T-1 (3')	7/30/2019			X				X			1	N															X							
	T-1 (4')	7/30/2019			X				X			1	N															X							
	T-1 (5')	7/30/2019			X				X			1	N															X							
	T-2 (0-1')	7/30/2019			X				X			1	N	X		X												X							
	T-2 (1')	7/30/2019			X				X			1	N	X		X												X							
	T-2 (2')	7/30/2019			X				X			1	N															X							
	T-2 (3')	7/30/2019			X				X			1	N															X							

ANALYSIS REQUEST
(Circle or Specify Method No.)

Final 1.000

Relinquished by:	Date: 7/31/19	Time: 1658	Received by: Date: 7/31/19 Time: 1622
Relinquished by:	Date:	Time:	Received by: Date: Time:
Relinquished by:	Date:	Time:	Received by: Date: Time:

LAB USE ONLY

Sample Temperature 3.3/31

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Analysis Request of Chain of Custody Record

163489

Tetra Tech, Inc.

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

Client Name:	COG	**Site Manager:**	Mike Carmona
Project Name:	Cabo Blanco State 1H (4-29-19)		
Project Location: (county, state)	Lea County, New Mexico	**Project #:**	212C-MD-01849
Invoice to:	Ike Tavarez		
Receiving Laboratory:	Xenco	**Sampler Signature:**	Devin Dominguez

Comments: Run deeper sample if Benzene exceeds 10 mg/kg or total BTEX exceeds 50 mg/kg. Run deeper sample if TPH exceeds 100 mg/kg.

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None		# CONTAINERS	FILTERED (Y/N)
	T-2 (4')	7/30/2019			X				X			1	N
	T-2 (5')	7/30/2019			X				X			1	N
	T-3 (0-1')	7/30/2019			X				X			1	N
	T-3 (1')	7/30/2019			X				X			1	N
	T-3 (2')	7/30/2019			X				X			1	N
	T-3 (3')	7/30/2019			X				X			1	N
	T-3 (4')	7/30/2019			X				X			1	N
	T-3 (5')	7/30/2019			X				X			1	N
	T-3 (6')	7/30/2019			X				X			1	N
	T-3 (7')	7/30/2019			X				X			1	N

ANALYSIS REQUEST
(Circle or Specify Method No.)

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

Relinquished by: Date: 7/31/19 Time: 1600 Received by: Date: 7/31/19 Time: 1682

Relinquished by: Date: Time: Received by: Date: Time:

Relinquished by: Date: Time: Received by: Date: Time:

LAB USE ONLY

Sample Temperature 3.3/3.1

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Final 1.000

Analysis Request of Chain of Custody Record

1032659 Page 3 of 3

Tetra Tech, Inc.

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

Client Name: COG	**Site Manager:** Mike Carmona
Project Name: Cabo Blanco State 1H (4-29-19)	
Project Location: (county, state) Lea County, New Mexico	**Project #:** 212C-MD-01849
Invoice to: Ike Tavarez	
Receiving Laboratory: Xenco	**Sampler Signature:** Devin Dominguez

Comments: Run deeper sample if Benzene exceeds 10 mg/kg or total BTEX exceeds 50 mg/kg. Run deeper sample if TPH exceeds 100 mg/kg.

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None		# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R			Hold
	T-3 (8')	7/30/2019			X				X			1	N															X						
	T-4 (0-1')	7/30/2019			X				X			1	N	X		X												X						
	T-4 (1')	7/30/2019			X				X			1	N	X		X												X						
	T-4 (2')	7/30/2019			X				X			1	N															X						
	T-4 (3')	7/30/2019			X				X			1	N															X						
	T-4 (4')	7/30/2019			X				X			1	N															X						
	T-4 (5')	7/30/2019			X				X			1	N															X						

Final 1.000

Relinquished by: Date: 7/31/19 Time: 1600 — Received by: Date: 7/31/19 Time: 1682

Relinquished by: Date: Time: — Received by: Date: Time:

Relinquished by: Date: Time: — Received by: Date: Time:

LAB USE ONLY

Sample Temperature 3.3/3.1

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 07/31/2019 04:22:00 PM

Work Order #: 632659

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 07/31/2019

Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 07/31/2019

Jessica Kramer

CARDINAL Laboratories

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

February 13, 2020

MIKE CARMONA

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: CABO BLANCO ST #001H

Enclosed are the results of analyses for samples received by the laboratory on 02/11/20 14:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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 accreditated 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,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

TETRA TECH
MIKE CARMONA
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	02/11/2020	Sampling Date:	02/11/2020
Reported:	02/13/2020	Sampling Type:	Soil
Project Name:	CABO BLANCO ST #001H	Sampling Condition:	Cool & Intact
Project Number:	4-23-19	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO NM		

Sample ID: AH - 1 0-1' (H000409-01)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	02/12/2020	ND	432	108	400	0.00	

Sample ID: AH - 1 1-1.5' (H000409-02)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	02/12/2020	ND	432	108	400	0.00	

Sample ID: AH - 1 2-2.5' (H000409-03)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	02/12/2020	ND	432	108	400	0.00	

Sample ID: AH - 2 0-1' (H000409-04)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1330**	16.0	02/12/2020	ND	432	108	400	0.00	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

TETRA TECH
MIKE CARMONA
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	02/11/2020	Sampling Date:	02/11/2020
Reported:	02/13/2020	Sampling Type:	Soil
Project Name:	CABO BLANCO ST #001H	Sampling Condition:	Cool & Intact
Project Number:	4-23-19	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO NM		

Sample ID: AH - 2 1-1.5' (H000409-05)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: GM**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**800**	16.0	02/12/2020	ND	432	108	400	0.00	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

		BILL TO	
Company Name:	Tetra Tech	P.O. #:	
Project Manager:	Mike Carmona	Company:	Concho
Address:	901 W Wall	Attn:	Ike Tavarez
City:	Midland State: TX Zip: 79701	Address:	
Phone #:	432-664-8185 Fax #:	City:	Midland
Project #:	Project Owner:	State: TX Zip:	79701
Project Name:	Cabo Blanco St #001H (4-23-19)	Phone #:	
Project Location:	Lea Co, NM	Fax #:	
Sampler Name:	Devin Dominguez		

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chlorides
H000409															
1	AH-1 0-1'	G	1			X					X		7/11/20		X
2	1'-1.5'	G	1			X					X				X
3	2'-2.5'	G	1			X					X				X
4	AH-2 0-1'	G	1			X					X				X
5	1'-1.5'	G	1			X					X				X

Relinquished By:	Date: 7/11	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1415		All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		

Delivered By: (Circle One)	Observed Temp. °C 2.4	Sample Condition	CHECKED BY:	Turnaround Time: Standard ☒ Rush ☐
Sampler - UPS - Bus - Other:	Corrected Temp. °C	Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	(Initials) TO	Thermometer ID #97 Correction Factor +0.4 °C

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C Corrected Temp. °C

FORM-006 R 3.0

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

CARDINAL Laboratories

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

February 26, 2020

MIKE CARMONA

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: CABO BLANCO ST #001H

Enclosed are the results of analyses for samples received by the laboratory on 02/25/20 12:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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 accreditated 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,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

TETRA TECH
MIKE CARMONA
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	02/25/2020	Sampling Date:	02/25/2020
Reported:	02/26/2020	Sampling Type:	Soil
Project Name:	CABO BLANCO ST #001H	Sampling Condition:	Cool & Intact
Project Number:	4-23-19	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO NM		

Sample ID: BOTTOM HOLE - 1 COMP 2' (H000590-01)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2020	ND	1.86	93.0	2.00	4.46	
Toluene*	<0.050	0.050	02/25/2020	ND	1.88	94.1	2.00	4.78	
Ethylbenzene*	<0.050	0.050	02/25/2020	ND	1.89	94.4	2.00	4.79	
Total Xylenes*	<0.150	0.150	02/25/2020	ND	5.47	91.2	6.00	4.76	
Total BTEX	<0.300	0.300	02/25/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.4 %* *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	02/26/2020	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	195	97.6	200	1.88	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	214	107	200	3.72	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					

Surrogate: 1-Chlorooctane *94.8 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *100 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

TETRA TECH
MIKE CARMONA
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	02/25/2020	Sampling Date:	02/25/2020
Reported:	02/26/2020	Sampling Type:	Soil
Project Name:	CABO BLANCO ST #001H	Sampling Condition:	Cool & Intact
Project Number:	4-23-19	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO NM		

Sample ID: NSW - 1 COMP 2' (H000590-02)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.86	93.0	2.00	4.46	
Toluene*	<0.050	0.050	02/26/2020	ND	1.88	94.1	2.00	4.78	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.89	94.4	2.00	4.79	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.47	91.2	6.00	4.76	
Total BTEX	<0.300	0.300	02/26/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.0 %* *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	**80.0**	16.0	02/26/2020	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	195	97.6	200	1.88	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	214	107	200	3.72	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					

Surrogate: 1-Chlorooctane *98.7 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *105 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

TETRA TECH
MIKE CARMONA
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	02/25/2020	Sampling Date:	02/25/2020
Reported:	02/26/2020	Sampling Type:	Soil
Project Name:	CABO BLANCO ST #001H	Sampling Condition:	Cool & Intact
Project Number:	4-23-19	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO NM		

Sample ID: WSW - 1 COMP 2' (H000590-03)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.86	93.0	2.00	4.46	
Toluene*	<0.050	0.050	02/26/2020	ND	1.88	94.1	2.00	4.78	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.89	94.4	2.00	4.79	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.47	91.2	6.00	4.76	
Total BTEX	<0.300	0.300	02/26/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.7 %* *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	02/26/2020	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	195	97.6	200	1.88	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	214	107	200	3.72	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					

Surrogate: 1-Chlorooctane *91.4 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *96.8 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

TETRA TECH
MIKE CARMONA
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	02/25/2020	Sampling Date:	02/25/2020
Reported:	02/26/2020	Sampling Type:	Soil
Project Name:	CABO BLANCO ST #001H	Sampling Condition:	Cool & Intact
Project Number:	4-23-19	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO NM		

Sample ID: SSW - 1 COMP 2' (H000590-04)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.86	93.0	2.00	4.46	
Toluene*	<0.050	0.050	02/26/2020	ND	1.88	94.1	2.00	4.78	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.89	94.4	2.00	4.79	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.47	91.2	6.00	4.76	
Total BTEX	<0.300	0.300	02/26/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.8 %* *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	02/26/2020	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	195	97.6	200	1.88	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	214	107	200	3.72	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					

Surrogate: 1-Chlorooctane *98.6 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *103 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

TETRA TECH
MIKE CARMONA
901 WEST WALL STREET , STE 100
MIDLAND TX, 79701
Fax To: (432) 682-3946

Received:	02/25/2020	Sampling Date:	02/25/2020
Reported:	02/26/2020	Sampling Type:	Soil
Project Name:	CABO BLANCO ST #001H	Sampling Condition:	Cool & Intact
Project Number:	4-23-19	Sample Received By:	Tamara Oldaker
Project Location:	COG - LEA CO NM		

Sample ID: ESW - 1 COMP 2' (H000590-05)

BTEX 8021B mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/26/2020	ND	1.86	93.0	2.00	4.46	
Toluene*	<0.050	0.050	02/26/2020	ND	1.88	94.1	2.00	4.78	
Ethylbenzene*	<0.050	0.050	02/26/2020	ND	1.89	94.4	2.00	4.79	
Total Xylenes*	<0.150	0.150	02/26/2020	ND	5.47	91.2	6.00	4.76	
Total BTEX	<0.300	0.300	02/26/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.4 %* *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	02/26/2020	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	02/26/2020	ND	195	97.6	200	1.88	
DRO >C10-C28*	<10.0	10.0	02/26/2020	ND	214	107	200	3.72	
EXT DRO >C28-C36	<10.0	10.0	02/26/2020	ND					

Surrogate: 1-Chlorooctane *96.7 %* *44.3-144*

Surrogate: 1-Chlorooctadecane *104 %* *42.2-156*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

Client Name:	Concho	Site Manager:	Mike Carmona
Project Name:	Cabo Blanco ST #001H (4-23-19)		
Project Location: (county, state)	Lea County, New Mexico	Project #:	
Invoice to:	Ike Tavarez		
Receiving Laboratory:	Cardinal Lab	Sampler Signature:	Devin Dominguez
Comments:			

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2020 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	TPH 8015R			Hold
H000590																																			
1	Bottomhole-1 Comp 2'	2/25/2020			X				X			1	N	X		X											X								
2	NSW-1 Comp 2'	2/25/2020			X				X			1	N	X		X											X								
3	WSW-1 Comp 2'	2/25/2020			X				X			1	N	X		X											X								
4	SSW-1 Comp 2'	2/25/2020			X				X			1	N	X		X											X								
5	ESW-1 Comp 2'	2/25/2020			X				X			1	N	X		X											X								

Relinquished by:	Date: 2/25/20 Time:	Received by:	Date: Time: 1230
Relinquished by:	Date: Time:	Received by:	Date: Time:
Relinquished by:	Date: Time:	Received by:	Date: Time:

LAB USE ONLY

Sample Temperature
#113
0.9c

REMARKS:

- [ ] STANDARD
- [X] RUSH: Same Day (24 hr) 48 hr 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

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