[Sheldon L. Hitchcock]
[HSE Coordinator]

April 9, 2018

Mike Bratcher
Oil Conservation Division, District 2
811 S First St.
Artesia, NM 88210

Re: Work Plan
Compadres Fee #001
RP#: 2RP-4608
Unit Letter H Section 4, Township 22S, Range 27E
Eddy County, NM

Mr. Bratcher,

COG Operating, LLC (COG) is pleased to submit for your consideration the following remediation work plan for the Compadres Fee #001. This plan is in response to a produced water release that occurred February 2, 2018. Subsequent to the release a C-141 initial report was approved by the New Mexico Oil Conservation Division (NMOCD) on March 7, 2018.

BACKGROUND

The Compadres Fee #001 release is located in Unit Letter H, Section 4, Township 22 South and Range 27 East in Eddy County, New Mexico. More specifically the latitude and longitude for this release are 32.423556 North and -104.188985 West.

On February 2, 2018, the one (1) inch pop off valve on the separator activated due to an overpressure resulting in the release of approximately twenty-two (22) barrels (bbls) of produced water into the unlined battery. A vacuum truck was utilized to recover twenty (20) bbls of produced water.

On February 22, 2018, a site assessment and soil sampling were conducted in order to define the impacted area. A site diagram is included in Appendix I. The analytical results from the soil sampling activities are summarized in the table below.

GROUNDWATER AND SITE RANKING

According to the New Mexico Office of the State Engineer (NMOSE) groundwater in the project vicinity is approximately fifteen (15) feet below ground surface (BGS) (Appendix II). No water well or surface water was observed within one-thousand (1,000) feet of the release site. Therefore the site ranking for this release is twenty (20) based on the following:

Depth to groundwater	<50-feet
Distance to surface water body	>1000-feet
Wellhead Protection Area	>1000-feet

Analytical Results

12/14/2017

Sample ID	Depth (feet)	Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)	Total TPH (mg/kg)
T-1	0	<0.002	<0.002	20,000	103
T-1	1	<0.002	<0.002	4,010	<15.0
T-1	2	<0.002	<0.002	1,620	<15.0
T-1	3	<0.002	<0.002	247	<15.0
T-1	4	<0.002	<0.002	--	<15.0
T-1	6	<0.002	<0.002	--	<15.0
AH-1	0	<0.200	<0.200	3240	10,400
AH-1	0.5	<0.0199	0.763	1400	11,100

(--) Analysis not requested

PROPOSED REMEDIAL ACTIONS

- The impacted area in the vicinity of sample location T-1 will be excavated to the depth of 3-feet BGS, backfilled with caliche and contoured to match the surrounding location.

- The impacted area in the vicinity of AH-1 cannot be further vertically delineated by mechanical means due to the infrastructure present within the tank battery. This area will be excavated to the extent practical without threatening the structural integrity of the surrounding infrastructure. A confirmation soil sample will be taken from the bottom of the excavation and analyzed for TPH and chlorides to insure that the remaining soil is below NMOCD RRAL's prior to backfill.

- All of the excavated material will be hauled to an NMOCD approved solid waste disposal facility.

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

Sincerely,

Sheldon L. Hitchcock
HSE Coordinator
slhitchcock@concho.com

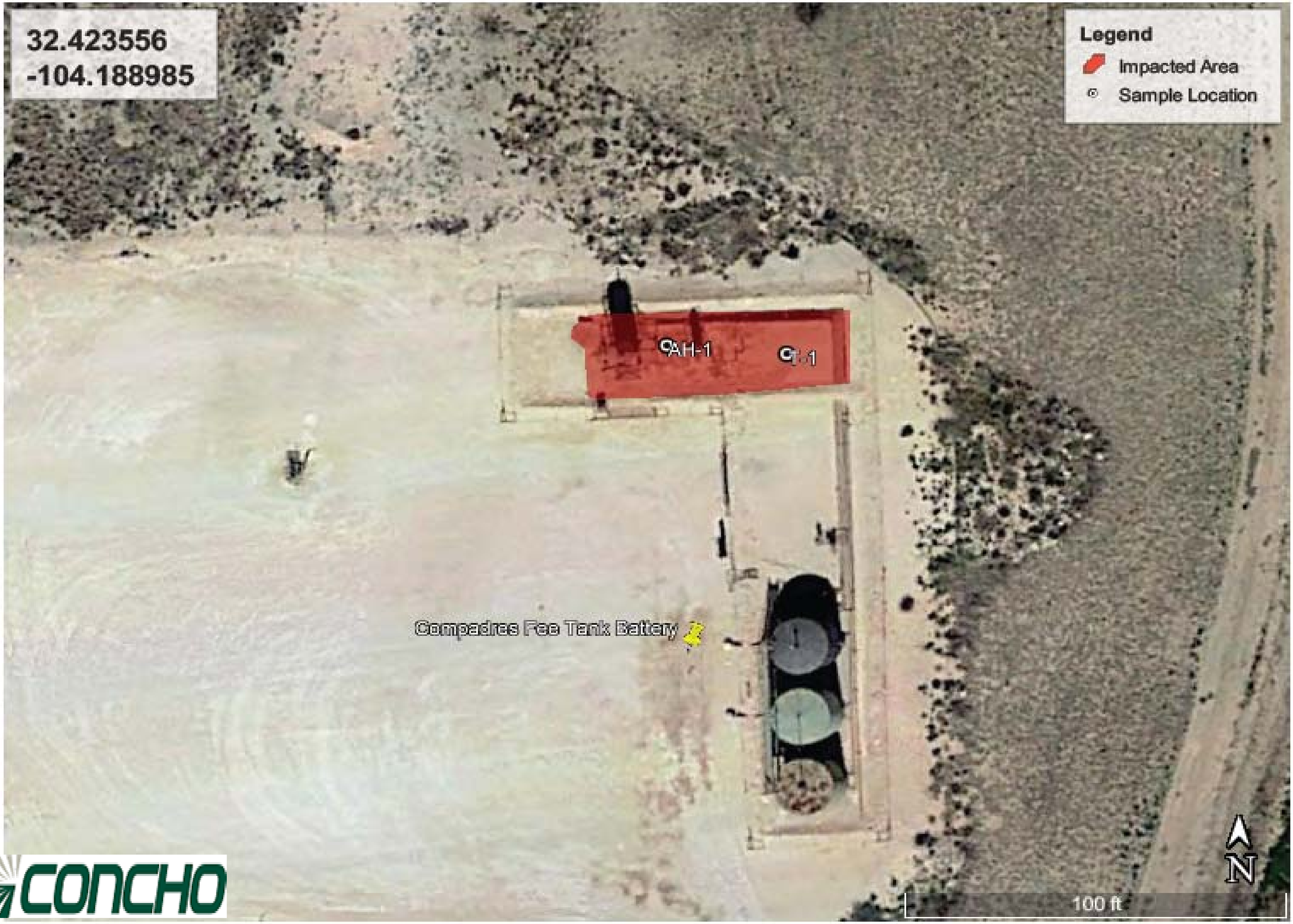
Enclosed:

Appendix I: Site Diagram
Appendix II: Groundwater Data
Appendix III: Initial C-141 (Copy)
Appendix IV: Analytical Reports and Chain-of-Custody Forms

APPENDIX I

February 2, 2018

Compadres Fee Tank Battery



APPENDIX II

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	Distance	Depth Well	Depth Water	Water Column
C 00589		CUB	ED	2	4	4	04	22S	27E	576412	3586974*	720			
C 00479		C	ED			3	03	22S	27E	576919	3587082*	861	200		
C 02193		C	ED			4	32	21S	27E	574476	3588675*	2079	55	15	40
C 00160		C	ED	2	3	3	10	22S	27E	576826	3585355*	2389	85	40	45
C 00160 CLW198701	O		ED	2	3	3	10	22S	27E	576826	3585355*	2389			
C 00092 A	O		ED	1	3	4	09	22S	27E	575815	3585346*	2391	200		
C 02899		C	ED	1	3	4	09	22S	27E	575815	3585346*	2391	33	22	11
C 03038		C	ED	1	3	4	09	22S	27E	575815	3585346*	2391	43	15	28

Average Depth to Water: **23 feet**

Minimum Depth: **15 feet**

Maximum Depth: **40 feet**

Record Count: 8

Basin/County Search:

County: Eddy

UTMNAD83 Radius Search (in meters):

Easting (X): 576306 **Northing (Y):** 3587687 **Radius:** 2400

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

APPENDIX III

NM OIL CONSERVATION
ARTESIA DISTRICT

FEB 07 2018

RECEIVED

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.

fAB1803942943
nAB1803951001

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: **COG Operating, LLC** (OGRID# 229137)	Contact: **Robert McNeill**
Address: **600 West Illinois Avenue, Midland TX 79701**	Telephone No.: **432-683-7443**
Facility Name: **COMPADRES FEE Tank Battery**	Facility Type: **Tank Battery**

Surface Owner: Private	Mineral Owner: Private	API No.:

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	4	22S	27E					Eddy

Latitude: 32.423556 **Longitude**: -104.188985 NAD83

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 22 bbls PW	Volume Recovered: 20 bbls PW
Source of Release: Water Tanks	Date and Hour of Occurrence: 2/2/2018	Date and Hour of Discovery: 2/2/2018 10:00 AM
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
The inlet vessel lost supply gas to the dump valve which resulted in a pressure build up in the separator. The buildup in pressure caused the 1" pop off line on the separator to release fluids into the facility.

Describe Area Affected and Cleanup Action Taken.*

This release remained inside the unlined facility. A vacuum truck was dispatched to recover all freestanding fluids. Concho will have the spill area evaluated for 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: Dakota Neel	OIL CONSERVATION DIVISION Approved by Environmental Specialist: Signed By [illegible]	
Printed Name: Dakota Neel		
Title: HSE Coordinator	Approval Date: 2/8/18	Expiration Date: N/A
E-mail Address dneel2@concho.com	Conditions of Approval: See Attached	Attached ☐ 2RP-4608
Date: 2/7/2018 Phone: 575-746-2010		

* Attach Additional Sheets If Necessary

APPENDIX IV

Certificate of Analysis Summary 577423

COG Operating LLC, Artesia, NM

Project Name: Compadres Fee Btty

Project Id:
Contact: Sheldon Hitchcock
Project Location:

Date Received in Lab: Mon Feb-26-18 07:45 am
Report Date: 07-MAR-18
Project Manager: Jessica Kramer

Analysis Requested		001		002		003		004		005		006	
	Lab Id:	577423-001		577423-002		577423-003		577423-004		577423-005		577423-006	
	Field Id:	T-1 0'		T-1 1'		T-1 2'		T-1 3'		T-1 4'		T-1 6' Refusal	
	Depth:			1- ft		2- ft		3- ft		4- ft		6- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-22-18 08:30		Feb-22-18 08:35		Feb-22-18 08:40		Feb-22-18 08:45		Feb-22-18 08:50		Feb-22-18 09:00	
BTEX by EPA 8021B	***Extracted:***	Feb-28-18 15:00		Feb-28-18 15:00		Feb-28-18 15:00		Feb-28-18 15:00		Feb-28-18 16:40		Feb-28-18 16:40	
	Analyzed:	Feb-28-18 23:50		Mar-01-18 00:09		Mar-01-18 00:28		Mar-01-18 00:47		Mar-01-18 07:17		Mar-01-18 05:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200
Toluene		<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene		<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes		<0.00396	0.00396	<0.00402	0.00402	<0.00403	0.00403	<0.00398	0.00398	<0.00398	0.00398	<0.00399	0.00399
o-Xylene		<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200
Total Xylenes		<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200
Total BTEX		<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200
Chloride by EPA 300	***Extracted:***	Feb-27-18 18:15		Feb-27-18 18:15		Mar-06-18 17:00		Mar-02-18 09:00					
	Analyzed:	Feb-27-18 22:59		Feb-27-18 23:28		Mar-06-18 22:05		Mar-02-18 12:33					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		20000	250	4010	24.7	1620	24.9	247	49.5				
TPH By SW8015 Mod	***Extracted:***	Feb-26-18 16:00		Feb-26-18 16:00		Feb-26-18 16:00		Feb-26-18 16:00		Feb-26-18 16:00		Feb-26-18 16:00	
	Analyzed:	Feb-27-18 04:48		Feb-27-18 05:15		Feb-27-18 05:40		Feb-27-18 06:08		Feb-27-18 06:33		Feb-27-18 07:01	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)		103	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0
Total TPH		103	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0

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

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 577423

COG Operating LLC, Artesia, NM

Project Name: Compadres Fee Btty

Project Id:
Contact: Sheldon Hitchcock
Project Location:

Date Received in Lab: Mon Feb-26-18 07:45 am
Report Date: 07-MAR-18
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	577423-007		577423-008							
	Field Id:	AH-1 0'		AH-1 0.5 Refusal							
	Depth:	0- ft		0.5- ft							
	Matrix:	SOIL		SOIL							
	Sampled:	Feb-22-18 09:20		Feb-22-18 09:30							
BTEX by EPA 8021B	*Extracted:*	Feb-28-18 16:40		Feb-28-18 16:40							
	Analyzed:	Mar-01-18 08:53		Mar-01-18 09:12							
	Units/RL:	mg/kg	RL	mg/kg	RL						
Benzene		<0.0200	0.0200	<0.0199	0.0199						
Toluene		<0.0200	0.0200	<0.0199	0.0199						
Ethylbenzene		<0.0200	0.0200	0.111	0.0199						
m,p-Xylenes		<0.0401	0.0401	0.302	0.0398						
o-Xylene		<0.0200	0.0200	0.350	0.0199						
Total Xylenes		<0.0200	0.0200	0.652	0.0199						
Total BTEX		<0.0200	0.0200	0.763	0.0199						
Chloride by EPA 300	*Extracted:*	Feb-27-18 18:15		Feb-27-18 18:15							
	Analyzed:	Feb-27-18 23:35		Feb-27-18 23:58							
	Units/RL:	mg/kg	RL	mg/kg	RL						
Chloride		3240	24.9	1400	24.6						
TPH By SW8015 Mod	*Extracted:*	Feb-26-18 16:00		Feb-26-18 16:00							
	Analyzed:	Feb-27-18 07:26		Feb-27-18 07:51							
	Units/RL:	mg/kg	RL	mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)		271	75.0	257	74.9						
Diesel Range Organics (DRO)		9620	75.0	10300	74.9						
Oil Range Hydrocarbons (ORO)		472	75.0	517	74.9						
Total TPH		10400	75.0	11100	74.9						

Mike Kimmel
Client Services Manager

Analytical Report 577423

for

COG Operating LLC

Project Manager: Sheldon Hitchcock

Compadres Fee Btty

07-MAR-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-18-14)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)

07-MAR-18

Project Manager: **Sheldon Hitchcock**
COG Operating LLC
2407 Pecos Avenue
Artesia, NM 88210

Reference: XENCO Report No(s): **577423**
Compadres Fee Btty
Project Address:

Sheldon Hitchcock:

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) 577423. 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. 577423 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,

Mike Kimmel
Client Services Manager

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 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-1 0'	S	02-22-18 08:30		577423-001
T-1 1'	S	02-22-18 08:35	1 ft	577423-002
T-1 2'	S	02-22-18 08:40	2 ft	577423-003
T-1 3'	S	02-22-18 08:45	3 ft	577423-004
T-1 4'	S	02-22-18 08:50	4 ft	577423-005
T-1 6' Refusal	S	02-22-18 09:00	6 ft	577423-006
AH-1 0'	S	02-22-18 09:20	0 ft	577423-007
AH-1 0.5 Refusal	S	02-22-18 09:30	0.5 ft	577423-008

CASE NARRATIVE

Client Name: COG Operating LLC
Project Name: Compadres Fee Btty

Project ID:
Work Order Number(s): *577423*

Report Date: *07-MAR-18*
Date Received: *02/26/2018*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3042447 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3042493 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Samples 577423-007 and -008 diluted due to hydrocarbons in diesel range.

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id: **T-1 0'**
Lab Sample Id: 577423-001
Matrix: Soil
Date Collected: 02.22.18 08.30
Date Received: 02.26.18 07.45

Analytical Method: Chloride by EPA 300
Prep Method: E300P
Tech: OJS
% Moisture:
Analyst: OJS
Date Prep: 02.27.18 18.15
Basis: Wet Weight
Seq Number: 3042461

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**20000**	250	mg/kg	02.27.18 22.59		50

Analytical Method: TPH By SW8015 Mod
Prep Method: TX1005P
Tech: ARM
% Moisture:
Analyst: ARM
Date Prep: 02.26.18 16.00
Basis: Wet Weight
Seq Number: 3042220

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.27.18 04.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	**103**	15.0	mg/kg	02.27.18 04.48		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.27.18 04.48	U	1
Total TPH	PHC635	**103**	15.0	mg/kg	02.27.18 04.48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	02.27.18 04.48	
o-Terphenyl	84-15-1	117	%	70-135	02.27.18 04.48	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**T-1 0'**	Matrix:	Soil	Date Received:02.26.18 07.45	
Lab Sample Id:	577423-001	Date Collected:	02.22.18 08.30		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.28.18 15.00	Basis:	Wet Weight
Seq Number:	3042447				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.28.18 23.50	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.28.18 23.50	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.28.18 23.50	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	02.28.18 23.50	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.28.18 23.50	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.28.18 23.50	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.28.18 23.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	82	%	70-130	02.28.18 23.50	
4-Bromofluorobenzene	460-00-4	103	%	70-130	02.28.18 23.50	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**T-1 1'**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-002	Date Collected:	02.22.18 08.35	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.27.18 18.15	Basis:	Wet Weight
Seq Number:	3042461				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4010**	24.7	mg/kg	02.27.18 23.28		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.26.18 16.00	Basis:	Wet Weight
Seq Number:	3042220				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.27.18 05.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.27.18 05.15	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.27.18 05.15	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.27.18 05.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	02.27.18 05.15	
o-Terphenyl	84-15-1	104	%	70-135	02.27.18 05.15	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**T-1 1'**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-002	Date Collected:	02.22.18 08.35	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.28.18 15.00	Basis:	Wet Weight
Seq Number:	3042447				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.01.18 00.09	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.01.18 00.09	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.01.18 00.09	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.01.18 00.09	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.01.18 00.09	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.01.18 00.09	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.01.18 00.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	03.01.18 00.09	
1,4-Difluorobenzene	540-36-3	84	%	70-130	03.01.18 00.09	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**T-1 2'**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-003	Date Collected:	02.22.18 08.40	Sample Depth:	2 ft

Analytical Method: Chloride by EPA 300 — Prep Method: E300P

Tech: OJS — % Moisture:

Analyst: OJS — Date Prep: 03.06.18 17.00 — Basis: Wet Weight

Seq Number: 3043018

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1620**	24.9	mg/kg	03.06.18 22.05		5

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P

Tech: ARM — % Moisture:

Analyst: ARM — Date Prep: 02.26.18 16.00 — Basis: Wet Weight

Seq Number: 3042220

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.27.18 05.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.27.18 05.40	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.27.18 05.40	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.27.18 05.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	02.27.18 05.40	
o-Terphenyl	84-15-1	108	%	70-135	02.27.18 05.40	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id: **T-1 2'**
Lab Sample Id: 577423-003
Matrix: Soil
Date Collected: 02.22.18 08.40
Date Received: 02.26.18 07.45
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B
Prep Method: SW5030B
Tech: ALJ
% Moisture:
Analyst: ALJ
Date Prep: 02.28.18 15.00
Basis: Wet Weight
Seq Number: 3042447

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.01.18 00.28	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.01.18 00.28	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.01.18 00.28	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	03.01.18 00.28	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	03.01.18 00.28	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	03.01.18 00.28	U	1
Total BTEX		<0.00202	0.00202	mg/kg	03.01.18 00.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	03.01.18 00.28	
1,4-Difluorobenzene	540-36-3	84	%	70-130	03.01.18 00.28	

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**T-1 3'**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-004	Date Collected:	02.22.18 08.45	Sample Depth:	3 ft

Analytical Method: Chloride by EPA 300 | Prep Method: E300P

Tech: OJS | % Moisture:

Analyst: OJS | Date Prep: 03.02.18 09.00 | Basis: Wet Weight

Seq Number: 3042826

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**247**	49.5	mg/kg	03.02.18 12.33		10

Analytical Method: TPH By SW8015 Mod | Prep Method: TX1005P

Tech: ARM | % Moisture:

Analyst: ARM | Date Prep: 02.26.18 16.00 | Basis: Wet Weight

Seq Number: 3042220

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.27.18 06.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.27.18 06.08	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	02.27.18 06.08	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.27.18 06.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	02.27.18 06.08	
o-Terphenyl	84-15-1	106	%	70-135	02.27.18 06.08	

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**T-1 3'**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-004	Date Collected:	02.22.18 08.45	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.28.18 15.00	Basis:	Wet Weight
Seq Number:	3042447				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.01.18 00.47	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.01.18 00.47	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.01.18 00.47	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.01.18 00.47	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.01.18 00.47	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.01.18 00.47	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.01.18 00.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	03.01.18 00.47	
1,4-Difluorobenzene	540-36-3	83	%	70-130	03.01.18 00.47	

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id: **T-1 4'**
Lab Sample Id: 577423-005
Matrix: Soil
Date Collected: 02.22.18 08.50
Date Received: 02.26.18 07.45
Sample Depth: 4 ft

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3042220
Date Prep: 02.26.18 16.00
Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.27.18 06.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.27.18 06.33	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	02.27.18 06.33	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.27.18 06.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	02.27.18 06.33	
o-Terphenyl	84-15-1	105	%	70-135	02.27.18 06.33	

Analytical Method: BTEX by EPA 8021B
Tech: ALJ
Analyst: ALJ
Seq Number: 3042493
Date Prep: 02.28.18 16.40
Prep Method: SW5030B
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.01.18 07.17	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.01.18 07.17	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.01.18 07.17	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.01.18 07.17	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.01.18 07.17	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.01.18 07.17	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.01.18 07.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	03.01.18 07.17	
1,4-Difluorobenzene	540-36-3	88	%	70-130	03.01.18 07.17	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**T-1 6' Refusal**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-006	Date Collected:	02.22.18 09.00	Sample Depth:	6 ft

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.26.18 16.00	Basis:	Wet Weight
Seq Number:	3042220				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.27.18 07.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.27.18 07.01	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.27.18 07.01	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.27.18 07.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	02.27.18 07.01	
o-Terphenyl	84-15-1	95	%	70-135	02.27.18 07.01	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.28.18 16.40	Basis:	Wet Weight
Seq Number:	3042493				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.01.18 05.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.01.18 05.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.01.18 05.31	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.01.18 05.31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.01.18 05.31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.01.18 05.31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.01.18 05.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	119	%	70-130	03.01.18 05.31	
1,4-Difluorobenzene	540-36-3	85	%	70-130	03.01.18 05.31	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**AH-1 0'**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-007	Date Collected:	02.22.18 09.20	Sample Depth:	0 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	02.27.18 18.15	Basis:	Wet Weight
Seq Number:	3042461				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3240**	24.9	mg/kg	02.27.18 23.35		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	02.26.18 16.00	Basis:	Wet Weight
Seq Number:	3042220				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**271**	75.0	mg/kg	02.27.18 07.26		5
Diesel Range Organics (DRO)	C10C28DRO	**9620**	75.0	mg/kg	02.27.18 07.26		5
Oil Range Hydrocarbons (ORO)	PHCG2835	**472**	75.0	mg/kg	02.27.18 07.26		5
Total TPH	PHC635	**10400**	75.0	mg/kg	02.27.18 07.26		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	02.27.18 07.26	
o-Terphenyl	84-15-1	129	%	70-135	02.27.18 07.26	

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**AH-1 0'**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-007	Date Collected:	02.22.18 09.20	Sample Depth:	0 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.28.18 16.40	Basis:	Wet Weight
Seq Number:	3042493				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	03.01.18 08.53	U	10
Toluene	108-88-3	<0.0200	0.0200	mg/kg	03.01.18 08.53	U	10
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	03.01.18 08.53	U	10
m,p-Xylenes	179601-23-1	<0.0401	0.0401	mg/kg	03.01.18 08.53	U	10
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	03.01.18 08.53	U	10
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	03.01.18 08.53	U	10
Total BTEX		<0.0200	0.0200	mg/kg	03.01.18 08.53	U	10

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	82	%	70-130	03.01.18 08.53	
4-Bromofluorobenzene	460-00-4	87	%	70-130	03.01.18 08.53	

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id: **AH-1 0.5 Refusal**
Lab Sample Id: 577423-008
Matrix: Soil
Date Collected: 02.22.18 09.30
Date Received: 02.26.18 07.45
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3042461
Date Prep: 02.27.18 18.15
Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1400**	24.6	mg/kg	02.27.18 23.58		5

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3042220
Date Prep: 02.26.18 16.00
Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**257**	74.9	mg/kg	02.27.18 07.51		5
Diesel Range Organics (DRO)	C10C28DRO	**10300**	74.9	mg/kg	02.27.18 07.51		5
Oil Range Hydrocarbons (ORO)	PHCG2835	**517**	74.9	mg/kg	02.27.18 07.51		5
Total TPH	PHC635	**11100**	74.9	mg/kg	02.27.18 07.51		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	02.27.18 07.51	
o-Terphenyl	84-15-1	123	%	70-135	02.27.18 07.51	

Certificate of Analytical Results 577423

COG Operating LLC, Artesia, NM

Compadres Fee Btty

Sample Id:	**AH-1 0.5 Refusal**	Matrix:	Soil	Date Received:	02.26.18 07.45
Lab Sample Id:	577423-008	Date Collected:	02.22.18 09.30	Sample Depth:	0.5 ft

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	02.28.18 16.40	Basis:	Wet Weight
Seq Number:	3042493				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0199	0.0199	mg/kg	03.01.18 09.12	U	10
Toluene	108-88-3	<0.0199	0.0199	mg/kg	03.01.18 09.12	U	10
Ethylbenzene	100-41-4	**0.111**	0.0199	mg/kg	03.01.18 09.12		10
m,p-Xylenes	179601-23-1	**0.302**	0.0398	mg/kg	03.01.18 09.12		10
o-Xylene	95-47-6	**0.350**	0.0199	mg/kg	03.01.18 09.12		10
Total Xylenes	1330-20-7	**0.652**	0.0199	mg/kg	03.01.18 09.12		10
Total BTEX		**0.763**	0.0199	mg/kg	03.01.18 09.12		10

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	81	%	70-130	03.01.18 09.12	
4-Bromofluorobenzene	460-00-4	125	%	70-130	03.01.18 09.12	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

\+ NELAC certification not offered for this compound.

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

COG Operating LLC
Compadres Fee Btty

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3042461 Matrix: Solid Date Prep: 02.27.18
MB Sample Id: 7639892-1-BLK LCS Sample Id: 7639892-1-BKS LCSD Sample Id: 7639892-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	246	98	247	99	90-110	0	20	mg/kg	02.27.18 21:09	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3042826 Matrix: Solid Date Prep: 03.02.18
MB Sample Id: 7640118-1-BLK LCS Sample Id: 7640118-1-BKS LCSD Sample Id: 7640118-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	265	106	266	106	90-110	0	20	mg/kg	03.02.18 10:26	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3043018 Matrix: Solid Date Prep: 03.06.18
MB Sample Id: 7640279-1-BLK LCS Sample Id: 7640279-1-BKS LCSD Sample Id: 7640279-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	239	96	242	97	90-110	1	20	mg/kg	03.06.18 21:28	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3042461 Matrix: Soil Date Prep: 02.27.18
Parent Sample Id: 577420-009 MS Sample Id: 577420-009 S MSD Sample Id: 577420-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.91	246	246	100	246	100	90-110	0	20	mg/kg	02.27.18 21:31	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3042461 Matrix: Soil Date Prep: 02.27.18
Parent Sample Id: 577422-013 MS Sample Id: 577422-013 S MSD Sample Id: 577422-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	84.8	246	332	100	333	101	90-110	0	20	mg/kg	02.27.18 23:13	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result
MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

COG Operating LLC

Compadres Fee Btty

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Seq Number: 3042826 Matrix: Soil Date Prep: 03.02.18
Parent Sample Id: 577798-001 MS Sample Id: 577798-001 S MSD Sample Id: 577798-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	56.6	250	321	106	323	107	90-110	1	20	mg/kg	03.02.18 10:42	

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Seq Number: 3042826 Matrix: Soil Date Prep: 03.02.18
Parent Sample Id: 577798-002 MS Sample Id: 577798-002 S MSD Sample Id: 577798-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	322	249	606	114	596	110	90-110	2	20	mg/kg	03.02.18 11:56	X

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Seq Number: 3043018 Matrix: Soil Date Prep: 03.06.18
Parent Sample Id: 578231-001 MS Sample Id: 578231-001 S MSD Sample Id: 578231-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	341	248	695	143	570	92	90-110	20	20	mg/kg	03.06.18 21:43	X

Analytical Method: Chloride by EPA 300 Prep Method: E300P
Seq Number: 3043018 Matrix: Soil Date Prep: 03.06.18
Parent Sample Id: 578232-003 MS Sample Id: 578232-003 S MSD Sample Id: 578232-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	259	104	285	114	90-110	10	20	mg/kg	03.06.18 22:59	X

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
Seq Number: 3042220 Matrix: Solid Date Prep: 02.26.18
MB Sample Id: 7639806-1-BLK LCS Sample Id: 7639806-1-BKS LCSD Sample Id: 7639806-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	924	92	980	98	70-135	6	35	mg/kg	02.26.18 21:55	
Diesel Range Organics (DRO)	<15.0	1000	959	96	1000	100	70-135	4	35	mg/kg	02.26.18 21:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		110		118		70-135	%	02.26.18 21:55
o-Terphenyl	123		111		118		70-135	%	02.26.18 21:55

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]

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

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

QC Summary 577423

COG Operating LLC
Compadres Fee Btty

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
Seq Number: 3042220 Matrix: Soil Date Prep: 02.26.18
Parent Sample Id: 577420-012 MS Sample Id: 577420-012 S MSD Sample Id: 577420-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	1040	104	910	91	70-135	13	35	mg/kg	02.26.18 23:12	
Diesel Range Organics (DRO)	<15.0	999	1160	116	1040	104	70-135	11	35	mg/kg	02.26.18 23:12	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		105		70-135	%	02.26.18 23:12
o-Terphenyl	116		102		70-135	%	02.26.18 23:12

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Seq Number: 3042447 Matrix: Solid Date Prep: 02.28.18
MB Sample Id: 7639959-1-BLK LCS Sample Id: 7639959-1-BKS LCSD Sample Id: 7639959-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0851	85	0.0847	85	70-130	0	35	mg/kg	02.28.18 17:10	
Toluene	<0.00200	0.100	0.0910	91	0.0897	90	70-130	1	35	mg/kg	02.28.18 17:10	
Ethylbenzene	<0.00200	0.100	0.101	101	0.100	100	70-130	1	35	mg/kg	02.28.18 17:10	
m,p-Xylenes	<0.00401	0.200	0.201	101	0.200	100	70-130	0	35	mg/kg	02.28.18 17:10	
o-Xylene	<0.00200	0.100	0.0989	99	0.0985	99	70-130	0	35	mg/kg	02.28.18 17:10	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	84		86		87		70-130	%	02.28.18 17:10
4-Bromofluorobenzene	103		112		107		70-130	%	02.28.18 17:10

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Seq Number: 3042493 Matrix: Solid Date Prep: 02.28.18
MB Sample Id: 7639995-1-BLK LCS Sample Id: 7639995-1-BKS LCSD Sample Id: 7639995-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0835	84	0.0861	85	70-130	3	35	mg/kg	03.01.18 02:59	
Toluene	<0.00200	0.0998	0.0880	88	0.0908	90	70-130	3	35	mg/kg	03.01.18 02:59	
Ethylbenzene	<0.00200	0.0998	0.0998	100	0.103	102	70-130	3	35	mg/kg	03.01.18 02:59	
m,p-Xylenes	<0.00399	0.200	0.196	98	0.205	102	70-130	4	35	mg/kg	03.01.18 02:59	
o-Xylene	<0.00200	0.0998	0.0976	98	0.103	102	70-130	5	35	mg/kg	03.01.18 02:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		90		90		70-130	%	03.01.18 02:59
4-Bromofluorobenzene	103		115		115		70-130	%	03.01.18 02:59

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]

LCS = Laboratory Control Sample MS = Matrix Spike
A = Parent Result B = Spike Added
C = MS/LCS Result D = MSD/LCSD % Rec
E = MSD/LCSD Result

QC Summary 577423

COG Operating LLC
Compadres Fee Btty

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Seq Number: 3042447 Matrix: Soil Date Prep: 02.28.18
Parent Sample Id: 577422-005 MS Sample Id: 577422-005 S MSD Sample Id: 577422-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0800	80	0.0762	75	70-130	5	35	mg/kg	02.28.18 17:48	
Toluene	<0.00201	0.100	0.0841	84	0.0810	80	70-130	4	35	mg/kg	02.28.18 17:48	
Ethylbenzene	<0.00201	0.100	0.0945	95	0.0907	90	70-130	4	35	mg/kg	02.28.18 17:48	
m,p-Xylenes	<0.00402	0.201	0.188	94	0.181	90	70-130	4	35	mg/kg	02.28.18 17:48	
o-Xylene	<0.00201	0.100	0.0935	94	0.0904	90	70-130	3	35	mg/kg	02.28.18 17:48	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		89		70-130	%	02.28.18 17:48
4-Bromofluorobenzene	112		108		70-130	%	02.28.18 17:48

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Seq Number: 3042493 Matrix: Soil Date Prep: 02.28.18
Parent Sample Id: 577410-001 MS Sample Id: 577410-001 S MSD Sample Id: 577410-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0516	52	0.0616	62	70-130	18	35	mg/kg	03.01.18 03:37	X
Toluene	<0.00199	0.0994	0.0554	56	0.0636	64	70-130	14	35	mg/kg	03.01.18 03:37	X
Ethylbenzene	<0.00199	0.0994	0.0598	60	0.0672	67	70-130	12	35	mg/kg	03.01.18 03:37	X
m,p-Xylenes	<0.00398	0.199	0.119	60	0.131	66	70-130	10	35	mg/kg	03.01.18 03:37	X
o-Xylene	<0.00199	0.0994	0.0627	63	0.0653	65	70-130	4	35	mg/kg	03.01.18 03:37	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	83		84		70-130	%	03.01.18 03:37
4-Bromofluorobenzene	117		107		70-130	%	03.01.18 03:37

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]

LCS = Laboratory Control Sample MS = Matrix Spike
A = Parent Result B = Spike Added
C = MS/LCS Result D = MSD/LCSD % Rec
E = MSD/LCSD Result

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Setting the Standard since 1990

CHAIN OF CUSTODY

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Stafford,Texas (281-240-4200)
Dallas Texas (214-902-0300)
San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
Phoenix, Arizona (480-355-0900)
www.xenco.com

Xenco Quote #
Xenco Job # 577423

Client / Reporting Information

Company Name / Branch: COG Operating, LLC
Company Address: 2407 Pecos Ave. Artesia NM 88210
Email: slhitchcock@concho.com Phone No: 575-703-6475
dneel2@concho.com; cgray@concho.com; rhaskell@concho.com
Project Contact: Sheldon Hitchcock
Samplers's Name: Sheldon Hitchcock

Project Information

Project Name/Number: Compadres Fed BtY
Project Location:
Invoice To: COG Operating, LLC
Attn: Robert McNeill
600 W. Illnois Ave.
Midland Tx, 79701
PO Number:

Analytical Information

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH EXTENDED (EPA8015M)	BTEX (EPA 8021B)	CHLORIDES (EPA 300)								Field Comments
1	T-1 0'	0	2/22/18	8:30	S	1								/	X	X	X								
2	T-1 1'	1		8:35	S	1								/	X	X	X								
3	T-1 2'	2		8:40	S	1								/	X	X	X								
4	T-1 3'	3		8:45	S	1								/	X	X	X								
5	T-1 4'	4		8:50	S	1								/	X	X	X								
6	T-1 6' refusal	6		9:00	S	1								/	X	X	X								
7	AH-1 0'	0		9:20	S	1								/	X	X	X								
8	AH-1 0.5 refusal	0.5		9:30	S	1								/	X	X	X								
9					S	1																			
10					S	1																			

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [x] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes: Stop Cl⁻ if ≤ 600 mg/kg

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Sheldon Hitchcock	2/23/18 1009	1 Sid Butler 2-23-18 1009	2 Sid Butler	2-23-18 245p	2
Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
5		5			

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

CHAIN OF CUSTODY

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Page 1 Of 1

Stafford,Texas (281-240-4200)
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Xenco Quote #

Xenco Job # 577423

Client / Reporting Information

Company Name / Branch: COG Operating, LLC
Company Address: 2407 Pecos Ave. Artesia NM 88210
Email: slhitchcock@concho.com Phone No: 575-703-6475
dneel2@concho.com; cgray@concho.com; rhaskell@concho.com
Project Contact: Sheldon Hitchcock
Samplers's Name: Sheldon Hitchcock

Project Information

Project Name/Number: Compadres Fee BHY
Project Location:
Invoice To: COG Operating, LLC
Attn: Robert McNeill
600 W. Illnois Ave.
Midland Tx, 79701
PO Number:

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
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OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Sample Depth	Collection Date	Collection Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH EXTENDED (EPA8015M)	BTEX (EPA 8021B)	CHLORIDES (EPA 300)	Field Comments
1	T-1 0'	0	2/22/18	8:30	S	1								/	X	X	X	
2	T-1 1'	1		8:35	S	1								/	X	X	X	
3	T-1 2'	2		8:40	S	1								/	X	X	X	
4	T-1 3'	3		8:45	S	1								/	X	X	X	
5	T-1 4'	4		8:50	S	1								/	X	X	X	
6	T-1 6' refusal	6		9:00	S	1								/	X	X	X	
7	AH-1 0'	0		9:20	S	1								/	X	X	X	
8	AH-1 0.5 refusal	0.5		9:30	S	1								/	X	X	X	
9					S	1												
10					S	1												

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [x] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes: Stop Cl⁻ if ≤ 600 mg/kg

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Sheldon Hitchcock	2/23/18 1009	1 Sid Butler 2-23-18 1009	2 Sid Butler	2-23-18 245p	2 [signature] 2-26-18 745
Relinquished by: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	On Ice	Cooler Temp. / Thermo. Corr. Factor

Temp: 1.6 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 1.4

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

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 02/26/2018 07:45:11 AM

Work Order #: 577423

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

Temperature Measuring device used : R8

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	1.4	
#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?	**Yes**	
#6*Custody Seals Signed and dated?	**Yes**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**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: Katie Lowe
Katie Lowe
Date: 02/26/2018

Checklist reviewed by: Jessica Kramer
Jessica Kramer
Date: 02/26/2018