

SITE INFORMATION

Report Type: Closure Report 1RP-5088

General Site Information:

Site:	Cabo Blanco State #001H				
Company:	COG Operating LLC				
Section, Township and Range	Unit D	Sec. 6	T 24S	R 33E	
Lease Number:	API No. 30-025-40702				
County:	Lea County				
GPS:	32.25228			-103.61908	
Surface Owner:	State				
Mineral Owner:	State				
Directions:	From the intersection of HWY 128 and Bell Lake rd Turn North on Bell Lake rd and go 1.20 miles and turn left Northwest and go 1.84 miles and turn right Northeast and go .42 miles and arrive				

Release Data:

Date Released:	6/5/2018
Type Release:	Produced Water
Source of Contamination:	Flowline rupture
Fluid Released:	250 bbl water
Fluids Recovered:	220 bbls water

Official Communication:

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

Depth to Groundwater:	300'
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Recommended Remedial Action Levels (RRALs)

Benzene	Total BTEX	TPH (GRO+DRO+MRO)	Chlorides
10 mg/kg	50 mg/kg	100 mg/kg	600 mg/kg



April 10, 2019

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

Re: Closure Request for the COG Operating, LLC, Cabo Blanco State #001H, Unit D, Section 06, Township 24 South, Range 33 East, Lea County, New Mexico. 1RP-5088

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 D, Section 06, Township 24 South, Range 33 East, Eddy County, New Mexico (Site). The spill site coordinates are 32.25228°, -103.61908°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on June 5, 2018, and released approximately 250 barrels of produced water due to a flowline rupture. A vacuum truck was dispatched to remove all freestanding fluids. Approximately 220 barrels of produced water was recovered. The release occurred on lease road and migrated onto the pasture impacting areas measuring approximately 348' x 185' and 217' x 118'. The C-141 Form is included in Appendix A.

Groundwater

No water wells were listed within Section 06 on the New Mexico Office of the State Engineer's (NMOSE) database or the USGS National Water Information database. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in the area is 275'-300' below surface. The groundwater data is shown in Appendix B.

Regulatory (Old Rules)

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, dated August 13, 1993. 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

Tetra Tech

901 West Wall, Suite 100, Midland, TX 79701

Tel 432.682.4559 Fax 432.682.3946 www.tetrattech.com



(ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 100 mg/kg and chloride is 600 mg/kg.

Remediation Activities

As per the approved remediation plan, dated 6/5/18, COG implemented the remediation activities. The areas of SP1 through SP6 were excavated to 1.5' below surface, the areas of SP7 and SP8 were excavated to 4.5' to 5.5' below surface, the area of SP9 was excavated to 2.5' below surface, and SP10 through SP12 was excavated to 1' below surface.

On October 3 and October 8-9, 2018, a total of twelve (12) bottom hole confirmation samples were collected (BTTM-1 through BTTM-12) in the spill area to a total excavation depth of 5.5' below surface and total of thirty-three (33) sidewall confirmation samples were collected every 50 feet to ensure proper removal of the impacted soils. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B, chloride by EPA method 300.0, and chloride by EPA method SM4500Cl-B. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix D. The sampling results are summarized in Table 1. The sample locations are shown on Figure 3.

Referring to Table 1, all the confirmation samples collected, with the exception of SW12, showed benzene, total BTEX, TPH, and chloride concentrations below the RRALs. However, sidewall (SW-12) showing a chloride concentration of 835 mg/kg above the RRALs and couldn't be excavated further due to the adjacent lease road and flowlines in the area.

All the soil was excavated and transported offsite for proper disposal. Once the excavation activities were completed, the areas were backfilled with clean material to surface grade.

Restoration/Reclamation

The backfilled areas will be seeded June 2019 in order to coincide with the rainy season in New Mexico to aid in revegetation. Based on the soils at the site, the Shallow (SH) NMSLO seed mixture seed will be selected and the appropriate pounds pure live seed per acre will be used. The seed mixture will be spread by a drill equipped with a depth regulator or a hand-held broadcaster and raked. If a hand-held broadcaster is used for dispersal, the pounds pure live seed per acre will be doubled.

Site inspections will be performed to assess the revegetation progress and evaluate the site for the presence of primary or secondary noxious weeds. If noxious weeds are identified, the NMSLO will be contacted to determine an effective method for eradication. If the site does not show revegetation after one growing season, the area will be reseeded as appropriate. The NMSLO seed mixture details and corresponding pounds pure live seed per acre are included in Appendix C.



Conclusion

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

Respectfully submitted,
TETRA TECH

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

Clair Gonzales,
Project Manager

A handwritten signature in blue ink that reads 'Mike Carmona'.

Mike Carmona,
Geologist

cc: Ike Tavarez - COG
Dakota Neel - COG
Rebecca Haskell - COG
Sheldon Hitchcock - COG
DeAnn Grant - COG

Figures



EDDY COUNTY
LEA COUNTY

CABO BLANCO STATE #001H

Eddy

Cavern City Air Terminal

Lea

128

128

W NM Highway 128

Orla Rd

NEW MEXICO
TEXAS

NEW MEXICO 20,833 41,666
TEXAS
1 inch = 20,833 feet

Loving

LEGEND

● SITE LOCATION

CONCHO

FIGURE 1

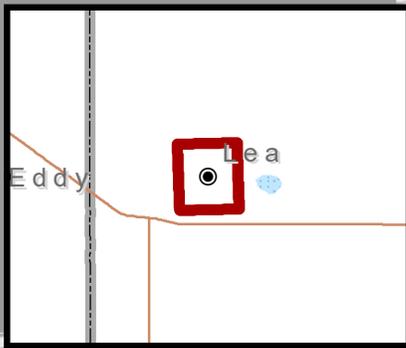
CABO BLANCO STATE #001H
(32.25228°, -103.61908°)

OVERVIEW MAP

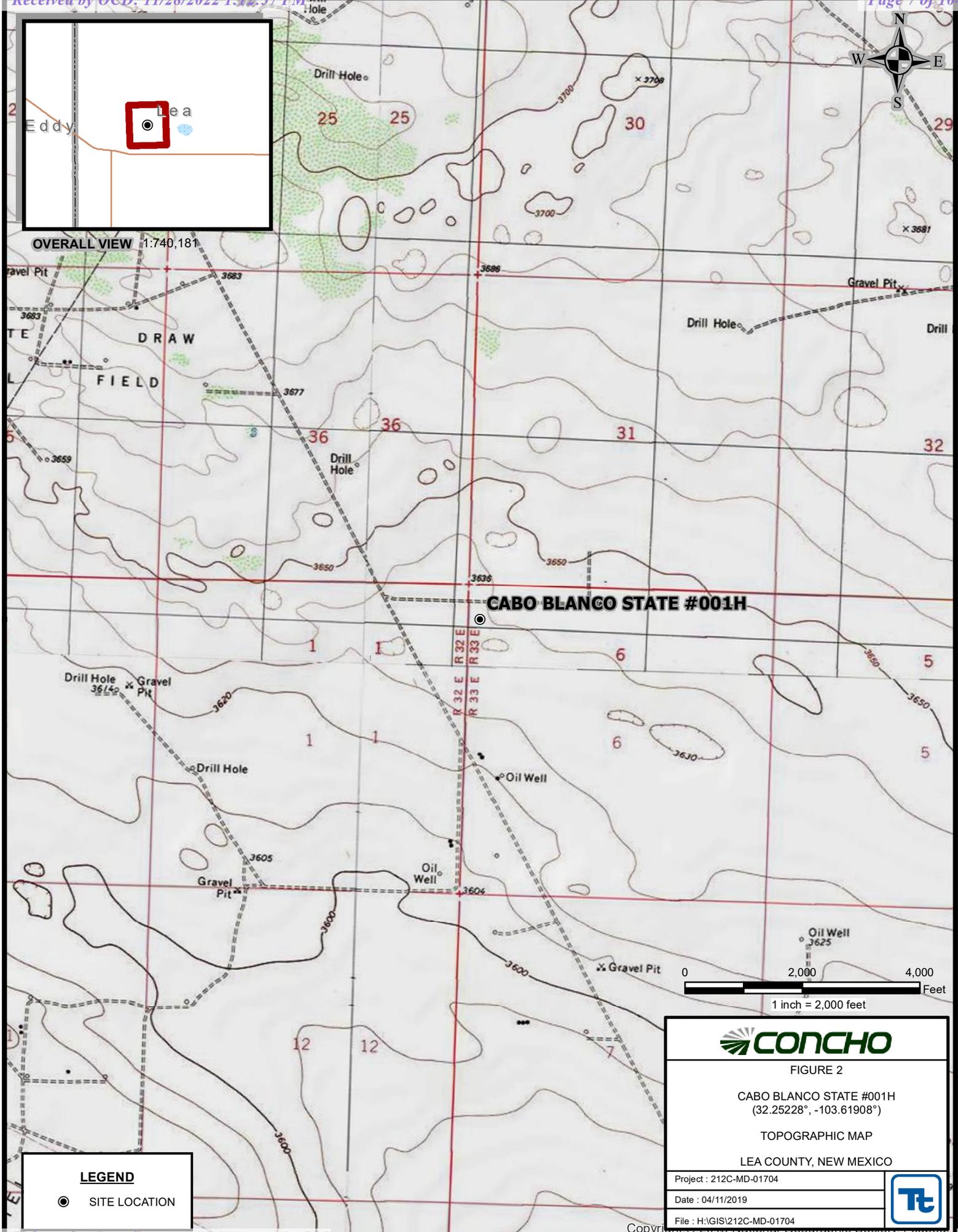
LEA COUNTY, NEW MEXICO

Project : 212C-MD-01704	
Date : 04/11/2019	
File : H:\GIS\212C-MD-01704	

Sources: Esri, HERE, Garmin, Japan, METI, Esri China (Hong Kong), Swatch, Bing, OpenStreetMap contributors, and the GIS User Community

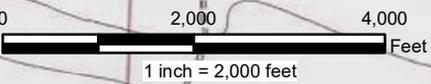


OVERALL VIEW 1:740,181



CABO BLANCO STATE #001H

R 32 E
R 33 E



LEGEND

- SITE LOCATION

CONCHO

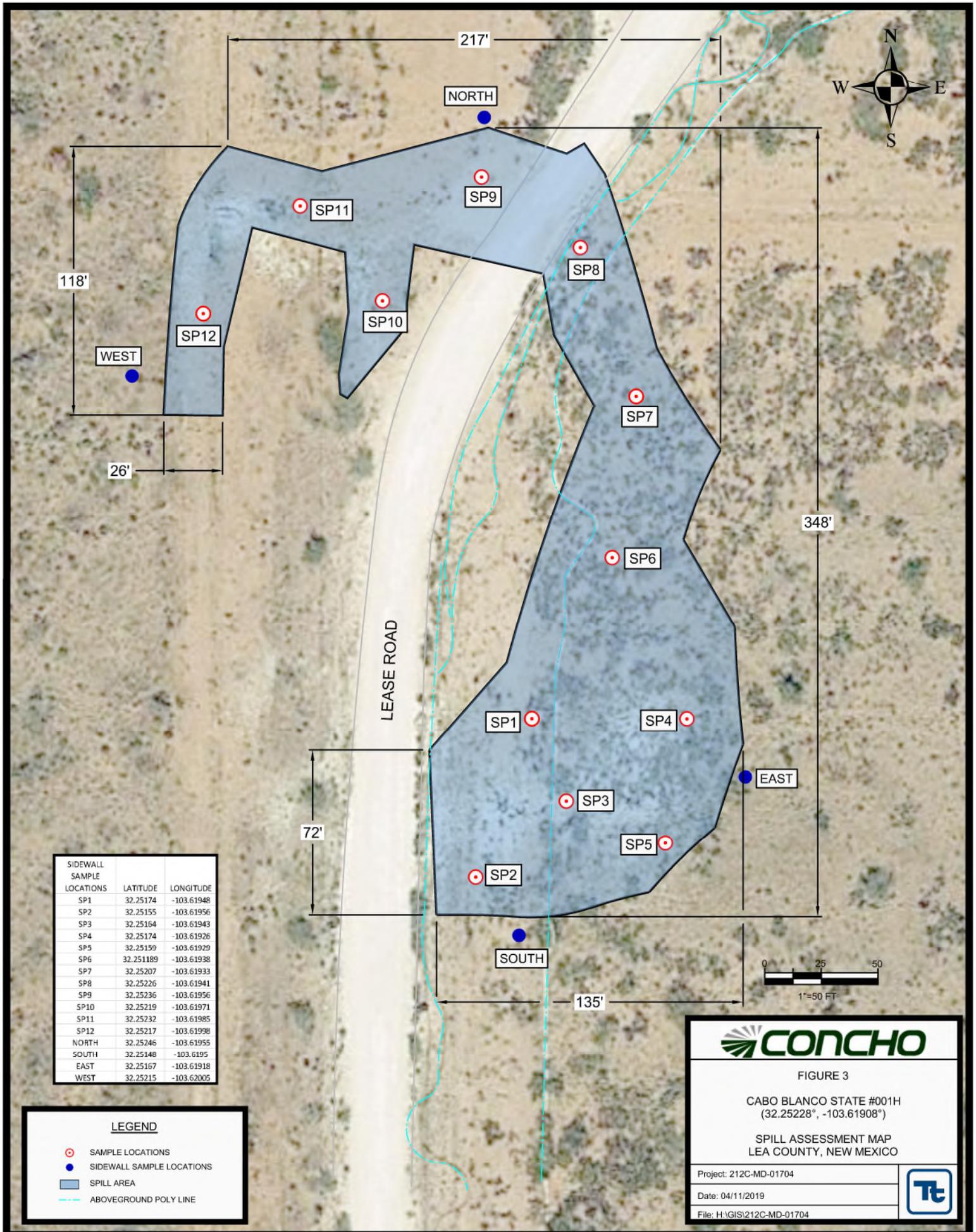
FIGURE 2

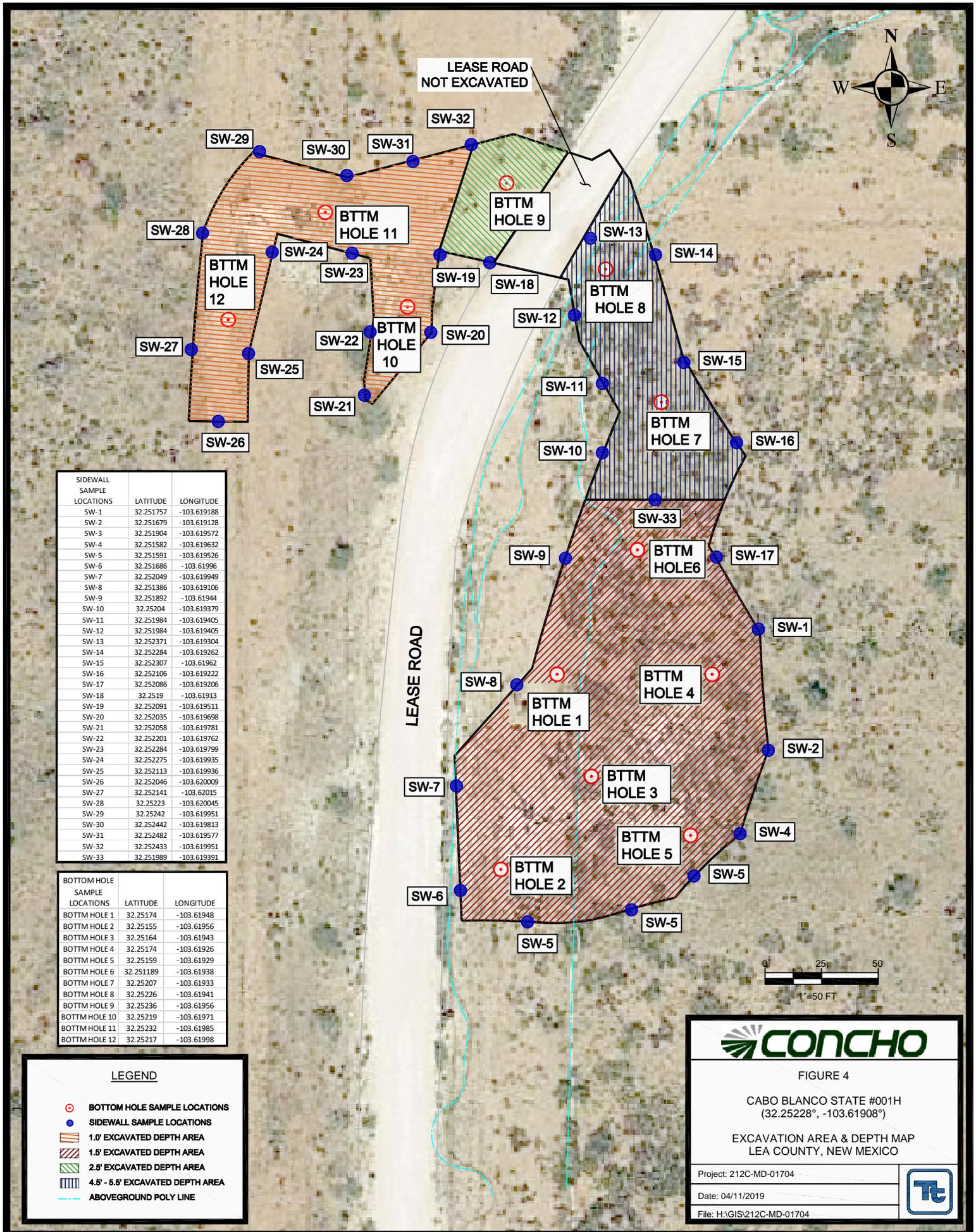
CABO BLANCO STATE #001H
(32.25228°, -103.61908°)

TOPOGRAPHIC MAP

LEA COUNTY, NEW MEXICO

Project : 212C-MD-01704	
Date : 04/11/2019	
File : H:\GIS\212C-MD-01704	





SIDEWALL SAMPLE LOCATIONS	LATITUDE	LONGITUDE
SW-1	32.251757	-103.619188
SW-2	32.251679	-103.619128
SW-3	32.251904	-103.619572
SW-4	32.251582	-103.619632
SW-5	32.251591	-103.619526
SW-6	32.251686	-103.61996
SW-7	32.252049	-103.619949
SW-8	32.251386	-103.619106
SW-9	32.251892	-103.61944
SW-10	32.25204	-103.619379
SW-11	32.251984	-103.619405
SW-12	32.251984	-103.619405
SW-13	32.252371	-103.619304
SW-14	32.252284	-103.619262
SW-15	32.252307	-103.61962
SW-16	32.252106	-103.619222
SW-17	32.252086	-103.619206
SW-18	32.2519	-103.61913
SW-19	32.252091	-103.619511
SW-20	32.252035	-103.619698
SW-21	32.252058	-103.619781
SW-22	32.252201	-103.619762
SW-23	32.252284	-103.619799
SW-24	32.252275	-103.619935
SW-25	32.252113	-103.619936
SW-26	32.252046	-103.620009
SW-27	32.252141	-103.62015
SW-28	32.25223	-103.620045
SW-29	32.25242	-103.619951
SW-30	32.252442	-103.619813
SW-31	32.252482	-103.619577
SW-32	32.252433	-103.619951
SW-33	32.251989	-103.619391

BOTTOM HOLE SAMPLE LOCATIONS	LATITUDE	LONGITUDE
BOTTOM HOLE 1	32.25174	-103.61948
BOTTOM HOLE 2	32.25155	-103.61956
BOTTOM HOLE 3	32.25164	-103.61943
BOTTOM HOLE 4	32.25174	-103.61926
BOTTOM HOLE 5	32.25159	-103.61929
BOTTOM HOLE 6	32.251189	-103.61938
BOTTOM HOLE 7	32.25207	-103.61933
BOTTOM HOLE 8	32.25226	-103.61941
BOTTOM HOLE 9	32.25236	-103.61956
BOTTOM HOLE 10	32.25219	-103.61971
BOTTOM HOLE 11	32.25232	-103.61985
BOTTOM HOLE 12	32.25217	-103.61998

LEGEND

- BOTTOM HOLE SAMPLE LOCATIONS
- SIDEWALL SAMPLE LOCATIONS
- 1.0' EXCAVATED DEPTH AREA
- 1.5' EXCAVATED DEPTH AREA
- 2.5' EXCAVATED DEPTH AREA
- 4.5' - 5.5' EXCAVATED DEPTH AREA
- ABOVEGROUND POLY LINE

CONCHO

FIGURE 4

CABO BLANCO STATE #001H
(32.25228°, -103.61908°)

EXCAVATION AREA & DEPTH MAP
LEA COUNTY, NEW MEXICO

Project: 212C-MD-01704

Date: 04/11/2019

File: H:\GIS\212C-MD-01704

Tables

**Table 1
COG
Cabo Blanco State #001H
Lea County, New Mexico**

Sample ID	Sample Date	Sample Depth (ft)	BEB (Below Excavation Bottom) ft	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	ORO	Total						
BTTM SP-1	10/3/2018	-	1.5	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	32.0
BTTM SP-2	10/3/2018	-	1.5	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	32.0
BTTM SP-3	10/3/2018	-	1.5	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	<16.0
BTTM SP-4	10/3/2018	-	1.5	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	<16.0
BTTM SP-5	10/3/2018	-	1.5	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	16.0
BTTM SP-6	10/3/2018	-	1.5	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	64.0
BTTM SP-7	10/3/2018	-	4.5		X	<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	3,320
	10/9/2018	-	5.5	X		<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	254
BTTM SP-8	10/3/2018	-	4.5	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	224
BTTM SP-9	10/3/2018	-	2.5	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	192
BTTM SP-10	10/3/2018	-	1	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	32.0
BTTM SP-11	10/3/2018	-	1	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	48.0
BTTM SP-12	10/3/2018	-	1	X		<10.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	32.0

**Table 1
COG
Cabo Blanco State #001H
Lea County, New Mexico**

Sample ID	Sample Date	Sample Depth (ft)	BEB (Below Excavation Bottom) ft	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	ORO	Total						
Sidewall 1	10/8/2018	-	-	X		<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<4.98
Sidewall 2	10/8/2018	-	-	X		-	-	-	-	-	-	-	-	-	<4.95
Sidewall 3	10/8/2018	-	-	X		<14.9	<14.9	<14.9	<14.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<4.98
Sidewall 4	10/8/2018	-	-	X		-	-	-	-	-	-	-	-	-	<5.00
Sidewall 5	10/8/2018	-	-	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<4.95
Sidewall 6	10/8/2018	-	-	X		-	-	-	-	-	-	-	-	-	<5.00
Sidewall 7	10/8/2018	-	-	X		15.3	<15.0	<15.0	15.3	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	4.95
Sidewall 8	10/8/2018	-	-	X		-	-	-	-	-	-	-	-	-	<5.00
Sidewall 9	10/8/2018	-	-	X		15.6	<15.0	<15.0	15.6	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<4.95
Sidewall 10	10/8/2018	-	-	X		-	-	-	-	-	-	-	-	-	<4.98
Sidewall 11	10/8/2018	-	-	X		15.6	<15.0	<15.0	15.6	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<4.99
Sidewall 12	10/8/2018	-	-	X		-	-	-	-	-	-	-	-	-	835
Sidewall 13	10/8/2018	-	-	X		<16.0	<15.0	<15.0	<16.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<5.00
Sidewall 14	10/8/2018	-	-	X		-	-	-	-	-	-	-	-	-	<5.00
Sidewall 15	10/8/2018	-	-	X		<18.3	<15.0	<15.0	<18.3	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<4.96
Sidewall 16	10/8/2018	-	-	X		-	-	-	-	-	-	-	-	-	<4.96
Sidewall 17	10/8/2018	-	-	X		15.6	<15.0	<15.0	15.6	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<5.00

**Table 1
COG
Cabo Blanco State #001H
Lea County, New Mexico**

Sample ID	Sample Date	Sample Depth (ft)	BEB (Below Excavation Bottom) ft	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	ORO	Total						
Sidewall 18	10/8/2018	-	-	X		-	-	-	-	-	-	-	-	-	22.7
Sidewall 19	10/8/2018	-	-	X		<15.4	<15.0	<15.0	<15.4	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<5.00
Sidewall 20	10/8/2018	-	-	X		-	-	-	-	-	-	-	-	-	15.1
Sidewall 21	10/8/2018	-	-	X		16.1	<15.0	<15.0	16.1	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<4.98
Sidewall 22	10/8/2018	-	-	X		-	-	-	-	-	-	-	-	-	<5.00
Sidewall 23	10/8/2018	-	-	X		<15.4	<15.0	<15.0	<15.4	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	184
Sidewall 24	10/8/2018	-	-	X		-	-	-	-	-	-	-	-	-	13.1
Sidewall 25	10/8/2018	-	-	X		<14.9	<14.9	<14.9	<14.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<5.00
Sidewall 26	10/8/2018	-	-	X		-	-	-	-	-	-	-	-	-	<5.00
Sidewall 27	10/8/2018	-	-	X		<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<4.99
Sidewall 28	10/8/2018	-	-	X		-	-	-	-	-	-	-	-	-	<4.99
Sidewall 29	10/8/2018	-	-	X		<15.6	<15.0	<15.0	<15.6	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<4.99
Sidewall 30	10/8/2018	-	-	X		-	-	-	-	-	-	-	-	-	<5.00
Sidewall 31	10/8/2018	-	-	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<4.97
Sidewall 32	10/8/2018	-	-	X		-	-	-	-	-	-	-	-	-	26.3
Sidewall 33	10/8/2018	-	-	X		<15.0	<15.0	<15.0	<15.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<4.99

(-) Not Analyzed
 Excavated
 Above RRALs

Photos

COG
Cabo Blanco State 1H
Lea County, New Mexico



TETRA TECH



View South – Excavated Area of Bottom hole 1-8



View South –Excavated Areas of Area of Bottom Hole 1-6

COG
Cabo Blanco State 1H
Lea County, New Mexico



TETRA TECH



View South – Excavated Area of Bottom hole 6 & Bottom Hole 7



View West – Area of SW-12

COG
Cabo Blanco State 1H
Lea County, New Mexico



TETRA TECH



View West – Excavated Area of Bottom Hole 10-11



View North – Excavated Area of Bottom Hole 9

COG
Cabo Blanco State 1H
Lea County, New Mexico



TETRA TECH



View South – Excavated Area of Bottom hole 12

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

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR Initial Report Final Report

Name of Company: COG Production, LLC (OGRID #217955)	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland, TX 79701	Telephone No. 432-683-7443
Facility Name: Cabo Blanco State #001H	Facility Type: Flowline
Surface Owner: State	Mineral Owner: State
API No. 30-025-40702	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	06	24S	33E					Lea

Latitude 32.25228 Longitude -103.61908 NAD83

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release: 250 bbl.	Volume Recovered 220 bbl.
Source of Release Flowline Rupture	Date and Hour of Occurrence June 5, 2018 7:30am	Date and Hour of Discovery June 5, 2018 7:30am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Olivia Yu – NMOCD Ryan Mann – SLO	
By Whom? DeAnn Grant	Date and Hour June 5, 2018 1:11pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

RECEIVED
By CHernandez at 10:27 am, Jun 11, 2018

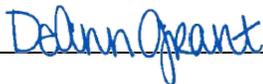
Describe Cause of Problem and Remedial Action Taken.*

The release was caused due to a damaged flex line rupturing. The flex line was repaired.

Describe Area Affected and Cleanup Action Taken.*

The release was in the pasture. A vacuum truck was dispatched to remove all freestanding fluids. Concho will have the spill area sampled to delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: DeAnn Grant	Approved by Environmental Specialist: 	
Title: HSE Administrative Assistant	Approval Date: 6/11/2018	Expiration Date:
E-mail Address: agrant@concho.com	Conditions of Approval: See attached directive	Attached <input checked="" type="checkbox"/>
Date: June 7, 2018	Phone: (432) 253-4513	

* Attach Additional Sheets If Necessary

1RP-5088

nCH1816238890

pCH1816239636

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 6/7/2018 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 1RP-5088 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 1 office in Hobbs on or before 7/11/2018. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold

OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

Incident ID	
District RP	1RP-5088
Facility ID	
Application ID	

Closure

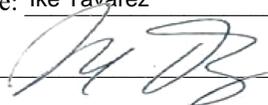
The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled 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: Ike Tavaraz Title: Senior HSE Supervisor

Signature:  Date: 4-15-19

email: itavaraz@concho.com Telephone: 432-685-2573

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: 11/28/2022

Printed Name: Brittany Hall Title: Environmental Specialist

Appendix B

**Water Well Data
Average Depth to Groundwater (ft)
Cabo Blanco State Com #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	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	20	21	22	23	24
30	29	28	27	26	25
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	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 33 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 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	33	34	35	36

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

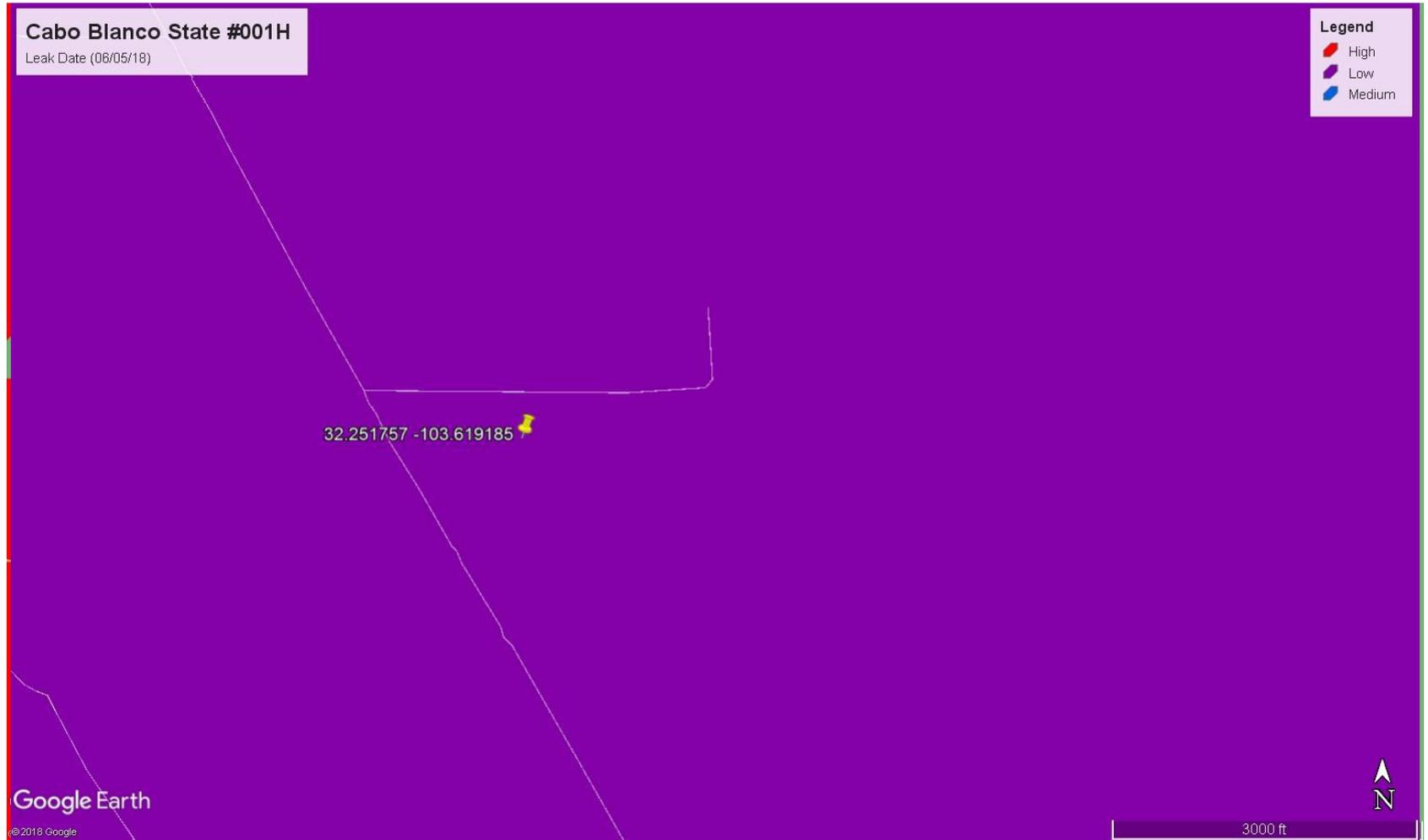
Average Depth to Water: **300 feet**
 Minimum Depth: **20 feet**
 Maximum Depth: **1533 feet**

Record Count: 41

PLSS Search:

Township: 24S Range: 33E

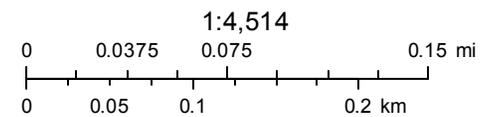
*UTM location was derived from PLSS - see Help



New Mexico NFHL Data



April 10, 2019



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

Appendix C

NMSLO Seed Mix**Shallow (SH)****SHALLOW (SH) SITES SEED MIXTURE:**

COMMON NAME	VARIETY	APPLICATION RATE (PLS/Acre)	DRILL BOX
Grasses:			
Sideoats grama	Vaughn, El Reno	4.0	F
Blue grama	Lovington, Hachita	3.0	D
Little bluestem	Pastura, Cimmaron	1.5	F
Green sprangletop	VNS, Southern	1.0	D
Plains bristlegrass	VNS, Southern	1.0	D
Forbs:			
Firewheel (<i>Gaillardia</i>)	VNS, Southern	1.0	D
Shrubs:			
Fourwing saltbush	Marana, Santa Rita	1.0	D
Common winterfat	VNS, Southern	0.5	F
Total PLS/acre		13.0	

S = Small seed drill box, D = Standard seed drill box, F = Fluffy seed drill box
VNS = Variety Not Stated, PLS = Pure Live Seed

- Seed mixes should be provided in bags separating seed types into the three categories: small (S), standard (D) and fluffy (F).
- VNS, Southern – Seed should be from a southern latitude collection of this species.
- Double seed application rate for broadcast or hydroseeding.
- If one species is not available, contact the SLO for an approved substitute; alternatively the SLO may require other species proportionately increased.
- Additional information on these seed species can be found on the USDA Plants Database website at <http://plants.usda.gov>.



Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named, soils that are similar to the named components, and some minor components that differ in use and management from the major soils.

Most of the soils similar to the major components have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Some minor components, however, have properties and behavior characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Map Unit Description: Pyote and maljamar fine sands---Lea County, New Mexico

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Lea County, New Mexico

PU—Pyote and maljamar fine sands

Map Unit Setting

National map unit symbol: dmqq

Elevation: 3,000 to 3,900 feet

Mean annual precipitation: 10 to 12 inches

Mean annual air temperature: 60 to 62 degrees F

Frost-free period: 190 to 205 days

Map Unit Description: Pyote and maljamar fine sands---Lea County, New Mexico

Farmland classification: Not prime farmland

Map Unit Composition

Maljamar and similar soils: 45 percent

Pyote and similar soils: 45 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Maljamar

Setting

Landform: Plains

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 24 inches: fine sand

Bt - 24 to 50 inches: sandy clay loam

Bkm - 50 to 60 inches: cemented material

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: 40 to 60 inches to petrocalcic

Natural drainage class: Well drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Gypsum, maximum in profile: 1 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 2.0

Available water storage in profile: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): 6e

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: B

Ecological site: Loamy Sand (R042XC003NM)

Hydric soil rating: No

Description of Pyote

Setting

Landform: Plains

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Map Unit Description: Pyote and maljamar fine sands---Lea County, New Mexico

Across-slope shape: Linear

Parent material: Sandy eolian deposits derived from sedimentary rock

Typical profile

A - 0 to 30 inches: fine sand

Bt - 30 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): High
(2.00 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Gypsum, maximum in profile: 1 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 2.0

Available water storage in profile: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): 6e

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: A

Ecological site: Loamy Sand (R042XC003NM)

Hydric soil rating: No

Minor Components

Kermit

Percent of map unit: 10 percent

Ecological site: Sandhills (R042XC022NM)

Hydric soil rating: No

Data Source Information

Soil Survey Area: Lea County, New Mexico

Survey Area Data: Version 15, Sep 12, 2018

Appendix D



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

October 09, 2018

DAKOTA NEEL
COG OPERATING
P. O. BOX 1630
ARTESIA, NM 88210

RE: CABO BLANCO STATE #001H

Enclosed are the results of analyses for samples received by the laboratory on 10/08/18 14:00.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene
Lab Director/Quality Manager



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

Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	10/08/2018	Sampling Date:	10/03/2018
Reported:	10/09/2018	Sampling Type:	Soil
Project Name:	CABO BLANCO STATE #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BTM - SP 1 (H802853-01)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/08/2018	ND	2.12	106	2.00	0.321	
Toluene*	<0.050	0.050	10/08/2018	ND	1.97	98.7	2.00	0.155	
Ethylbenzene*	<0.050	0.050	10/08/2018	ND	1.96	98.2	2.00	0.276	
Total Xylenes*	<0.150	0.150	10/08/2018	ND	5.89	98.2	6.00	0.482	
Total BTEX	<0.300	0.300	10/08/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.6 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/09/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/08/2018	ND	169	84.7	200	0.970	
DRO >C10-C28*	<10.0	10.0	10/08/2018	ND	172	85.8	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	10/08/2018	ND					

Surrogate: 1-Chlorooctane 89.4 % 41-142

Surrogate: 1-Chlorooctadecane 91.6 % 37.6-147

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	10/08/2018	Sampling Date:	10/03/2018
Reported:	10/09/2018	Sampling Type:	Soil
Project Name:	CABO BLANCO STATE #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BTTM - SP 2 (H802853-02)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/08/2018	ND	2.12	106	2.00	0.321	
Toluene*	<0.050	0.050	10/08/2018	ND	1.97	98.7	2.00	0.155	
Ethylbenzene*	<0.050	0.050	10/08/2018	ND	1.96	98.2	2.00	0.276	
Total Xylenes*	<0.150	0.150	10/08/2018	ND	5.89	98.2	6.00	0.482	
Total BTEX	<0.300	0.300	10/08/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.6 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/09/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/08/2018	ND	169	84.7	200	0.970	
DRO >C10-C28*	<10.0	10.0	10/08/2018	ND	172	85.8	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	10/08/2018	ND					

Surrogate: 1-Chlorooctane 83.5 % 41-142

Surrogate: 1-Chlorooctadecane 80.5 % 37.6-147

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	10/08/2018	Sampling Date:	10/03/2018
Reported:	10/09/2018	Sampling Type:	Soil
Project Name:	CABO BLANCO STATE #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BTM - SP 3 (H802853-03)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/08/2018	ND	2.12	106	2.00	0.321	
Toluene*	<0.050	0.050	10/08/2018	ND	1.97	98.7	2.00	0.155	
Ethylbenzene*	<0.050	0.050	10/08/2018	ND	1.96	98.2	2.00	0.276	
Total Xylenes*	<0.150	0.150	10/08/2018	ND	5.89	98.2	6.00	0.482	
Total BTEX	<0.300	0.300	10/08/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/09/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/08/2018	ND	169	84.7	200	0.970	
DRO >C10-C28*	<10.0	10.0	10/08/2018	ND	172	85.8	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	10/08/2018	ND					

Surrogate: 1-Chlorooctane 90.9 % 41-142

Surrogate: 1-Chlorooctadecane 87.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	10/08/2018	Sampling Date:	10/03/2018
Reported:	10/09/2018	Sampling Type:	Soil
Project Name:	CABO BLANCO STATE #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BTTM - SP 4 (H802853-04)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/08/2018	ND	2.12	106	2.00	0.321		
Toluene*	<0.050	0.050	10/08/2018	ND	1.97	98.7	2.00	0.155		
Ethylbenzene*	<0.050	0.050	10/08/2018	ND	1.96	98.2	2.00	0.276		
Total Xylenes*	<0.150	0.150	10/08/2018	ND	5.89	98.2	6.00	0.482		
Total BTEX	<0.300	0.300	10/08/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	10/09/2018	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/08/2018	ND	169	84.7	200	0.970		
DRO >C10-C28*	<10.0	10.0	10/08/2018	ND	172	85.8	200	2.75		
EXT DRO >C28-C36	<10.0	10.0	10/08/2018	ND						

Surrogate: 1-Chlorooctane 87.5 % 41-142

Surrogate: 1-Chlorooctadecane 84.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	10/08/2018	Sampling Date:	10/03/2018
Reported:	10/09/2018	Sampling Type:	Soil
Project Name:	CABO BLANCO STATE #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BTM - SP 5 (H802853-05)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/08/2018	ND	2.12	106	2.00	0.321	
Toluene*	<0.050	0.050	10/08/2018	ND	1.97	98.7	2.00	0.155	
Ethylbenzene*	<0.050	0.050	10/08/2018	ND	1.96	98.2	2.00	0.276	
Total Xylenes*	<0.150	0.150	10/08/2018	ND	5.89	98.2	6.00	0.482	
Total BTEX	<0.300	0.300	10/08/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.6 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	10/09/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/08/2018	ND	169	84.7	200	0.970	
DRO >C10-C28*	<10.0	10.0	10/08/2018	ND	172	85.8	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	10/08/2018	ND					

Surrogate: 1-Chlorooctane 86.3 % 41-142

Surrogate: 1-Chlorooctadecane 82.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	10/08/2018	Sampling Date:	10/03/2018
Reported:	10/09/2018	Sampling Type:	Soil
Project Name:	CABO BLANCO STATE #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BTM - SP 6 (H802853-06)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/08/2018	ND	2.12	106	2.00	0.321	
Toluene*	<0.050	0.050	10/08/2018	ND	1.97	98.7	2.00	0.155	
Ethylbenzene*	<0.050	0.050	10/08/2018	ND	1.96	98.2	2.00	0.276	
Total Xylenes*	<0.150	0.150	10/08/2018	ND	5.89	98.2	6.00	0.482	
Total BTEX	<0.300	0.300	10/08/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.2 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	10/09/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/08/2018	ND	169	84.7	200	0.970	
DRO >C10-C28*	<10.0	10.0	10/08/2018	ND	172	85.8	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	10/08/2018	ND					

Surrogate: 1-Chlorooctane 92.0 % 41-142

Surrogate: 1-Chlorooctadecane 88.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	10/08/2018	Sampling Date:	10/03/2018
Reported:	10/09/2018	Sampling Type:	Soil
Project Name:	CABO BLANCO STATE #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BTTM - SP 7 (H802853-07)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/08/2018	ND	2.12	106	2.00	0.321	
Toluene*	<0.050	0.050	10/08/2018	ND	1.97	98.7	2.00	0.155	
Ethylbenzene*	<0.050	0.050	10/08/2018	ND	1.96	98.2	2.00	0.276	
Total Xylenes*	<0.150	0.150	10/08/2018	ND	5.89	98.2	6.00	0.482	
Total BTEX	<0.300	0.300	10/08/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3320	16.0	10/09/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/08/2018	ND	169	84.7	200	0.970	
DRO >C10-C28*	<10.0	10.0	10/08/2018	ND	172	85.8	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	10/08/2018	ND					

Surrogate: 1-Chlorooctane 87.5 % 41-142

Surrogate: 1-Chlorooctadecane 84.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	10/08/2018	Sampling Date:	10/03/2018
Reported:	10/09/2018	Sampling Type:	Soil
Project Name:	CABO BLANCO STATE #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BTTM - SP 8 (H802853-08)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/08/2018	ND	2.12	106	2.00	0.321	
Toluene*	<0.050	0.050	10/08/2018	ND	1.97	98.7	2.00	0.155	
Ethylbenzene*	<0.050	0.050	10/08/2018	ND	1.96	98.2	2.00	0.276	
Total Xylenes*	<0.150	0.150	10/08/2018	ND	5.89	98.2	6.00	0.482	
Total BTEX	<0.300	0.300	10/08/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.9 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	10/09/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/08/2018	ND	169	84.7	200	0.970	
DRO >C10-C28*	<10.0	10.0	10/08/2018	ND	172	85.8	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	10/08/2018	ND					

Surrogate: 1-Chlorooctane 94.5 % 41-142

Surrogate: 1-Chlorooctadecane 89.9 % 37.6-147

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	10/08/2018	Sampling Date:	10/03/2018
Reported:	10/09/2018	Sampling Type:	Soil
Project Name:	CABO BLANCO STATE #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BTTM - SP 9 (H802853-09)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/09/2018	ND	2.12	106	2.00	0.321		
Toluene*	<0.050	0.050	10/09/2018	ND	1.97	98.7	2.00	0.155		
Ethylbenzene*	<0.050	0.050	10/09/2018	ND	1.96	98.2	2.00	0.276		
Total Xylenes*	<0.150	0.150	10/09/2018	ND	5.89	98.2	6.00	0.482		
Total BTEX	<0.300	0.300	10/09/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.3 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	10/09/2018	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/08/2018	ND	169	84.7	200	0.970		
DRO >C10-C28*	<10.0	10.0	10/08/2018	ND	172	85.8	200	2.75		
EXT DRO >C28-C36	<10.0	10.0	10/08/2018	ND						

Surrogate: 1-Chlorooctane 88.3 % 41-142

Surrogate: 1-Chlorooctadecane 84.0 % 37.6-147

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	10/08/2018	Sampling Date:	10/03/2018
Reported:	10/09/2018	Sampling Type:	Soil
Project Name:	CABO BLANCO STATE #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BTM - SP 10 (H802853-10)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2018	ND	2.12	106	2.00	0.321	
Toluene*	<0.050	0.050	10/09/2018	ND	1.97	98.7	2.00	0.155	
Ethylbenzene*	<0.050	0.050	10/09/2018	ND	1.96	98.2	2.00	0.276	
Total Xylenes*	<0.150	0.150	10/09/2018	ND	5.89	98.2	6.00	0.482	
Total BTEX	<0.300	0.300	10/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.4 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/09/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/08/2018	ND	169	84.7	200	0.970	
DRO >C10-C28*	<10.0	10.0	10/08/2018	ND	172	85.8	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	10/08/2018	ND					

Surrogate: 1-Chlorooctane 94.6 % 41-142

Surrogate: 1-Chlorooctadecane 89.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	10/08/2018	Sampling Date:	10/03/2018
Reported:	10/09/2018	Sampling Type:	Soil
Project Name:	CABO BLANCO STATE #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BTTM - SP 11 (H802853-11)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2018	ND	2.12	106	2.00	0.321	
Toluene*	<0.050	0.050	10/09/2018	ND	1.97	98.7	2.00	0.155	
Ethylbenzene*	<0.050	0.050	10/09/2018	ND	1.96	98.2	2.00	0.276	
Total Xylenes*	<0.150	0.150	10/09/2018	ND	5.89	98.2	6.00	0.482	
Total BTEX	<0.300	0.300	10/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.7 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	10/09/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/08/2018	ND	169	84.7	200	0.970	
DRO >C10-C28*	<10.0	10.0	10/08/2018	ND	172	85.8	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	10/08/2018	ND					

Surrogate: 1-Chlorooctane 91.8 % 41-142

Surrogate: 1-Chlorooctadecane 87.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	10/08/2018	Sampling Date:	10/03/2018
Reported:	10/09/2018	Sampling Type:	Soil
Project Name:	CABO BLANCO STATE #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: BTM - SP 12 (H802853-12)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2018	ND	2.12	106	2.00	0.321	
Toluene*	<0.050	0.050	10/09/2018	ND	1.97	98.7	2.00	0.155	
Ethylbenzene*	<0.050	0.050	10/09/2018	ND	1.96	98.2	2.00	0.276	
Total Xylenes*	<0.150	0.150	10/09/2018	ND	5.89	98.2	6.00	0.482	
Total BTEX	<0.300	0.300	10/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.3 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/09/2018	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/09/2018	ND	169	84.7	200	0.970	
DRO >C10-C28*	<10.0	10.0	10/09/2018	ND	172	85.8	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	10/09/2018	ND					

Surrogate: 1-Chlorooctane 91.4 % 41-142

Surrogate: 1-Chlorooctadecane 88.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	10/08/2018	Sampling Date:	10/03/2018
Reported:	10/09/2018	Sampling Type:	Soil
Project Name:	CABO BLANCO STATE #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: 1.5'/4.5' (H802853-13)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2018	ND	2.12	106	2.00	0.321	
Toluene*	<0.050	0.050	10/09/2018	ND	1.97	98.7	2.00	0.155	
Ethylbenzene*	<0.050	0.050	10/09/2018	ND	1.96	98.2	2.00	0.276	
Total Xylenes*	<0.150	0.150	10/09/2018	ND	5.89	98.2	6.00	0.482	
Total BTEX	<0.300	0.300	10/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.5 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	10/09/2018	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/09/2018	ND	169	84.7	200	0.970	
DRO >C10-C28*	<10.0	10.0	10/09/2018	ND	172	85.8	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	10/09/2018	ND					

Surrogate: 1-Chlorooctane 89.5 % 41-142

Surrogate: 1-Chlorooctadecane 86.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	10/08/2018	Sampling Date:	10/03/2018
Reported:	10/09/2018	Sampling Type:	Soil
Project Name:	CABO BLANCO STATE #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: 4.5'/2.5' (H802853-14)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2018	ND	2.12	106	2.00	0.321	
Toluene*	<0.050	0.050	10/09/2018	ND	1.97	98.7	2.00	0.155	
Ethylbenzene*	<0.050	0.050	10/09/2018	ND	1.96	98.2	2.00	0.276	
Total Xylenes*	<0.150	0.150	10/09/2018	ND	5.89	98.2	6.00	0.482	
Total BTEX	<0.300	0.300	10/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.4 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/09/2018	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/09/2018	ND	169	84.7	200	0.970	
DRO >C10-C28*	<10.0	10.0	10/09/2018	ND	172	85.8	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	10/09/2018	ND					

Surrogate: 1-Chlorooctane 96.5 % 41-142

Surrogate: 1-Chlorooctadecane 92.8 % 37.6-147

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* = Accredited Analyte

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Analytical Results For:

COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	10/08/2018	Sampling Date:	10/03/2018
Reported:	10/09/2018	Sampling Type:	Soil
Project Name:	CABO BLANCO STATE #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: 2.5'/1' (H802853-15)

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/09/2018	ND	2.12	106	2.00	0.321	
Toluene*	<0.050	0.050	10/09/2018	ND	1.97	98.7	2.00	0.155	
Ethylbenzene*	<0.050	0.050	10/09/2018	ND	1.96	98.2	2.00	0.276	
Total Xylenes*	<0.150	0.150	10/09/2018	ND	5.89	98.2	6.00	0.482	
Total BTEX	<0.300	0.300	10/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.2 % 69.8-142

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	10/09/2018	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/09/2018	ND	169	84.7	200	0.970	
DRO >C10-C28*	<10.0	10.0	10/09/2018	ND	172	85.8	200	2.75	
EXT DRO >C28-C36	<10.0	10.0	10/09/2018	ND					

Surrogate: 1-Chlorooctane 93.4 % 41-142

Surrogate: 1-Chlorooctadecane 89.4 % 37.6-147

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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

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

10F2

61 of 81 ebag

Company Name: COG Operating LLC
 Project Manager: Dakota Neel
 Address: 2208 West Main
 City: Artesia State: NM Zip: 88210
 Phone #: (575) 748-6930 Fax #: Project Owner:
 Project #: Project Name: Cabo Blanco State #001H
 Project Location: State: TX Zip: 79701
 Sampler Name: Dakota Neel Phone #: (432) 221-0388 Fax #:

BILL TO
 P.O. #: Company: COG Operating LLC
 Attn: Robert McNeill
 Address: 600 W Illinois
 City: Midland

ANALYSIS REQUEST

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.			DATE	TIME	BTEX	TPH	Chloride
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :					
1	BTTM-SP1		1	X									10/3/18	1:00 PM	X	X	X
2	BTTM-SP2		1	X									10/3/18	1:05 PM	X	X	X
3	BTTM-SP3		1	X									10/3/18	1:10 PM	X	X	X
4	BTTM-SP4		1	X									10/3/18	1:15 PM	X	X	X
5	BTTM-SP5		1	X									10/3/18	1:20 PM	X	X	X
6	BTTM-SP6		1	X									10/3/18	1:25 PM	X	X	X
7	BTTM-SP7		1	X									10/3/18	1:30 PM	X	X	X
8	BTTM-SP8		1	X									10/3/18	1:35 PM	X	X	X
9	BTTM-SP9		1	X									10/3/18	1:40 PM	X	X	X
10	BTTM-SP10		1	X									10/3/18	1:45 PM	X	X	X

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Relinquished By: [Signature] Received By: [Signature]
 Relinquished By: [Signature] Received By: [Signature]
 Time: 9:45-10:15 Date: 10/3/18
 Time: 14:00 Date: 10/3/18
 Delivered By: (Circle One) [Signature] Sample Condition: Cool Intact: Yes [X] No []
 Sampler - UPS - Bus - Other: O.6c #97 Checked By: [Signature] (Initials) [Signature]

FORM 000-R-210
 s. Please fax written changes to 575-393-2476
 Phone Result: Yes [] No [] Add'l Phone #: []
 Fax Result: Yes [] No [] Add'l Fax #: []
 REMARKS: [Signature]



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

61 jo 61 ebaD

20FZ

BILL TO

ANALYSIS REQUEST

Company Name: COG Operating LLC
 Project Manager: Dakota Neel
 Address: 2208 West Main
 City: Artesia State: NM Zip: 88210
 Phone #: (575) 748-6930 Fax #:
 Project #: Project Owner:
 Project Name: Cabo Blanco State #001H
 Project Location:
 Sampler Name: Dakota Neel
 P.O. #:
 Company: COG Operating LLC
 Attn: Robert McNeill
 Address: 600 W Illinois
 City: Midland
 State: TX Zip: 79701
 Phone #: (432) 221-0388
 Fax #:

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.			DATE	TIME	BTEX	TPH	Chloride
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :					
4802853	BTTM-SP11		1			X							10/3/18	1:50 PM	X	X	X
	BTTM-SP12		1			X							10/3/18	1:55 PM	X	X	X
	1.5/4.5'		1			X							10/3/18	2:00 PM	X	X	X
	4.5/2.5'		1			X							10/3/18	2:05 PM	X	X	X
	2.5/1'		1			X							10/3/18	2:10 PM	X	X	X

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort shall be limited to the amount paid by the client for the analysis. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: *[Signature]* Date: 10-2-18
 Time: 11:00
 Received By: *[Signature]* Date:
 Time:
 Sample Condition: Cool Intact
 Yes No Yes No

Checked By: *[Signature]*
 Phone Result: Yes No Add'l Phone #:
 Fax Result: Yes No Add'l Fax #:
 REMARKS:
 Push!

Delivered By: (Circle One)
 UPS Bus Other: *Other*
 Form 9006 R-2-0
 Please fax written changes to 575-393-2476

Analytical Report 601707

for
Tetra Tech- Midland

Project Manager: Clair Gonzales

COG-Cabo Blanco State 1H

212C-MD-01419

11-OCT-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-27), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-13)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)



11-OCT-18

Project Manager: **Clair Gonzales**
Tetra Tech- Midland
901 West Wall ST
Midland, TX 79701

Reference: XENCO Report No(s): **601707**
COG-Cabo Blanco State 1H
Project Address: Lea Co, NM

Clair Gonzales:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 601707. 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. 601707 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
Project Assistant

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Sample Cross Reference 601707

Tetra Tech- Midland, Midland, TX

COG-Cabo Blanco State 1H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Side Wall #1	S	10-08-18 00:00		601707-001
Side Wall #2	S	10-08-18 00:00		601707-002
Side Wall #3	S	10-08-18 00:00		601707-003
Side Wall #4	S	10-08-18 00:00		601707-004
Side Wall #5	S	10-08-18 00:00		601707-005
Side Wall #6	S	10-08-18 00:00		601707-006
Side Wall #7	S	10-08-18 00:00		601707-007
Side Wall #8	S	10-08-18 00:00		601707-008
Side Wall #9	S	10-08-18 00:00		601707-009
Side Wall #10	S	10-08-18 00:00		601707-010
Side Wall #11	S	10-08-18 00:00		601707-011
Side Wall #12	S	10-08-18 00:00		601707-012
Side Wall #13	S	10-08-18 00:00		601707-013
Side Wall #14	S	10-08-18 00:00		601707-014
Side Wall #15	S	10-08-18 00:00		601707-015
Side Wall #16	S	10-08-18 00:00		601707-016
Side Wall #17	S	10-08-18 00:00		601707-017
Side Wall #18	S	10-08-18 00:00		601707-018
Side Wall #19	S	10-08-18 00:00		601707-019
Side Wall #20	S	10-08-18 00:00		601707-020
Side Wall #21	S	10-08-18 00:00		601707-021
Side Wall #22	S	10-08-18 00:00		601707-022
Side Wall #23	S	10-08-18 00:00		601707-023
Side Wall #24	S	10-08-18 00:00		601707-024
Side Wall #25	S	10-08-18 00:00		601707-025
Side Wall #26	S	10-08-18 00:00		601707-026
Side Wall #27	S	10-08-18 00:00		601707-027
Side Wall #28	S	10-08-18 00:00		601707-028
Side Wall #29	S	10-08-18 00:00		601707-029
Side Wall #30	S	10-08-18 00:00		601707-030
Side Wall #31	S	10-08-18 00:00		601707-031
Side Wall #32	S	10-08-18 00:00		601707-032
Side Wall #33	S	10-08-18 00:00		601707-033

**CASE NARRATIVE***Client Name: Tetra Tech- Midland**Project Name: COG-Cabo Blanco State 1H*Project ID: 212C-MD-01419
Work Order Number(s): 601707Report Date: 11-OCT-18
Date Received: 10/09/2018**Sample receipt non conformances and comments:**

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3065905 Chloride by EPA 300

Lab Sample ID 601707-031 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: 601707-021, -022, -023, -024, -025, -026, -027, -028, -029, -030, -031, -032, -033.

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

Batch: LBA-3066101 BTEX by EPA 8021B

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

Batch: LBA-3066105 BTEX by EPA 8021B

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

Batch: LBA-3066135 BTEX by EPA 8021B

Lab Sample ID 601707-023 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Toluene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Benzene, Ethylbenzene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 601707-023, -025, -027, -029, -031, -033.

The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

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



Certificate of Analysis Summary 601707

Tetra Tech- Midland, Midland, TX

Project Name: COG-Cabo Blanco State 1H

Project Id: 212C-MD-01419
Contact: Clair Gonzales
Project Location: Lea Co, NM

Date Received in Lab: Tue Oct-09-18 09:21 am
Report Date: 11-OCT-18
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	601707-001	601707-002	601707-003	601707-004	601707-005	601707-006
	<i>Field Id:</i>	Side Wall #1	Side Wall #2	Side Wall #3	Side Wall #4	Side Wall #5	Side Wall #6
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-10-18 12:00		Oct-10-18 12:00		Oct-10-18 17:00	
	<i>Analyzed:</i>	Oct-10-18 16:12		Oct-10-18 16:32		Oct-11-18 07:59	
	<i>Units/RL:</i>	mg/kg RL		mg/kg RL		mg/kg RL	
Benzene		<0.00199 0.00199		<0.00200 0.00200		<0.00200 0.00200	
Toluene		<0.00199 0.00199		<0.00200 0.00200		<0.00200 0.00200	
Ethylbenzene		<0.00199 0.00199		<0.00200 0.00200		<0.00200 0.00200	
m,p-Xylenes		<0.00398 0.00398		<0.00401 0.00401		<0.00399 0.00399	
o-Xylene		<0.00199 0.00199		<0.00200 0.00200		<0.00200 0.00200	
Total Xylenes		<0.00199 0.00199		<0.00200 0.00200		<0.00200 0.00200	
Total BTEX		<0.00199 0.00199		<0.00200 0.00200		<0.00200 0.00200	
Chloride by EPA 300	<i>Extracted:</i>	Oct-09-18 11:00	Oct-09-18 11:00	Oct-09-18 11:00	Oct-09-18 11:00	Oct-09-18 11:00	Oct-09-18 11:00
	<i>Analyzed:</i>	Oct-09-18 16:14	Oct-09-18 16:31	Oct-09-18 16:37	Oct-09-18 16:43	Oct-09-18 16:48	Oct-09-18 17:05
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<4.98 4.98	<4.95 4.95	<4.98 4.98	<5.00 5.00	<4.95 4.95	<5.00 5.00
TPH by SW8015 Mod	<i>Extracted:</i>	Oct-10-18 13:00		Oct-10-18 13:00		Oct-10-18 13:00	
	<i>Analyzed:</i>	Oct-10-18 20:40		Oct-10-18 21:36		Oct-10-18 21:55	
	<i>Units/RL:</i>	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	
Diesel Range Organics (DRO)		<15.0 15.0		<14.9 14.9		<15.0 15.0	
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0		<14.9 14.9		<15.0 15.0	
Total TPH		<15.0 15.0		<14.9 14.9		<15.0 15.0	

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 601707

Tetra Tech- Midland, Midland, TX

Project Name: COG-Cabo Blanco State 1H

Project Id: 212C-MD-01419
Contact: Clair Gonzales
Project Location: Lea Co, NM

Date Received in Lab: Tue Oct-09-18 09:21 am
Report Date: 11-OCT-18
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	601707-007	601707-008	601707-009	601707-010	601707-011	601707-012
	<i>Field Id:</i>	Side Wall #7	Side Wall #8	Side Wall #9	Side Wall #10	Side Wall #11	Side Wall #12
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-10-18 17:00		Oct-10-18 17:00		Oct-10-18 17:00	
	<i>Analyzed:</i>	Oct-11-18 08:19		Oct-11-18 09:22		Oct-11-18 09:44	
	<i>Units/RL:</i>	mg/kg RL		mg/kg RL		mg/kg RL	
Benzene		<0.00199 0.00199		<0.00198 0.00198		<0.00200 0.00200	
Toluene		<0.00199 0.00199		<0.00198 0.00198		<0.00200 0.00200	
Ethylbenzene		<0.00199 0.00199		<0.00198 0.00198		<0.00200 0.00200	
m,p-Xylenes		<0.00398 0.00398		<0.00396 0.00396		<0.00401 0.00401	
o-Xylene		<0.00199 0.00199		<0.00198 0.00198		<0.00200 0.00200	
Total Xylenes		<0.00199 0.00199		<0.00198 0.00198		<0.00200 0.00200	
Total BTEX		<0.00199 0.00199		<0.00198 0.00198		<0.00200 0.00200	
Chloride by EPA 300	<i>Extracted:</i>	Oct-09-18 11:00	Oct-09-18 11:00	Oct-09-18 11:00	Oct-09-18 11:00	Oct-09-18 11:00	Oct-09-18 11:00
	<i>Analyzed:</i>	Oct-09-18 17:11	Oct-09-18 17:17	Oct-09-18 17:22	Oct-09-18 17:35	Oct-09-18 17:40	Oct-09-18 17:57
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<5.00 5.00	<5.00 5.00	<4.95 4.95	<4.98 4.98	<4.99 4.99	835 4.95
TPH by SW8015 Mod	<i>Extracted:</i>	Oct-10-18 13:00		Oct-10-18 13:00		Oct-10-18 13:00	
	<i>Analyzed:</i>	Oct-10-18 22:13		Oct-10-18 22:32		Oct-10-18 22:50	
	<i>Units/RL:</i>	mg/kg RL		mg/kg RL		mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		15.3 15.0		15.6 15.0		15.6 15.0	
Diesel Range Organics (DRO)		<15.0 15.0		<15.0 15.0		<15.0 15.0	
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0		<15.0 15.0		<15.0 15.0	
Total TPH		15.3 15.0		15.6 15.0		15.6 15.0	

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 601707

Tetra Tech- Midland, Midland, TX

Project Name: COG-Cabo Blanco State 1H

Project Id: 212C-MD-01419

Contact: Clair Gonzales

Project Location: Lea Co, NM

Date Received in Lab: Tue Oct-09-18 09:21 am

Report Date: 11-OCT-18

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	601707-013	601707-014	601707-015	601707-016	601707-017	601707-018
	<i>Field Id:</i>	Side Wall #13	Side Wall #14	Side Wall #15	Side Wall #16	Side Wall #17	Side Wall #18
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-10-18 17:00		Oct-10-18 17:00		Oct-10-18 17:00	
	<i>Analyzed:</i>	Oct-11-18 10:06		Oct-11-18 10:27		Oct-11-18 10:48	
	<i>Units/RL:</i>	mg/kg RL		mg/kg RL		mg/kg RL	
Benzene		<0.00199 0.00199		<0.00202 0.00202		<0.00202 0.00202	
Toluene		<0.00199 0.00199		<0.00202 0.00202		<0.00202 0.00202	
Ethylbenzene		<0.00199 0.00199		<0.00202 0.00202		<0.00202 0.00202	
m,p-Xylenes		<0.00398 0.00398		<0.00403 0.00403		<0.00404 0.00404	
o-Xylene		<0.00199 0.00199		<0.00202 0.00202		<0.00202 0.00202	
Total Xylenes		<0.00199 0.00199		<0.00202 0.00202		<0.00202 0.00202	
Total BTEX		<0.00199 0.00199		<0.00202 0.00202		<0.00202 0.00202	
Chloride by EPA 300	<i>Extracted:</i>	Oct-09-18 11:00	Oct-09-18 11:00	Oct-09-18 11:00	Oct-09-18 11:00	Oct-09-18 11:00	Oct-09-18 11:00
	<i>Analyzed:</i>	Oct-09-18 18:03	Oct-09-18 18:20	Oct-09-18 18:26	Oct-09-18 18:31	Oct-09-18 18:37	Oct-09-18 18:43
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<5.00 5.00	<5.00 5.00	<4.96 4.96	<4.96 4.96	<5.00 5.00	22.7 5.00
TPH by SW8015 Mod	<i>Extracted:</i>	Oct-10-18 13:00		Oct-10-18 13:00		Oct-10-18 13:00	
	<i>Analyzed:</i>	Oct-10-18 23:09		Oct-10-18 23:28		Oct-10-18 23:46	
	<i>Units/RL:</i>	mg/kg RL		mg/kg RL		mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		16.0 15.0		18.3 15.0		15.6 15.0	
Diesel Range Organics (DRO)		<15.0 15.0		<15.0 15.0		<15.0 15.0	
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0		<15.0 15.0		<15.0 15.0	
Total TPH		16.0 15.0		18.3 15.0		15.6 15.0	

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 601707

Tetra Tech- Midland, Midland, TX

Project Name: COG-Cabo Blanco State 1H

Project Id: 212C-MD-01419
Contact: Clair Gonzales
Project Location: Lea Co, NM

Date Received in Lab: Tue Oct-09-18 09:21 am
Report Date: 11-OCT-18
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	601707-019	601707-020	601707-021	601707-022	601707-023	601707-024
	<i>Field Id:</i>	Side Wall #19	Side Wall #20	Side Wall #21	Side Wall #22	Side Wall #23	Side Wall #24
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-10-18 17:00		Oct-10-18 17:00		Oct-11-18 11:00	
	<i>Analyzed:</i>	Oct-11-18 11:09		Oct-11-18 11:31		Oct-11-18 15:27	
	<i>Units/RL:</i>	mg/kg RL		mg/kg RL		mg/kg RL	
Benzene		<0.00199 0.00199		<0.00198 0.00198		<0.00199 0.00199	
Toluene		<0.00199 0.00199		<0.00198 0.00198		<0.00199 0.00199	
Ethylbenzene		<0.00199 0.00199		<0.00198 0.00198		<0.00199 0.00199	
m,p-Xylenes		<0.00398 0.00398		<0.00396 0.00396		<0.00398 0.00398	
o-Xylene		<0.00199 0.00199		<0.00198 0.00198		<0.00199 0.00199	
Total Xylenes		<0.00199 0.00199		<0.00198 0.00198		<0.00199 0.00199	
Total BTEX		<0.00199 0.00199		<0.00198 0.00198		<0.00199 0.00199	
Chloride by EPA 300	<i>Extracted:</i>	Oct-09-18 11:00	Oct-09-18 11:00	Oct-09-18 15:30	Oct-09-18 15:30	Oct-09-18 15:30	Oct-09-18 15:30
	<i>Analyzed:</i>	Oct-09-18 18:48	Oct-09-18 18:54	Oct-09-18 22:36	Oct-09-18 22:53	Oct-09-18 22:58	Oct-09-18 23:04
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<5.00 5.00	15.1 5.00	<4.98 4.98	<5.00 5.00	184 5.00	13.1 5.00
TPH by SW8015 Mod	<i>Extracted:</i>	Oct-10-18 13:00		Oct-10-18 13:00		Oct-10-18 13:00	
	<i>Analyzed:</i>	Oct-11-18 00:05		Oct-11-18 01:01		Oct-11-18 01:20	
	<i>Units/RL:</i>	mg/kg RL		mg/kg RL		mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		15.4 15.0		16.1 15.0		15.4 15.0	
Diesel Range Organics (DRO)		<15.0 15.0		<15.0 15.0		<15.0 15.0	
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0		<15.0 15.0		<15.0 15.0	
Total TPH		15.4 15.0		16.1 15.0		15.4 15.0	

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

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 601707

Tetra Tech- Midland, Midland, TX

Project Name: COG-Cabo Blanco State 1H

Project Id: 212C-MD-01419
Contact: Clair Gonzales
Project Location: Lea Co, NM

Date Received in Lab: Tue Oct-09-18 09:21 am
Report Date: 11-OCT-18
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	601707-025	601707-026	601707-027	601707-028	601707-029	601707-030
	<i>Field Id:</i>	Side Wall #25	Side Wall #26	Side Wall #27	Side Wall #28	Side Wall #29	Side Wall #30
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-11-18 11:00		Oct-11-18 11:00		Oct-11-18 11:00	
	<i>Analyzed:</i>	Oct-11-18 15:49		Oct-11-18 16:11		Oct-11-18 16:33	
	<i>Units/RL:</i>	mg/kg RL		mg/kg RL		mg/kg RL	
Benzene		<0.00200 0.00200		<0.00201 0.00201		<0.00202 0.00202	
Toluene		<0.00200 0.00200		<0.00201 0.00201		<0.00202 0.00202	
Ethylbenzene		<0.00200 0.00200		<0.00201 0.00201		<0.00202 0.00202	
m,p-Xylenes		<0.00401 0.00401		<0.00402 0.00402		<0.00404 0.00404	
o-Xylene		<0.00200 0.00200		<0.00201 0.00201		<0.00202 0.00202	
Total Xylenes		<0.00200 0.00200		<0.00201 0.00201		<0.00202 0.00202	
Total BTEX		<0.00200 0.00200		<0.00201 0.00201		<0.00202 0.00202	
Chloride by EPA 300	<i>Extracted:</i>	Oct-09-18 15:30	Oct-09-18 15:30	Oct-09-18 15:30	Oct-09-18 15:30	Oct-09-18 15:30	Oct-09-18 15:30
	<i>Analyzed:</i>	Oct-09-18 23:10	Oct-09-18 23:27	Oct-09-18 23:32	Oct-09-18 23:38	Oct-09-18 23:44	Oct-09-18 23:49
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<5.00 5.00	<5.00 5.00	<4.99 4.99	<4.99 4.99	<4.99 4.99	<5.00 5.00
TPH by SW8015 Mod	<i>Extracted:</i>	Oct-10-18 13:00		Oct-10-18 13:00		Oct-10-18 13:00	
	<i>Analyzed:</i>	Oct-11-18 01:39		Oct-11-18 01:57		Oct-11-18 02:16	
	<i>Units/RL:</i>	mg/kg RL		mg/kg RL		mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<14.9 14.9		<15.0 15.0		15.6 14.9	
Diesel Range Organics (DRO)		<14.9 14.9		<15.0 15.0		<14.9 14.9	
Motor Oil Range Hydrocarbons (MRO)		<14.9 14.9		<15.0 15.0		<14.9 14.9	
Total TPH		<14.9 14.9		<15.0 15.0		15.6 14.9	

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

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 601707

Tetra Tech- Midland, Midland, TX

Project Name: COG-Cabo Blanco State 1H

Project Id: 212C-MD-01419
Contact: Clair Gonzales
Project Location: Lea Co, NM

Date Received in Lab: Tue Oct-09-18 09:21 am
Report Date: 11-OCT-18
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	601707-031	601707-032	601707-033			
	<i>Field Id:</i>	Side Wall #31	Side Wall #32	Side Wall #33			
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Oct-08-18 00:00	Oct-08-18 00:00	Oct-08-18 00:00			
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-11-18 11:00		Oct-11-18 11:00			
	<i>Analyzed:</i>	Oct-11-18 16:55		Oct-11-18 17:16			
	<i>Units/RL:</i>	mg/kg RL		mg/kg RL			
Benzene		<0.00200 0.00200		<0.00198 0.00198			
Toluene		<0.00200 0.00200		<0.00198 0.00198			
Ethylbenzene		<0.00200 0.00200		<0.00198 0.00198			
m,p-Xylenes		<0.00399 0.00399		<0.00397 0.00397			
o-Xylene		<0.00200 0.00200		<0.00198 0.00198			
Total Xylenes		<0.00200 0.00200		<0.00198 0.00198			
Total BTEX		<0.00200 0.00200		<0.00198 0.00198			
Chloride by EPA 300	<i>Extracted:</i>	Oct-09-18 15:30	Oct-09-18 15:30	Oct-09-18 15:30			
	<i>Analyzed:</i>	Oct-09-18 23:55	Oct-10-18 00:12	Oct-10-18 00:18			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		<4.97 4.97	26.3 4.96	<4.99 4.99			
TPH by SW8015 Mod	<i>Extracted:</i>	Oct-10-18 13:00		Oct-10-18 13:00			
	<i>Analyzed:</i>	Oct-11-18 02:35		Oct-11-18 02:54			
	<i>Units/RL:</i>	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			

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

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Jessica Kramer

Jessica Kramer
 Project Assistant



Form 2 - Surrogate Recoveries

Project Name: COG-Cabo Blanco State 1H

Work Orders : 601707,

Project ID: 212C-MD-01419

Lab Batch #: 3066101

Sample: 601707-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/10/18 16:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0307	0.0300	102	70-130	
4-Bromofluorobenzene	0.0275	0.0300	92	70-130	

Lab Batch #: 3066101

Sample: 601707-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/10/18 16:32

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	70-130	
4-Bromofluorobenzene	0.0285	0.0300	95	70-130	

Lab Batch #: 3066079

Sample: 601707-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/10/18 20:40

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.4	99.8	96	70-135	
o-Terphenyl	49.1	49.9	98	70-135	

Lab Batch #: 3066079

Sample: 601707-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/10/18 21:36

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	99.6	93	70-135	
o-Terphenyl	48.3	49.8	97	70-135	

Lab Batch #: 3066079

Sample: 601707-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/10/18 21:55

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.2	99.7	96	70-135	
o-Terphenyl	49.5	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.



Form 2 - Surrogate Recoveries

Project Name: COG-Cabo Blanco State 1H

Work Orders : 601707,

Project ID: 212C-MD-01419

Lab Batch #: 3066079

Sample: 601707-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/10/18 22:13

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.9	99.9	97	70-135	
o-Terphenyl	51.0	50.0	102	70-135	

Lab Batch #: 3066079

Sample: 601707-009 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/10/18 22:32

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.7	99.7	88	70-135	
o-Terphenyl	44.8	49.9	90	70-135	

Lab Batch #: 3066079

Sample: 601707-011 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/10/18 22:50

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.0	99.8	93	70-135	
o-Terphenyl	47.6	49.9	95	70-135	

Lab Batch #: 3066079

Sample: 601707-013 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/10/18 23:09

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.5	99.7	91	70-135	
o-Terphenyl	45.7	49.9	92	70-135	

Lab Batch #: 3066079

Sample: 601707-015 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/10/18 23:28

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.3	99.9	91	70-135	
o-Terphenyl	42.9	50.0	86	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: COG-Cabo Blanco State 1H

Work Orders : 601707,

Project ID: 212C-MD-01419

Lab Batch #: 3066079

Sample: 601707-017 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/10/18 23:46

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.1	100	95	70-135	
o-Terphenyl	48.8	50.0	98	70-135	

Lab Batch #: 3066079

Sample: 601707-019 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 00:05

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.2	99.7	92	70-135	
o-Terphenyl	47.1	49.9	94	70-135	

Lab Batch #: 3066079

Sample: 601707-021 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 01:01

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.6	99.8	96	70-135	
o-Terphenyl	48.5	49.9	97	70-135	

Lab Batch #: 3066079

Sample: 601707-023 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 01:20

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.1	99.8	93	70-135	
o-Terphenyl	47.7	49.9	96	70-135	

Lab Batch #: 3066079

Sample: 601707-025 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 01:39

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.1	99.6	92	70-135	
o-Terphenyl	47.5	49.8	95	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: COG-Cabo Blanco State 1H

Work Orders : 601707,

Project ID: 212C-MD-01419

Lab Batch #: 3066079

Sample: 601707-027 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 01:57

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.6	99.9	93	70-135	
o-Terphenyl	47.9	50.0	96	70-135	

Lab Batch #: 3066079

Sample: 601707-029 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 02:16

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.0	99.6	97	70-135	
o-Terphenyl	50.1	49.8	101	70-135	

Lab Batch #: 3066079

Sample: 601707-031 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 02:35

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.0	99.7	91	70-135	
o-Terphenyl	46.9	49.9	94	70-135	

Lab Batch #: 3066079

Sample: 601707-033 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 02:54

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.2	100	89	70-135	
o-Terphenyl	46.3	50.0	93	70-135	

Lab Batch #: 3066105

Sample: 601707-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 07:59

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0336	0.0300	112	70-130	
4-Bromofluorobenzene	0.0301	0.0300	100	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: COG-Cabo Blanco State 1H

Work Orders : 601707,

Project ID: 212C-MD-01419

Lab Batch #: 3066105

Sample: 601707-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 08:19

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0322	0.0300	107	70-130	
4-Bromofluorobenzene	0.0297	0.0300	99	70-130	

Lab Batch #: 3066105

Sample: 601707-009 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 09:22

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0323	0.0300	108	70-130	
4-Bromofluorobenzene	0.0275	0.0300	92	70-130	

Lab Batch #: 3066105

Sample: 601707-011 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 09:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0321	0.0300	107	70-130	
4-Bromofluorobenzene	0.0298	0.0300	99	70-130	

Lab Batch #: 3066105

Sample: 601707-013 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 10:06

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0326	0.0300	109	70-130	
4-Bromofluorobenzene	0.0304	0.0300	101	70-130	

Lab Batch #: 3066105

Sample: 601707-015 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 10:27

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0319	0.0300	106	70-130	
4-Bromofluorobenzene	0.0303	0.0300	101	70-130	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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



Form 2 - Surrogate Recoveries

Project Name: COG-Cabo Blanco State 1H

Work Orders : 601707,

Project ID: 212C-MD-01419

Lab Batch #: 3066105

Sample: 601707-017 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 10:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0322	0.0300	107	70-130	
4-Bromofluorobenzene	0.0286	0.0300	95	70-130	

Lab Batch #: 3066105

Sample: 601707-019 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 11:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0336	0.0300	112	70-130	
4-Bromofluorobenzene	0.0289	0.0300	96	70-130	

Lab Batch #: 3066105

Sample: 601707-021 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 11:31

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	0.0292	0.0300	97	70-130	

Lab Batch #: 3066135

Sample: 601707-023 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 15:27

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0319	0.0300	106	70-130	
4-Bromofluorobenzene	0.0292	0.0300	97	70-130	

Lab Batch #: 3066135

Sample: 601707-025 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 15:49

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0321	0.0300	107	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: COG-Cabo Blanco State 1H

Work Orders : 601707,

Project ID: 212C-MD-01419

Lab Batch #: 3066135

Sample: 601707-027 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 16:11

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	0.0284	0.0300	95	70-130	

Lab Batch #: 3066135

Sample: 601707-029 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 16:33

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	70-130	
4-Bromofluorobenzene	0.0295	0.0300	98	70-130	

Lab Batch #: 3066135

Sample: 601707-031 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 16:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	70-130	
4-Bromofluorobenzene	0.0307	0.0300	102	70-130	

Lab Batch #: 3066135

Sample: 601707-033 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 17:16

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0322	0.0300	107	70-130	
4-Bromofluorobenzene	0.0285	0.0300	95	70-130	

Lab Batch #: 3066101

Sample: 7663985-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/10/18 15:52

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0304	0.0300	101	70-130	
4-Bromofluorobenzene	0.0268	0.0300	89	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: COG-Cabo Blanco State 1H

Work Orders : 601707,

Project ID: 212C-MD-01419

Lab Batch #: 3066079

Sample: 7663967-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/10/18 19:44

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.0	100	97	70-135	
o-Terphenyl	51.8	50.0	104	70-135	

Lab Batch #: 3066105

Sample: 7663978-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/10/18 22:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	70-130	
4-Bromofluorobenzene	0.0261	0.0300	87	70-130	

Lab Batch #: 3066135

Sample: 7664005-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/11/18 15:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0328	0.0300	109	70-130	
4-Bromofluorobenzene	0.0274	0.0300	91	70-130	

Lab Batch #: 3066101

Sample: 7663985-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/10/18 14:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	70-130	
4-Bromofluorobenzene	0.0245	0.0300	82	70-130	

Lab Batch #: 3066079

Sample: 7663967-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/10/18 20:03

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	52.0	50.0	104	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: COG-Cabo Blanco State 1H

Work Orders : 601707,

Project ID: 212C-MD-01419

Lab Batch #: 3066105

Sample: 7663978-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/10/18 20:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	70-130	
4-Bromofluorobenzene	0.0219	0.0300	73	70-130	

Lab Batch #: 3066135

Sample: 7664005-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/11/18 13:18

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0315	0.0300	105	70-130	
4-Bromofluorobenzene	0.0283	0.0300	94	70-130	

Lab Batch #: 3066101

Sample: 7663985-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/10/18 14:32

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0268	0.0300	89	70-130	
4-Bromofluorobenzene	0.0256	0.0300	85	70-130	

Lab Batch #: 3066079

Sample: 7663967-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/10/18 20:22

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	62.0	50.0	124	70-135	

Lab Batch #: 3066105

Sample: 7663978-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/10/18 21:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0346	0.0300	115	70-130	
4-Bromofluorobenzene	0.0260	0.0300	87	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: COG-Cabo Blanco State 1H

Work Orders : 601707,

Project ID: 212C-MD-01419

Lab Batch #: 3066135

Sample: 7664005-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/11/18 13:39

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0316	0.0300	105	70-130	
4-Bromofluorobenzene	0.0286	0.0300	95	70-130	

Lab Batch #: 3066101

Sample: 601707-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/10/18 14:52

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	70-130	
4-Bromofluorobenzene	0.0244	0.0300	81	70-130	

Lab Batch #: 3066079

Sample: 601707-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/10/18 20:59

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	100	128	70-135	
o-Terphenyl	50.6	50.0	101	70-135	

Lab Batch #: 3066105

Sample: 601319-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/10/18 21:31

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0368	0.0300	123	70-130	
4-Bromofluorobenzene	0.0330	0.0300	110	70-130	

Lab Batch #: 3066135

Sample: 601707-023 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 14:00

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0341	0.0300	114	70-130	
4-Bromofluorobenzene	0.0351	0.0300	117	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: COG-Cabo Blanco State 1H

Work Orders : 601707,

Project ID: 212C-MD-01419

Lab Batch #: 3066101

Sample: 601707-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/10/18 15:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	70-130	
4-Bromofluorobenzene	0.0263	0.0300	88	70-130	

Lab Batch #: 3066079

Sample: 601707-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/10/18 21:17

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.8	117	70-135	
o-Terphenyl	51.4	49.9	103	70-135	

Lab Batch #: 3066135

Sample: 601707-023 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 14:21

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	70-130	
4-Bromofluorobenzene	0.0295	0.0300	98	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: COG-Cabo Blanco State 1H

Work Order #: 601707

Project ID: 212C-MD-01419

Analyst: ALJ

Date Prepared: 10/10/2018

Date Analyzed: 10/10/2018

Lab Batch ID: 3066105

Sample: 7663978-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.00202	0.101	0.0898	89	0.100	0.0981	98	9	70-130	35	
Toluene	<0.00202	0.101	0.0825	82	0.100	0.0923	92	11	70-130	35	
Ethylbenzene	<0.00202	0.101	0.0944	93	0.100	0.109	109	14	70-130	35	
m,p-Xylenes	<0.00403	0.202	0.183	91	0.201	0.217	108	17	70-130	35	
o-Xylene	<0.00202	0.101	0.0905	90	0.100	0.108	108	18	70-130	35	

Analyst: ALJ

Date Prepared: 10/10/2018

Date Analyzed: 10/10/2018

Lab Batch ID: 3066101

Sample: 7663985-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.00200	0.0998	0.102	102	0.100	0.0971	97	5	70-130	35	
Toluene	<0.00200	0.0998	0.106	106	0.100	0.101	101	5	70-130	35	
Ethylbenzene	<0.00200	0.0998	0.106	106	0.100	0.102	102	4	70-130	35	
m,p-Xylenes	<0.00399	0.200	0.203	102	0.201	0.197	98	3	70-130	35	
o-Xylene	<0.00200	0.0998	0.0961	96	0.100	0.0938	94	2	70-130	35	

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

Blank Spike Recovery [D] = 100*(C)/[B]

Blank Spike Duplicate Recovery [G] = 100*(F)/[E]

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: COG-Cabo Blanco State 1H

Work Order #: 601707

Project ID: 212C-MD-01419

Analyst: ALJ

Date Prepared: 10/11/2018

Date Analyzed: 10/11/2018

Lab Batch ID: 3066135

Sample: 7664005-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.00202	0.101	0.0918	91	0.100	0.0835	84	9	70-130	35	
Toluene	<0.00202	0.101	0.0835	83	0.100	0.0822	82	2	70-130	35	
Ethylbenzene	<0.00202	0.101	0.104	103	0.100	0.0965	97	7	70-130	35	
m,p-Xylenes	<0.00403	0.202	0.206	102	0.200	0.192	96	7	70-130	35	
o-Xylene	<0.00202	0.101	0.103	102	0.100	0.0966	97	6	70-130	35	

Analyst: CHE

Date Prepared: 10/09/2018

Date Analyzed: 10/09/2018

Lab Batch ID: 3065900

Sample: 7663789-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<5.00	250	248	99	250	248	99	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: COG-Cabo Blanco State 1H

Work Order #: 601707

Project ID: 212C-MD-01419

Analyst: SCM

Date Prepared: 10/09/2018

Date Analyzed: 10/09/2018

Lab Batch ID: 3065905

Sample: 7663854-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<5.00	250	255	102	250	258	103	1	90-110	20	

Analyst: ARM

Date Prepared: 10/10/2018

Date Analyzed: 10/10/2018

Lab Batch ID: 3066079

Sample: 7663967-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	988	99	1000	1130	113	13	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	1020	102	1000	1170	117	14	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 Recoveries

Project Name: COG-Cabo Blanco State 1H

Work Order #: 601707

Lab Batch #: 3066105

Date Analyzed: 10/10/2018

QC- Sample ID: 601319-003 S

Reporting Units: mg/kg

Date Prepared: 10/10/2018

Batch #: 1

Project ID: 212C-MD-01419

Analyst: ALJ

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Benzene	<0.00201	0.100	0.0775	78	70-130	
Toluene	<0.00201	0.100	0.0663	66	70-130	X
Ethylbenzene	<0.00201	0.100	0.0704	70	70-130	
m,p-Xylenes	<0.00402	0.201	0.130	65	70-130	X
o-Xylene	<0.00201	0.100	0.0659	66	70-130	X

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
 Relative Percent Difference [E] = 200*(C-A)/(C+B)
 All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



Project Name: COG-Cabo Blanco State 1H

Work Order # : 601707

Project ID: 212C-MD-01419

Lab Batch ID: 3066101

QC- Sample ID: 601707-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 10/10/2018

Date Prepared: 10/10/2018

Analyst: ALJ

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	<0.00202	0.101	0.101	100	0.100	0.0797	80	24	70-130	35	
Toluene	<0.00202	0.101	0.102	101	0.100	0.0796	80	25	70-130	35	
Ethylbenzene	<0.00202	0.101	0.0997	99	0.100	0.0777	78	25	70-130	35	
m,p-Xylenes	<0.00403	0.202	0.191	95	0.200	0.149	75	25	70-130	35	
o-Xylene	<0.00202	0.101	0.0916	91	0.100	0.0714	71	25	70-130	35	

Lab Batch ID: 3066135

QC- Sample ID: 601707-023 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 10/11/2018

Date Prepared: 10/11/2018

Analyst: ALJ

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	0.0758	76	0.100	0.0662	66	14	70-130	35	X
Toluene	<0.00199	0.0994	0.0685	69	0.100	0.0597	60	14	70-130	35	X
Ethylbenzene	<0.00199	0.0994	0.0772	78	0.100	0.0687	69	12	70-130	35	X
m,p-Xylenes	<0.00398	0.199	0.149	75	0.200	0.132	66	12	70-130	35	X
o-Xylene	<0.00199	0.0994	0.0767	77	0.100	0.0676	68	13	70-130	35	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: COG-Cabo Blanco State 1H

Work Order # : 601707

Project ID: 212C-MD-01419

Lab Batch ID: 3065900

QC- Sample ID: 601707-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 10/09/2018

Date Prepared: 10/09/2018

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.855	249	247	99	249	247	99	0	90-110	20	

Lab Batch ID: 3065900

QC- Sample ID: 601707-011 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 10/09/2018

Date Prepared: 10/09/2018

Analyst: CHE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.857	250	250	100	250	249	100	0	90-110	20	

Lab Batch ID: 3065905

QC- Sample ID: 601707-021 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 10/09/2018

Date Prepared: 10/09/2018

Analyst: SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<0.858	250	250	100	250	249	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: COG-Cabo Blanco State 1H

Work Order # : 601707

Project ID: 212C-MD-01419

Lab Batch ID: 3065905

QC- Sample ID: 601707-031 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 10/10/2018

Date Prepared: 10/09/2018

Analyst: SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	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
Analytes											
Chloride	0.939	248	273	110	248	275	111	1	90-110	20	X

Lab Batch ID: 3066079

QC- Sample ID: 601707-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 10/10/2018

Date Prepared: 10/10/2018

Analyst: ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod	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
Analytes											
Gasoline Range Hydrocarbons (GRO)	14.7	1000	956	94	998	985	97	3	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	961	96	998	990	99	3	70-135	20	

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

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

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

Analysis Request of Custody Record



Tetra Tech, Inc.

4000 N. Bag Spring Street, Ste 401
 Midland, Texas 79705
 Tel (432) 692-4559
 Fax (432) 692-3648

Client Name: COG Site Manager: Clair Gonzales
 Project Name: Cabo Blanco
 Project Location: Lea CO, NM Project #: 212C-MD-01419
 Invoice to: COG - Ike Taveraz
 Receiving Laboratory: Xenco Sampler Signature: Conner Moehring
 Comments:

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX	PRESERVATIVE METHOD					# CONTAINERS	FILTERED (Y/N)
		DATE	TIME		WATER	SOIL	HCL	HNO ₃	ICE		
	Side Wall #11	10/8/2018		X						1N	
	Side Wall #12 CA	10/8/2018		X						1N	
	Side Wall #13	10/8/2018		X						1N	
	Side Wall #14	10/8/2018		X						1N	
	Side Wall #15	10/8/2018		X						1N	
	Side Wall #16	10/8/2018		X						1N	
	Side Wall #17	10/8/2018		X						1N	
	Side Wall #18	10/8/2018		X						1N	
	Side Wall #19	10/8/2018		X						1N	
	Side Wall #20	10/8/2018		X						1N	

Relinquished by: Preston Patent Date: 10/9/18 Time: 9:20
 Received by: [Signature] Date: 10/9/18 Time: 09:41

ANALYSIS REQUEST
 (Circle or Specify Method No.)

BTX 8021B BTX 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

LAB USE ONLY
 Sample Temperature: 32.0
 REMARKS:
 STANDARD
 RUSH: Same Day 24 hr 48 hr 72 hr
 Flush Charges Authorized
 Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Analysis Request of Chain of Custody Record



Tetra Tech, Inc.

4000 N. Bay Spring Street, Ste 401
 Lakeland, Texas 79705
 Tel (432) 982-4559
 Fax (432) 982-0946

Client Name: COG Site Manager: Clair Gonzales

Project Name: Cabo Blanco

Project Location: (county, state) Lea CO, NM Project #: 212C-MD-D1419

Invoice to: COG - Ika Taveres

Receiving Laboratory: Xenco Sampler Signatures: Conner Moshring

Comments:

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX					PRESERVATIVE METHOD		# CONTAINERS	FILTERED (Y/N)
		DATE	TIME	WATER	SOIL	HCL	HNO ₃	ICE	None			
	Side Wall #21	10/8/2018		X				X			1	N
	Side Wall #22	10/8/2018		X				X			1	N
	Side Wall #23	10/8/2018		X				X			1	N
	Side Wall #24	10/8/2018		X				X			1	N
	Side Wall #25	10/8/2018		X				X			1	N
	Side Wall #26	10/8/2018		X				X			1	N
	Side Wall #27	10/8/2018		X				X			1	N
	Side Wall #28	10/8/2018		X				X			1	N
	Side Wall #29	10/8/2018		X				X			1	N
	Side Wall #30	10/8/2018		X				X			1	N

Relinquished by: *Reston Bibeart* Date: 10/28/18 Time: 9:20
 Received by: *Clair Gonzales* Date: 10/29/18 Time: 09:21

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

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB USE ONLY: STANDARD RUSH: Same Day 24 hr 48 hr 72 hr

REMARKS: Special Report Limits or TRRP Report

Sample Temperature: 30.00

(Circle) HAND DELIVERED FEDEX UPS Tracking #:

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

ORIGINAL COPY

Analysis Request of Custody Record



Tetra Tech, Inc.

4000 N. Big Spring Street, Ste 401
 Mesquite, Texas 79705
 Tel (432) 982-4559
 Fax (432) 982-3946

Client Name: COG		Site Manager: Clair Gonzales	
Project Name: Cabo Blanco		Project #: 212C-MD-01419	
Project Location: Lea CO, NM		Project #: 212C-MD-01419	
Invoiced to: COG - Ike Taveres		Sampler Signature: Conner Moehring	
Receiving Laboratory: Xenco		Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING		MATRIX		PRESERVATIVE METHOD		# CONTAINERS	FILTERED (Y/N)
		YEAR: 2018	DATE	TIME	WATER	SOIL	HCL		
	Side Walk#31		10/8/2018		X		X		1 N
	Side Walk#32		10/8/2018		X		X		1 N
	Side Walk#33		10/8/18		X		X		1 N

Requested by: <i>Ike Taveres</i> Date: 10/29/18 Time: 9:20 Received by: <i>Conner Moehring</i> Date: 10/29/18 Time: 09:01	Requested by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____
--	---

Requested by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____	Requested by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____
---	---

ANALYSIS REQUEST
 (Circle or Specify Method No.)

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

LAB USE ONLY Sample Temperature 3.2/100 REMARKS: <input type="checkbox"/> STANDARD <input checked="" type="checkbox"/> RUSH: Same Day 24 hr 48 hr 72 hr <input type="checkbox"/> Rush Charges Authorized <input type="checkbox"/> Special Report Limits or TAPP Report	(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____
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ORIGINAL COPY



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 10/09/2018 09:21:00 AM

Work Order #: 601707

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.2
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6*Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 10/09/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 10/09/2018
Jessica Kramer

Analytical Report 601870

for Tetra Tech- Midland

Project Manager: Clair Gonzales

COG-Cabo Blanco

212C-MD-01419

11-OCT-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-27), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-13)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)



11-OCT-18

Project Manager: **Clair Gonzales**
Tetra Tech- Midland
901 West Wall ST
Midland, TX 79701

Reference: XENCO Report No(s): **601870**
COG-Cabo Blanco
Project Address: Lea Co, NM

Clair Gonzales:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 601870. 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. 601870 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
Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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



Sample Cross Reference 601870

Tetra Tech- Midland, Midland, TX

COG-Cabo Blanco

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Bottom Hole #7 BEB 5.5'	S	10-09-18 00:00		601870-001



CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: COG-Cabo Blanco

Project ID: 212C-MD-01419
Work Order Number(s): 601870

Report Date: 11-OCT-18
Date Received: 10/10/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3066105 BTEX by EPA 8021B

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



Certificate of Analysis Summary 601870

Tetra Tech- Midland, Midland, TX

Project Name: COG-Cabo Blanco

Project Id: 212C-MD-01419
Contact: Clair Gonzales
Project Location: Lea Co, NM

Date Received in Lab: Wed Oct-10-18 09:10 am
Report Date: 11-OCT-18
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	601870-001				
	Field Id:	Bottom Hole #7 BEB 5.5'				
	Depth:					
	Matrix:	SOIL				
	Sampled:	Oct-09-18 00:00				
BTEX by EPA 8021B	Extracted:	Oct-10-18 17:00				
	Analyzed:	Oct-11-18 11:52				
	Units/RL:	mg/kg RL				
	Benzene	<0.00201 0.00201				
	Toluene	<0.00201 0.00201				
	Ethylbenzene	<0.00201 0.00201				
	m,p-Xylenes	<0.00402 0.00402				
	o-Xylene	<0.00201 0.00201				
Total Xylenes	<0.00201 0.00201					
Total BTEX	<0.00201 0.00201					
Chloride by EPA 300	Extracted:	Oct-10-18 15:00				
	Analyzed:	Oct-10-18 18:58				
Units/RL:	mg/kg RL					
Chloride	254 4.98					
TPH by SW8015 Mod	Extracted:	Oct-10-18 13:00				
	Analyzed:	Oct-11-18 03:13				
	Units/RL:	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<15.0 15.0				
	Diesel Range Organics (DRO)	<15.0 15.0				
Motor Oil Range Hydrocarbons (MRO)	<15.0 15.0					
Total TPH	<15.0 15.0					

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

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Jessica Kramer

Jessica Kramer
 Project Assistant



Form 2 - Surrogate Recoveries

Project Name: COG-Cabo Blanco

Work Orders : 601870,

Project ID: 212C-MD-01419

Lab Batch #: 3066079

Sample: 601870-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 03:13

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.8	99.8	92	70-135	
o-Terphenyl	47.0	49.9	94	70-135	

Lab Batch #: 3066105

Sample: 601870-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/11/18 11:52

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0326	0.0300	109	70-130	
4-Bromofluorobenzene	0.0319	0.0300	106	70-130	

Lab Batch #: 3066079

Sample: 7663967-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/10/18 19:44

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.0	100	97	70-135	
o-Terphenyl	51.8	50.0	104	70-135	

Lab Batch #: 3066105

Sample: 7663978-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/10/18 22:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0333	0.0300	111	70-130	
4-Bromofluorobenzene	0.0261	0.0300	87	70-130	

Lab Batch #: 3066079

Sample: 7663967-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/10/18 20:03

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	100	117	70-135	
o-Terphenyl	52.0	50.0	104	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: COG-Cabo Blanco

Work Orders : 601870,

Project ID: 212C-MD-01419

Lab Batch #: 3066105

Sample: 7663978-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/10/18 20:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	70-130	
4-Bromofluorobenzene	0.0219	0.0300	73	70-130	

Lab Batch #: 3066079

Sample: 7663967-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/10/18 20:22

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	133	100	133	70-135	
o-Terphenyl	62.0	50.0	124	70-135	

Lab Batch #: 3066105

Sample: 7663978-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/10/18 21:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0346	0.0300	115	70-130	
4-Bromofluorobenzene	0.0260	0.0300	87	70-130	

Lab Batch #: 3066079

Sample: 601707-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/10/18 20:59

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	128	100	128	70-135	
o-Terphenyl	50.6	50.0	101	70-135	

Lab Batch #: 3066105

Sample: 601319-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/10/18 21:31

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0368	0.0300	123	70-130	
4-Bromofluorobenzene	0.0330	0.0300	110	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: COG-Cabo Blanco

Work Orders : 601870,

Project ID: 212C-MD-01419

Lab Batch #: 3066079

Sample: 601707-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/10/18 21:17

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.8	117	70-135	
o-Terphenyl	51.4	49.9	103	70-135	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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



BS / BSD Recoveries



Project Name: COG-Cabo Blanco

Work Order #: 601870

Project ID: 212C-MD-01419

Analyst: ALJ

Date Prepared: 10/10/2018

Date Analyzed: 10/10/2018

Lab Batch ID: 3066105

Sample: 7663978-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.00202	0.101	0.0898	89	0.100	0.0981	98	9	70-130	35	
Toluene	<0.00202	0.101	0.0825	82	0.100	0.0923	92	11	70-130	35	
Ethylbenzene	<0.00202	0.101	0.0944	93	0.100	0.109	109	14	70-130	35	
m,p-Xylenes	<0.00403	0.202	0.183	91	0.201	0.217	108	17	70-130	35	
o-Xylene	<0.00202	0.101	0.0905	90	0.100	0.108	108	18	70-130	35	

Analyst: SCM

Date Prepared: 10/10/2018

Date Analyzed: 10/10/2018

Lab Batch ID: 3066070

Sample: 7663920-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Chloride	<5.00	250	253	101	250	253	101	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: COG-Cabo Blanco

Work Order #: 601870

Project ID: 212C-MD-01419

Analyst: ARM

Date Prepared: 10/10/2018

Date Analyzed: 10/10/2018

Lab Batch ID: 3066079

Sample: 7663967-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	988	99	1000	1130	113	13	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	1020	102	1000	1170	117	14	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 Recoveries

Project Name: COG-Cabo Blanco

Work Order #: 601870

Lab Batch #: 3066105

Date Analyzed: 10/10/2018

QC- Sample ID: 601319-003 S

Reporting Units: mg/kg

Date Prepared: 10/10/2018

Batch #: 1

Project ID: 212C-MD-01419

Analyst: ALJ

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Benzene	<0.00201	0.100	0.0775	78	70-130	
Toluene	<0.00201	0.100	0.0663	66	70-130	X
Ethylbenzene	<0.00201	0.100	0.0704	70	70-130	
m,p-Xylenes	<0.00402	0.201	0.130	65	70-130	X
o-Xylene	<0.00201	0.100	0.0659	66	70-130	X

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
 Relative Percent Difference [E] = 200*(C-A)/(C+B)
 All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



Project Name: COG-Cabo Blanco

Work Order # : 601870

Project ID: 212C-MD-01419

Lab Batch ID: 3066070

QC- Sample ID: 601903-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 10/10/2018

Date Prepared: 10/10/2018

Analyst: SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	343	252	622	111	252	625	112	0	90-110	20	X

Lab Batch ID: 3066070

QC- Sample ID: 601905-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 10/10/2018

Date Prepared: 10/10/2018

Analyst: SCM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	3.46	251	272	107	251	271	107	0	90-110	20	

Lab Batch ID: 3066079

QC- Sample ID: 601707-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 10/10/2018

Date Prepared: 10/10/2018

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)	14.7	1000	956	94	998	985	97	3	70-135	20	
Diesel Range Organics (DRO)	<8.13	1000	961	96	998	990	99	3	70-135	20	

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

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

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



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 10/10/2018 09:10:00 AM

Work Order #: 601870

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)?	3.5
#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
Brianna Teel Date: 10/10/2018

Checklist reviewed by: Jessica Kramer
Jessica Kramer Date: 10/10/2018

District I
 1625 N. French Dr., Hobbs, NM 88240
 Phone:(575) 393-6161 Fax:(575) 393-0720

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 811 S. First St., Artesia, NM 88210
 Phone:(575) 748-1283 Fax:(575) 748-9720

District III
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 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
 1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 161676

CONDITIONS

Operator: COG PRODUCTION, LLC 600 W. Illinois Ave Midland, TX 79701	OGRID: 217955
	Action Number: 161676
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	11/28/2022