

March 5, 2018

Olivia Yu
Oil Conservation Division, District 1
1625 N. French Dr.
Hobbs, NM 88240

Mark Naranjo
New Mexico State Land Office
1001 S. Atkinson
Roswell, NM 88230

APPROVED

By Olivia Yu at 2:55 pm, Mar 30, 2018

NMOCD agrees delineation is completed for 1RP-4921. See email correspondence regarding proposed remediation plan.

Re: Work Plan
Bobwhite 12 State Com #004H
API #: 30-025-41092
RP#: 1RP-4921
Unit Letter O Section 1, Township 21S, Range 33E
Lea County, NM

Ms. Yu/Mr. Naranjo,

COG Operating, LLC (COG) is pleased to submit for your consideration the following remediation work plan for the Bobwhite 12 State Com #004H. This plan is in response to an oil and produced water release that occurred on January 4, 2018. Subsequent to the release a C-141 initial report was approved by the New Mexico Oil Conservation Division (NMOCD) on January 8, 2018.

BACKGROUND

The Bobwhite 12 State Com #004H release is located in Unit Letter O, Section 1, Township 21 South and Range 33 East in Lea County, New Mexico. More specifically the latitude and longitude for this release are 32.501671 North and -103.525217 West.

On January 4, 2018, a poly flowline approximately 0.4 miles east of the Bobwhite 12 State Com #004H location failed resulting in the release of approximately twenty (20) barrels (bbls) of oil and forty (40) bbls of produced water into the pasture adjacent to the lease road. A vacuum truck was able to recover approximately five (5) bbls of oil and ten (10) bbls produced water.

On January 30, 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 2005 Chevron Texaco Groundwater Trend Map groundwater in the project vicinity is approximately one-hundred (100) 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 zero (0) based on the following:

Depth to groundwater >100-feet
 Distance to surface water body >1000-feet
 Wellhead Protection Area >1000-feet

Analytical Results

1/30/2018

Sample ID	Depth (feet)	Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)	Total TPH (mg/kg)
T-1	0	0.005	0.029	14.8	<15.0
T-1	1	0.009	0.059	9.71	17.3
T-1	2	<0.002	0.025	<4.91	<14.9
T-1	3	<0.002	0.015	16.6	<14.9
T-1	4	<0.002	0.011	23.2	<15.0
T-2	0	29.3	860	317	24000
T-2	1	0.012	1.47	70.8	1150
T-2	2	0.002	0.113	57.5	443
T-2	3	<0.002	0.165	36.5	109
T-3	0	0.008	0.063	9.40	18.9
T-3	1	0.007	0.068	30.5	23.7
T-3	2	0.002	0.011	9.10	28.7
T-3	3	<0.002	0.003	25.5	<15.0
T-4	0	4.51	270	8120	8620
T-4	1	41.1	826	10300	13400
T-4	2	0.006	1.31	10300	224
T-4	3	<0.002	0.111	1340	120
T-4	4	0.004	1.59	743	625
T-4	6	<0.002	<0.002	32.6	31.5
NORTH	1	<0.002	<0.002	28.9	<15.0
SOUTH	1	<0.002	<0.002	7.11	<15.0
EAST	1	<0.002	<0.002	15.5	<15.0
WEST	1	<0.002	<0.002	21.5	<15.0

(--) Analysis not requested

PROPOSED REMEDIAL ACTIONS

- The impacted area in the vicinity of T-2 will be excavated to a depth of one (1) foot BGS.
- The impacted area in the vicinity of T-4 will be excavated to a depth of five (5) feet BGS. A confirmation soil sample will be taken at the bottom of the excavation and analyzed for total chlorides.
- Confirmation soil samples will be taken from the sidewall of the excavation in approximately fifty (50) foot intervals. The vertical extent of the proposed excavation is fully vertically delineated thus confirmation soil samples will not be taken with the exception of the proposed T-4 five (5) feet.
- All of the excavated material will be hauled to an NMOCD approved solid waste disposal facility.
- Upon receipt of analytical results confirming that the soil at T-4 five (5) feet is below NMOCD (Recommended Remedial Action Levels) RRAL's excavation will be backfilled with clean "like" material purchased from the local grazing lessee.

REVEGETATION PLAN

Upon completion of the remediation the site will be backfilled with top soil and contoured to match the surrounding terrain. The surface will be left in a rough condition to approximate natural surface deviations. The site will be mechanically seeded with the grazing lessee's preferred seed mixture which contains Blue Grama, Side Oats Grama, WW Spar Bluestem, Blackwell Switchgrass, Kleingrass, Sand Dropseed, Buffalograss, Little Bluestem and Tall Fescue. The site will be periodically monitored for revegetation and the development of noxious weeds. Should the site fail to re-vegetate or noxious weeds develop COG will contact NMSLO for a mitigation strategy.

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

Sincerely,

A handwritten signature in black ink that reads "Sheldon Hitchcock". The script is cursive and fluid.

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

March 5, 2018

Bobwhite 12 St. Com #004H

Bobwhite 12 St Com #04H Flowline

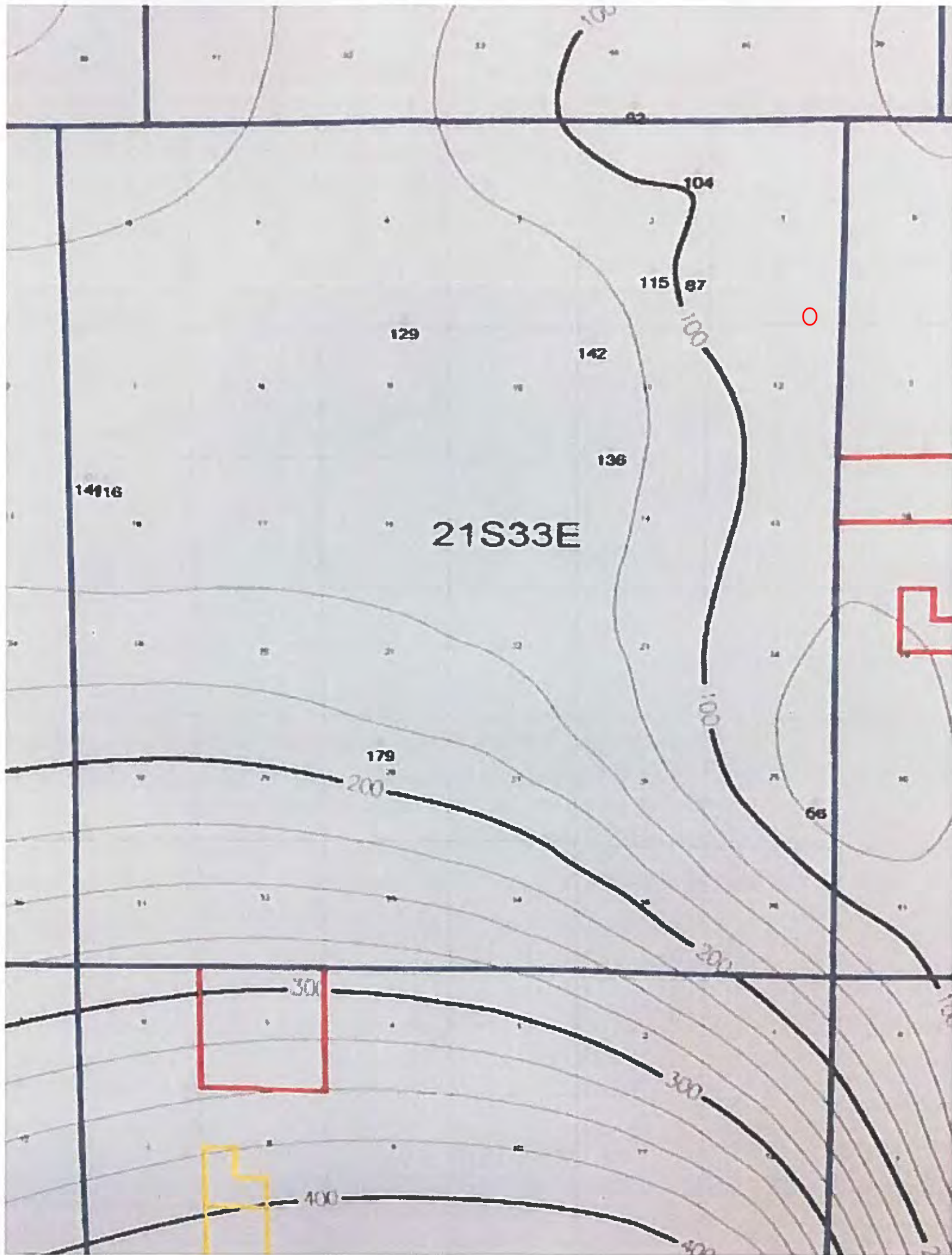
32.501688 -103.525192

Legend

-  Bobwhite 12 State Com #004H Flowline
-  Impacted Area



APPENDIX II



APPENDIX III

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 Operating, LLC (OGRID# 229137)	Contact: Robert McNeill	
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No.: 432-683-7443	
Facility Name: Bobwhite 12 State Com #004H	Facility Type: Well	
Surface Owner: State	Mineral Owner: State	API No.: 30-025-41092

LOCATION OF RELEASE

Unit Letter O	Section 1	Township 21S	Range 33E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
------------------	--------------	------------------------	--------------	---------------	------------------	---------------	----------------	---------------

Latitude: 32.501671 Longitude: -103.525217 NAD83

NATURE OF RELEASE

Type of Release: Oil and Produced Water	Volume of Release: 20bbls Oil & 40bbls PW	Volume Recovered: 5bbls Oil & 10bbls PW
Source of Release: Flowline	Date and Hour of Occurrence: 1/4/2018	Date and Hour of Discovery: 1/4/2018 9:00am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Olivia Yu-NMOCD Amber Groves-NMSLO	
By Whom? Rebecca Haskell	Date and Hour: 1/4/2018 1:13pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		

RECEIVED
By Olivia Yu at 3:43 pm, Jan 08, 2018

Describe Cause of Problem and Remedial Action Taken.*

A nipple near a hammer union failed resulting in the release of approximately 20bbls of oil and 40bbls of produced water. The nipple was replaced.

Describe Area Affected and Cleanup Action Taken.*

The release impacted the pasture adjacent to a lease road. A vacuum truck was dispatched to recover 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: <i>Sheldon Hitchcock</i>		OIL CONSERVATION DIVISION	
Printed Name: Sheldon L. Hitchcock		Approved by Environmental Specialist: <i>oy</i>	
Title: HSE Coordinator	Approval Date: 1/8/2018	Expiration Date:	
E-mail Address: slhitchcock@concho.com	Conditions of Approval: see attached directive	Attached ☒	
Date: 1/8/2018	Phone: 575-746-2010		

* Attach Additional Sheets If Necessary

1RP-4921

nOY1800857073

pOY1800857365

APPENDIX IV



Certificate of Analysis Summary 575479

COG Operating LLC, Artesia, NM

Project Name: BOBWHITE 12 STATE CAM #4H



Project Id:

Contact: Dakota Neel

Project Location:

Date Received in Lab: Tue Feb-06-18 09:45 am

Report Date: 13-FEB-18

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	575479-001	575479-002	575479-003	575479-004		
	Field Id:	North	South	East	West		
	Depth:	1- ft	1- ft	1- ft	1- ft		
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	Jan-30-18 11:00	Jan-30-18 11:00	Jan-30-18 11:00	Jan-30-18 11:00		
BTEx by EPA 8021B SUB: T104704400-18-14	Extracted:	Feb-09-18 15:45	Feb-09-18 15:45	Feb-09-18 15:45	Feb-09-18 15:45		
	Analyzed:	Feb-13-18 13:59	Feb-13-18 13:59	Feb-13-18 13:59	Feb-13-18 13:59		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198		
Toluene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198		
Ethylbenzene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198		
m,p-Xylenes		<0.00402 0.00402	<0.00399 0.00399	<0.00398 0.00398	<0.00396 0.00396		
o-Xylene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198		
Total Xylenes		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198		
Total BTEx		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198		
Chloride by EPA 300 SUB: T104704400-18-14	Extracted:	Feb-12-18 17:30	Feb-12-18 17:30	Feb-12-18 17:30	Feb-12-18 17:30		
	Analyzed:	Feb-13-18 02:22	Feb-13-18 02:43	Feb-13-18 02:50	Feb-13-18 02:57		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		28.9 4.99	7.11 4.94	15.5 4.92	21.5 4.95		
TPH By SW8015 Mod SUB: T104704400-18-14	Extracted:	Feb-09-18 16:00	Feb-09-18 16:00	Feb-09-18 16:00	Feb-09-18 16:00		
	Analyzed:	Feb-10-18 19:48	Feb-10-18 20:08	Feb-10-18 20:30	Feb-10-18 20:50		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<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

Kelsey Brooks
Project Manager

Analytical Report 575479

for COG Operating LLC

Project Manager: Dakota Neel
BOBWHITE 12 STATE CAM #4H

13-FEB-18

Collected By: Client



4147 Greenbriar Dr.
Stafford, TX 77477

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-15), 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 (T104704400-17-13)
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)



13-FEB-18

Project Manager: **Dakota Neel**

COG Operating LLC

2407 Pecos Avenue

Artesia, NM 88210

Reference: XENCO Report No(s): **575479**

BOBWHITE 12 STATE CAM #4H

Project Address:

Dakota Neel:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 575479. 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. 575479 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,

Kelsey Brooks

Project 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 575479



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
North	S	01-30-18 11:00	1 ft	575479-001
South	S	01-30-18 11:00	1 ft	575479-002
East	S	01-30-18 11:00	1 ft	575479-003
West	S	01-30-18 11:00	1 ft	575479-004



CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: BOBWHITE 12 STATE CAM #4H

Project ID:

Work Order Number(s): 575479

Report Date: 13-FEB-18

Date Received: 02/06/2018

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3040879 BTEX by EPA 8021B

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



Certificate of Analytical Results 575479



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: **North**
Lab Sample Id: 575479-001

Matrix: Soil
Date Collected: 01.30.18 11.00

Date Received: 02.06.18 09.45
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: LRI

Analyst: LRI

Seq Number: 3040821

Date Prep: 02.12.18 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	28.9	4.99	mg/kg	02.13.18 02.22		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3040791

Date Prep: 02.09.18 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.10.18 19.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.10.18 19.48	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.10.18 19.48	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.10.18 19.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	02.10.18 19.48	
o-Terphenyl	84-15-1	106	%	70-135	02.10.18 19.48	



Certificate of Analytical Results 575479



COG Operating LLC, Artesia, NM BOBWHITE 12 STATE CAM #4H

Sample Id: **North**
Lab Sample Id: 575479-001

Matrix: Soil
Date Collected: 01.30.18 11.00

Date Received: 02.06.18 09.45
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3040879

Date Prep: 02.09.18 15.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.13.18 13.59	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.13.18 13.59	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.13.18 13.59	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.13.18 13.59	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.13.18 13.59	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.13.18 13.59	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.13.18 13.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	86	%	80-120	02.13.18 13.59		
4-Bromofluorobenzene	460-00-4	96	%	80-120	02.13.18 13.59		



Certificate of Analytical Results 575479



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: **South**
Lab Sample Id: 575479-002

Matrix: Soil
Date Collected: 01.30.18 11.00

Date Received: 02.06.18 09.45
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: LRI

Analyst: LRI

Seq Number: 3040821

Date Prep: 02.12.18 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.11	4.94	mg/kg	02.13.18 02.43		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3040791

Date Prep: 02.09.18 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.10.18 20.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.10.18 20.08	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.10.18 20.08	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.10.18 20.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	02.10.18 20.08	
o-Terphenyl	84-15-1	107	%	70-135	02.10.18 20.08	



Certificate of Analytical Results 575479



COG Operating LLC, Artesia, NM BOBWHITE 12 STATE CAM #4H

Sample Id: **South**
Lab Sample Id: 575479-002

Matrix: Soil
Date Collected: 01.30.18 11.00

Date Received: 02.06.18 09.45
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3040879

Date Prep: 02.09.18 15.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.13.18 13.59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.13.18 13.59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.13.18 13.59	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.13.18 13.59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.13.18 13.59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.13.18 13.59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.13.18 13.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	80-120	02.13.18 13.59		
1,4-Difluorobenzene	540-36-3	90	%	80-120	02.13.18 13.59		



Certificate of Analytical Results 575479



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: **East**
Lab Sample Id: 575479-003

Matrix: Soil
Date Collected: 01.30.18 11.00

Date Received: 02.06.18 09.45
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: LRI

Analyst: LRI

Seq Number: 3040821

Date Prep: 02.12.18 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15.5	4.92	mg/kg	02.13.18 02.50		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3040791

Date Prep: 02.09.18 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.10.18 20.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.10.18 20.30	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.10.18 20.30	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.10.18 20.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	02.10.18 20.30	
o-Terphenyl	84-15-1	95	%	70-135	02.10.18 20.30	



Certificate of Analytical Results 575479



COG Operating LLC, Artesia, NM BOBWHITE 12 STATE CAM #4H

Sample Id: **East**
Lab Sample Id: 575479-003

Matrix: **Soil**
Date Collected: 01.30.18 11.00

Date Received: 02.06.18 09.45
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: **ALJ**

Analyst: **ALJ**

Seq Number: 3040879

Date Prep: 02.09.18 15.45

Prep Method: SW5030B

% Moisture:

Basis: **Wet Weight**

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.13.18 13.59	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.13.18 13.59	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.13.18 13.59	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.13.18 13.59	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.13.18 13.59	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.13.18 13.59	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.13.18 13.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	80-120	02.13.18 13.59		
1,4-Difluorobenzene	540-36-3	90	%	80-120	02.13.18 13.59		



Certificate of Analytical Results 575479



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: **West**
Lab Sample Id: 575479-004

Matrix: Soil
Date Collected: 01.30.18 11.00

Date Received: 02.06.18 09.45
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: LRI

Analyst: LRI

Seq Number: 3040821

Date Prep: 02.12.18 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.5	4.95	mg/kg	02.13.18 02.57		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3040791

Date Prep: 02.09.18 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.10.18 20.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.10.18 20.50	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.10.18 20.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.10.18 20.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	02.10.18 20.50	
o-Terphenyl	84-15-1	96	%	70-135	02.10.18 20.50	



Certificate of Analytical Results 575479



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: **West**
Lab Sample Id: 575479-004

Matrix: Soil
Date Collected: 01.30.18 11.00

Date Received: 02.06.18 09.45
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3040879

Date Prep: 02.09.18 15.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.13.18 13.59	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.13.18 13.59	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.13.18 13.59	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	02.13.18 13.59	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.13.18 13.59	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.13.18 13.59	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.13.18 13.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	83	%	80-120	02.13.18 13.59		
4-Bromofluorobenzene	460-00-4	99	%	80-120	02.13.18 13.59		

- 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

+ NELAC certification not offered for this compound.

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

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 - San Antonio - Atlanta - Midland/Odessa - Tampa/Lakeland - Phoenix - Latin America

4147 Greenbriar Dr, Stafford, TX 77477
 9701 Harry Hines Blvd , Dallas, TX 75220
 5332 Blackberry Drive, San Antonio TX 78238
 1211 W Florida Ave, Midland, TX 79701
 2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	



QC Summary 575479

COG Operating LLC BOBWHITE 12 STATE CAM #4H

Analytical Method: Chloride by EPA 300

Seq Number: 3040821

MB Sample Id: 7638980-1-BLK

Matrix: Solid

LCS Sample Id: 7638980-1-BKS

Prep Method: E300P

Date Prep: 02.12.18

LCSD Sample Id: 7638980-1-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	271	108	262	105	90-110	3	20	mg/kg	02.13.18 02:08	

Analytical Method: Chloride by EPA 300

Seq Number: 3040821

Parent Sample Id: 575479-001

Matrix: Soil

MS Sample Id: 575479-001 S

Prep Method: E300P

Date Prep: 02.12.18

MSD Sample Id: 575479-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	28.9	250	300	108	302	109	90-110	1	20	mg/kg	02.13.18 02:29	

Analytical Method: Chloride by EPA 300

Seq Number: 3040821

Parent Sample Id: 575484-007

Matrix: Soil

MS Sample Id: 575484-007 S

Prep Method: E300P

Date Prep: 02.12.18

MSD Sample Id: 575484-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	70.8	247	335	107	325	103	90-110	3	20	mg/kg	02.13.18 04:07	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3040791

MB Sample Id: 7638961-1-BLK

Matrix: Solid

LCS Sample Id: 7638961-1-BKS

Prep Method: TX1005P

Date Prep: 02.09.18

LCSD Sample Id: 7638961-1-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	844	84	894	89	70-135	6	35	mg/kg	02.10.18 11:55	
Diesel Range Organics (DRO)	<15.0	1000	959	96	1020	102	70-135	6	35	mg/kg	02.10.18 11:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		93		100		70-135	%	02.10.18 11:55
o-Terphenyl	105		102		106		70-135	%	02.10.18 11:55

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * | (C - E) / (C + E) |$
 $[D] = 100 * (C) / [B]$

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 575479

COG Operating LLC BOBWHITE 12 STATE CAM #4H

Analytical Method: TPH By SW8015 Mod

Seq Number: 3040791

Parent Sample Id: 575485-001

Matrix: Soil

MS Sample Id: 575485-001 S

Prep Method: TX1005P

Date Prep: 02.09.18

MSD Sample Id: 575485-001 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	998	887	89	838	84	70-135	6	35	mg/kg	02.10.18 12:57	
Diesel Range Organics (DRO)	<15.0	998	987	99	972	97	70-135	2	35	mg/kg	02.10.18 12:57	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		94		70-135	%	02.10.18 12:57
o-Terphenyl	100		99		70-135	%	02.10.18 12:57

Analytical Method: BTEX by EPA 8021B

Seq Number: 3040879

MB Sample Id: 7638895-1-BLK

Matrix: Solid

LCS Sample Id: 7638895-1-BKS

Prep Method: SW5030B

Date Prep: 02.09.18

LCSD Sample Id: 7638895-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0871	87	0.0850	85	70-130	2	35	mg/kg	02.13.18 13:59	
Toluene	<0.00199	0.0996	0.0863	87	0.0851	85	70-130	1	35	mg/kg	02.13.18 13:59	
Ethylbenzene	<0.00199	0.0996	0.0921	92	0.0911	91	71-129	1	35	mg/kg	02.13.18 13:59	
m,p-Xylenes	<0.00398	0.199	0.179	90	0.176	88	70-135	2	35	mg/kg	02.13.18 13:59	
o-Xylene	<0.00199	0.0996	0.0915	92	0.0904	90	71-133	1	35	mg/kg	02.13.18 13:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	88		80		83		80-120	%	02.13.18 13:59
4-Bromofluorobenzene	104		108		106		80-120	%	02.13.18 13:59

Analytical Method: BTEX by EPA 8021B

Seq Number: 3040879

Parent Sample Id: 575479-004

Matrix: Soil

MS Sample Id: 575479-004 S

Prep Method: SW5030B

Date Prep: 02.09.18

MSD Sample Id: 575479-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0851	85	0.0731	73	70-130	15	35	mg/kg	02.13.18 13:59	
Toluene	<0.00200	0.0998	0.0788	79	0.0730	73	70-130	8	35	mg/kg	02.13.18 13:59	
Ethylbenzene	<0.00200	0.0998	0.0841	84	0.0770	77	71-129	9	35	mg/kg	02.13.18 13:59	
m,p-Xylenes	<0.00399	0.200	0.163	82	0.149	75	70-135	9	35	mg/kg	02.13.18 13:59	
o-Xylene	<0.00200	0.0998	0.0831	83	0.0761	76	71-133	9	35	mg/kg	02.13.18 13:59	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		88		80-120	%	02.13.18 13:59
4-Bromofluorobenzene	99		97		80-120	%	02.13.18 13:59

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

$[D] = 100 * (C-A) / B$
 $RPD = 200 * | (C-E) / (C+E) |$
 $[D] = 100 * (C) / [B]$

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



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

CHAIN OF CUSTODY

Page 1 of 1

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

Phoenix, Arizona (480-355-0900)

www.xenco.com

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes			
Company Name / Branch: COG Operating LLC				Project Name/Number: 12 STATE COR #44											
Company Address: 2407 Pecos Ave. Artesia NM 88210				Project Location:											
Email: dneez2@concho.com shilchuck@concho.com tgray@concho.com; riaske@concho.com				Invoice To: COG Operating LLC Attn: Robert McNeill 600 W. Illinois Ave. Midland TX, 79701											
Project Contact: Dakota Neel				PO Number:											
Sampler's Name: AL															
No.	Field ID / Point of Collection	Sample Depth	Collection Date	Time	Matrix	# of bottles	Number of preserved bottles				Field Comments				
							HCl	Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	
1	NORTH	1'	1/30/18	11:00	S	5									CHLORIDES
2	SOUTH	1'													BTEX
3	EAST	1'													
4	WEST	1'													
5															
6															
7															
8															
9															
10															

Data Deliverable Information				Notes:			
Turnaround Time (Business days)							
☐ Same Day TAT				☐ Level II Std QC			
☐ Next Day EMERGENCY				☐ Level III Std QC+ Forms			
☐ 2 Day EMERGENCY				☐ Level 3 (CLP Forms)			
☐ 3 Day EMERGENCY				☐ TRRP Checklist			
TAT Starts Day received by Lab, if received by 5:00 pm				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:	Date Time:
1		1	
Relinquished by:	Date Time:	Relinquished By:	Date Time:
2		2	
3	2-5-18 1:30 PM	3	2-5-18 3:00 PM
Relinquished by:	Date Time:	Relinquished By:	Date Time:
4	2-5-18 9:45 AM	4	2-5-18 3:00 PM
5		5	

Received By:			
On Ice	Cooler Temp	IR ID:	Temp:
	4.8°C	IR ID: HOU-068	Temp: 4.2

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

C/F: 0.3
Corrected: 45

ORIGIN ID: H0BA (575) 392
**
MAIL SERVICES ETC, LLC
4008 N GRIMES

HOBBS, NM 88240
UNITED STATES US

DATE: 05FEB18
: 53.00 LB MAN
0909328/CAFE3108
: 26x15x14 IN

L RECIPIENT

TO XENCO LABORATORIES
XENCO LABORATORIES
4143 GREENBRIAR DR

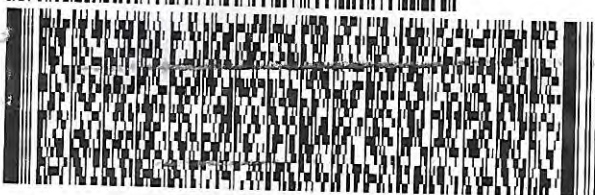
STAFFORD TX 77477

(281) 240-4200

REF:

INV:
PO:

DEPT:



FedEx
Express



1 of 2

TRK#
0201

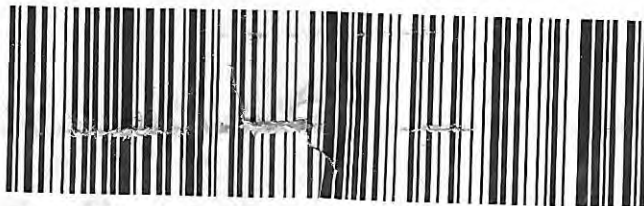
6606 3916 1069

MASTER

TUE - 06 FEB 10:30A
PRIORITY OVERNIGHT

AB SGRA

77477
TX-US IAH



0348-434 RRD 09/16



Inter-Office Shipment

Page 1 of 1

IOS Number **1055588**

Date/Time: 02/06/18 10:50

Created by: Maria Paula Guerra

Please send report to: Kelsey Brooks

Lab# From: **Houston**

Delivery Priority:

Address: 4147 Greenbriar Dr.

Lab# To: **Midland**

Air Bill No.:

Phone: Stafford, TX 77477

E-Mail: kelsey.brooks@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
575479-001	S	North	01/30/18 11:00	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575479-001	S	North	01/30/18 11:00	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 I	
575479-001	S	North	01/30/18 11:00	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575479-002	S	South	01/30/18 11:00	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 I	
575479-002	S	South	01/30/18 11:00	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575479-002	S	South	01/30/18 11:00	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575479-003	S	East	01/30/18 11:00	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 I	
575479-003	S	East	01/30/18 11:00	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575479-003	S	East	01/30/18 11:00	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575479-004	S	West	01/30/18 11:00	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 I	
575479-004	S	West	01/30/18 11:00	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575479-004	S	West	01/30/18 11:00	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	

Inter Office Shipment or Sample Comments:

Relinquished By

Maria Paula Guerra

Received By:

Connie Hernandez

Date Relinquished: 02/06/2018

Date Received: 02/08/2018 11:30

Cooler Temperature: 2.4



XENCO Laboratories



Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 1055588

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Maria Paula Guerra

Date Sent: 02/06/2018 10:50 AM

Received By: Connie Hernandez

Date Received: 02/08/2018 11:30 AM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	2.4
#2 *Shipping container in good condition?	Yes
#3 *Samples received with appropriate temperature?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 *Custody Seals Signed and dated for Containers/coolers	N/A
#6 *IOS present?	Yes
#7 Any missing/extra samples?	No
#8 IOS agrees with sample label(s)/matrix?	Yes
#9 Sample matrix/ properties agree with IOS?	Yes
#10 Samples in proper container/ bottle?	Yes
#11 Samples properly preserved?	Yes
#12 Sample container(s) intact?	Yes
#13 Sufficient sample amount for indicated test(s)?	Yes
#14 All samples received within hold time?	Yes

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Connie Hernandez

Date: 02/08/2018



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: COG Operating LLC

Date/ Time Received: 02/06/2018 09:45:00 AM

Work Order #: 575479

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR:HOU068

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#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)?	Yes Xenco Midland
#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: 
Maria Paula Guerra

Date: 02/06/2018

Checklist reviewed by: 
Kelsey Brooks

Date: 02/06/2018



Certificate of Analysis Summary 575484

COG Operating LLC, Artesia, NM

Project Name: BOBWHITE 12 STATE CAM #4H



Project Id:

Contact: Dakota Neel

Project Location:

Date Received in Lab: Tue Feb-06-18 09:45 am

Report Date: 13-FEB-18

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	575484-001	575484-002	575484-003	575484-004	575484-005	575484-006
	Field Id:	T1	T1	T1	T1	T1	T2
	Depth:	0- ft	1- ft	2- ft	3- ft	4- ft	0- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Jan-30-18 10:30	Jan-30-18 10:30	Jan-30-18 10:30	Jan-30-18 10:30	Jan-30-18 10:30	Jan-30-18 10:30
BTEx by EPA 8021B SUB: T104704400-18-14	Extracted:	Feb-09-18 15:45	Feb-09-18 15:45	Feb-09-18 15:45	Feb-09-18 15:45	Feb-09-18 15:45	Feb-12-18 09:00
	Analyzed:	Feb-13-18 13:59	Feb-13-18 13:59	Feb-13-18 13:59	Feb-13-18 13:59	Feb-13-18 13:59	Feb-12-18 12:10
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		0.00473 0.00200	0.00914 0.00199	<0.00200 0.00200	0.00308 0.00201	<0.00200 0.00200	29.3 9.94
Toluene		0.0140 0.00200	0.0305 0.00199	0.0116 0.00200	0.00686 0.00201	0.00644 0.00200	303 9.94
Ethylbenzene		0.00229 0.00200	0.00425 0.00199	0.00263 0.00200	<0.00201 0.00201	<0.00200 0.00200	92.3 9.94
m,p-Xylenes		0.00638 0.00401	0.0112 0.00398	0.00803 0.00399	0.00548 0.00402	0.00486 0.00401	300 19.9
o-Xylene		0.00201 0.00200	0.00382 0.00199	0.00268 0.00200	<0.00201 0.00201	<0.00200 0.00200	135 9.94
Total Xylenes		0.00839 0.00200	0.0150 0.00199	0.0107 0.00200	0.00548 0.00201	0.00486 0.00200	435 9.94
Total BTEX		0.0294 0.00200	0.0589 0.00199	0.0249 0.00200	0.0154 0.00201	0.0113 0.00200	860 9.94
Chloride by EPA 300 SUB: T104704400-18-14	Extracted:	Feb-12-18 17:30	Feb-12-18 17:30	Feb-12-18 17:30	Feb-12-18 17:30	Feb-12-18 17:30	Feb-12-18 17:30
	Analyzed:	Feb-13-18 03:04	Feb-13-18 03:25	Feb-13-18 03:32	Feb-13-18 03:39	Feb-13-18 03:46	Feb-13-18 03:53
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		14.8 4.94	9.71 4.99	<4.91 4.91	16.6 4.92	23.2 5.01	317 4.92
TPH By SW8015 Mod SUB: T104704400-18-14	Extracted:	Feb-09-18 07:00	Feb-09-18 07:00	Feb-09-18 07:00	Feb-09-18 07:00	Feb-09-18 07:00	Feb-09-18 07:00
	Analyzed:	Feb-09-18 10:02	Feb-09-18 11:03	Feb-09-18 11:23	Feb-09-18 11:44	Feb-09-18 12:04	Feb-09-18 12:24
	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	<14.9 14.9	<14.9 14.9	<15.0 15.0	10700 74.9
Diesel Range Organics (DRO)		<15.0 15.0	17.3 15.0	<14.9 14.9	<14.9 14.9	<15.0 15.0	12400 74.9
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0	<14.9 14.9	<14.9 14.9	<15.0 15.0	931 74.9
Total TPH		<15.0 15.0	17.3 15.0	<14.9 14.9	<14.9 14.9	<15.0 15.0	24000 74.9

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

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 575484

COG Operating LLC, Artesia, NM

Project Name: BOBWHITE 12 STATE CAM #4H



Project Id:

Contact: Dakota Neel

Project Location:

Date Received in Lab: Tue Feb-06-18 09:45 am

Report Date: 13-FEB-18

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	575484-007	575484-008	575484-009	575484-010	575484-011	575484-012
	Field Id:	T2	T2	T2	T3	T3	T3
	Depth:	1- ft	2- ft	3- ft	0- ft	1- ft	2- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Jan-30-18 10:30	Jan-30-18 10:30	Jan-30-18 10:30	Jan-30-18 10:45	Jan-30-18 10:45	Jan-30-18 10:45
BTEx by EPA 8021B SUB: T104704400-18-14	Extracted:	Feb-10-18 08:45	Feb-09-18 15:45	Feb-09-18 15:45	Feb-09-18 15:45	Feb-09-18 15:45	Feb-09-18 15:45
	Analyzed:	Feb-13-18 14:46	Feb-13-18 13:59	Feb-13-18 13:59	Feb-13-18 13:59	Feb-13-18 13:59	Feb-13-18 13:59
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		0.0121 0.00200	0.00206 0.00200	<0.00202 0.00202	0.00773 0.00201	0.00691 0.00199	<0.00200 0.00200
Toluene		0.228 0.00200	0.0168 0.00200	0.00486 0.00202	0.0324 0.00201	0.0309 0.00199	0.00652 0.00200
Ethylbenzene		0.212 0.00200	0.0106 0.00200	<0.00202 0.00202	0.00484 0.00201	0.00617 0.00199	<0.00200 0.00200
m,p-Xylenes		0.695 0.00399	0.0503 0.00401	0.00745 0.00403	0.0135 0.00402	0.0178 0.00398	0.00414 0.00399
o-Xylene		0.319 0.00200	0.0328 0.00200	0.00420 0.00202	0.00464 0.00201	0.00621 0.00199	<0.00200 0.00200
Total Xylenes		1.01 0.00200	0.0831 0.00200	0.0117 0.00202	0.0181 0.00201	0.0240 0.00199	0.00414 0.00200
Total BTEx		1.47 0.00200	0.113 0.00200	0.0165 0.00202	0.0631 0.00201	0.0680 0.00199	0.0107 0.00200
Chloride by EPA 300 SUB: T104704400-18-14	Extracted:	Feb-12-18 17:30	Feb-12-18 17:30	Feb-12-18 15:00	Feb-12-18 15:00	Feb-12-18 15:00	Feb-12-18 15:00
	Analyzed:	Feb-13-18 04:00	Feb-13-18 04:21	Feb-12-18 17:22	Feb-12-18 17:29	Feb-12-18 17:36	Feb-12-18 17:43
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		70.8 5.03	57.5 5.02	36.5 4.99	9.40 4.97	30.5 4.96	9.10 4.99
TPH By SW8015 Mod SUB: T104704400-18-14	Extracted:	Feb-09-18 07:00	Feb-09-18 07:00	Feb-09-18 07:00	Feb-09-18 07:00	Feb-09-18 07:00	Feb-09-18 07:00
	Analyzed:	Feb-09-18 12:44	Feb-09-18 13:04	Feb-09-18 13:26	Feb-09-18 13:46	Feb-09-18 14:47	Feb-09-18 15:07
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		323 15.0	96.2 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		779 15.0	329 15.0	109 15.0	18.9 15.0	23.7 15.0	28.7 15.0
Oil Range Hydrocarbons (ORO)		46.6 15.0	17.9 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		1150 15.0	443 15.0	109 15.0	18.9 15.0	23.7 15.0	28.7 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

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 575484

COG Operating LLC, Artesia, NM

Project Name: BOBWHITE 12 STATE CAM #4H



Project Id:

Contact: Dakota Neel

Project Location:

Date Received in Lab: Tue Feb-06-18 09:45 am

Report Date: 13-FEB-18

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	575484-013	575484-014	575484-015	575484-016	575484-017	575484-018
	Field Id:	T3	T4	T4	T4	T4	T4
	Depth:	3- ft	0- ft	1- ft	2- ft	3- ft	4- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Jan-30-18 10:45	Jan-30-18 10:45	Jan-30-18 10:45	Jan-30-18 10:45	Jan-30-18 10:45	Jan-30-18 10:45
BTX by EPA 8021B SUB: T104704400-18-14	Extracted:	Feb-09-18 15:45	Feb-09-18 15:45	Feb-12-18 09:00	Feb-10-18 08:45	Feb-10-18 09:15	Feb-10-18 09:15
	Analyzed:	Feb-13-18 13:59	Feb-13-18 13:59	Feb-12-18 12:29	Feb-13-18 14:46	Feb-11-18 02:19	Feb-11-18 02:00
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	4.51 2.02	41.1 9.98	0.00620 0.00199	<0.00201 0.00201	0.00417 0.00199
Toluene		0.00315 0.00200	100 2.02	323 9.98	0.168 0.00199	0.00733 0.00201	0.212 0.00199
Ethylbenzene		<0.00200 0.00200	30.8 2.02	84.9 9.98	0.189 0.00199	0.0136 0.00201	0.262 0.00199
m,p-Xylenes		<0.00401 0.00401	95.1 4.03	264 20.0	0.645 0.00398	0.0583 0.00402	0.786 0.00398
o-Xylene		<0.00200 0.00200	39.5 2.02	113 9.98	0.303 0.00199	0.0314 0.00201	0.326 0.00199
Total Xylenes		<0.00200 0.00200	135 2.02	377 9.98	0.948 0.00199	0.0897 0.00201	1.11 0.00199
Total BTX		0.00315 0.00200	270 2.02	826 9.98	1.31 0.00199	0.111 0.00201	1.59 0.00199
Chloride by EPA 300 SUB: T104704400-18-14	Extracted:	Feb-12-18 15:00	Feb-12-18 15:00	Feb-12-18 17:00	Feb-12-18 17:00	Feb-12-18 17:00	Feb-12-18 17:00
	Analyzed:	Feb-12-18 17:50	Feb-12-18 17:57	Feb-13-18 00:03	Feb-13-18 00:31	Feb-13-18 00:10	Feb-12-18 22:32
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		25.5 4.99	8120 49.9	10300 99.4	10300 100	1340 4.99	743 4.98
TPH By SW8015 Mod SUB: T104704400-18-14	Extracted:	Feb-09-18 07:00	Feb-09-18 07:00	Feb-09-18 07:00	Feb-09-18 07:00	Feb-09-18 07:00	Feb-09-18 07:00
	Analyzed:	Feb-09-18 15:27	Feb-09-18 15:47	Feb-10-18 09:38	Feb-09-18 16:28	Feb-09-18 16:49	Feb-09-18 17:09
	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	3920 14.9	6910 74.9	79.8 15.0	21.4 15.0	178 15.0
Diesel Range Organics (DRO)		<15.0 15.0	4330 14.9	5980 74.9	144 15.0	99.0 15.0	416 15.0
Oil Range Hydrocarbons (ORO)		<15.0 15.0	374 14.9	485 74.9	<15.0 15.0	<15.0 15.0	30.6 15.0
Total TPH		<15.0 15.0	8620 14.9	13400 74.9	224 15.0	120 15.0	625 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

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 575484

COG Operating LLC, Artesia, NM

Project Name: BOBWHITE 12 STATE CAM #4H



Project Id:

Contact: Dakota Neel

Project Location:

Date Received in Lab: Tue Feb-06-18 09:45 am

Report Date: 13-FEB-18

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id: 575484-019 Field Id: T4 Depth: 6- ft Matrix: SOIL Sampled: Jan-30-18 10:45					
BTEX by EPA 8021B SUB: T104704400-18-14	Extracted: Feb-10-18 09:15 Analyzed: Feb-10-18 23:29 Units/RL: mg/kg RL					
Benzene	<0.00198 0.00198					
Toluene	<0.00198 0.00198					
Ethylbenzene	<0.00198 0.00198					
m,p-Xylenes	<0.00396 0.00396					
o-Xylene	<0.00198 0.00198					
Total Xylenes	<0.00198 0.00198					
Total BTEX	<0.00198 0.00198					
Chloride by EPA 300 SUB: T104704400-18-14	Extracted: Feb-12-18 17:00 Analyzed: Feb-13-18 00:59 Units/RL: mg/kg RL					
Chloride	32.6 4.99					
TPH By SW8015 Mod SUB: T104704400-18-14	Extracted: Feb-09-18 07:00 Analyzed: Feb-09-18 17:30 Units/RL: mg/kg RL					
Gasoline Range Hydrocarbons (GRO)	<15.0 15.0					
Diesel Range Organics (DRO)	31.5 15.0					
Oil Range Hydrocarbons (ORO)	<15.0 15.0					
Total TPH	31.5 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

Kelsey Brooks
Project Manager

Analytical Report 575484

for COG Operating LLC

Project Manager: Dakota Neel
BOBWHITE 12 STATE CAM #4H

13-FEB-18

Collected By: Client



4147 Greenbriar Dr.
Stafford, TX 77477

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-15), 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 (T104704400-17-13)
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)



13-FEB-18

Project Manager: **Dakota Neel**

COG Operating LLC

2407 Pecos Avenue

Artesia, NM 88210

Reference: XENCO Report No(s): **575484**

BOBWHITE 12 STATE CAM #4H

Project Address:

Dakota Neel:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 575484. 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. 575484 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,

Kelsey Brooks

Project 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 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T1	S	01-30-18 10:30	0 ft	575484-001
T1	S	01-30-18 10:30	1 ft	575484-002
T1	S	01-30-18 10:30	2 ft	575484-003
T1	S	01-30-18 10:30	3 ft	575484-004
T1	S	01-30-18 10:30	4 ft	575484-005
T2	S	01-30-18 10:30	0 ft	575484-006
T2	S	01-30-18 10:30	1 ft	575484-007
T2	S	01-30-18 10:30	2 ft	575484-008
T2	S	01-30-18 10:30	3 ft	575484-009
T3	S	01-30-18 10:45	0 ft	575484-010
T3	S	01-30-18 10:45	1 ft	575484-011
T3	S	01-30-18 10:45	2 ft	575484-012
T3	S	01-30-18 10:45	3 ft	575484-013
T4	S	01-30-18 10:45	0 ft	575484-014
T4	S	01-30-18 10:45	1 ft	575484-015
T4	S	01-30-18 10:45	2 ft	575484-016
T4	S	01-30-18 10:45	3 ft	575484-017
T4	S	01-30-18 10:45	4 ft	575484-018
T4	S	01-30-18 10:45	6 ft	575484-019



CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: BOBWHITE 12 STATE CAM #4H

Project ID:

Work Order Number(s): 575484

Report Date: 13-FEB-18

Date Received: 02/06/2018

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3040747 BTEX by EPA 8021B

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

Batch: LBA-3040835 Inorganic Anions by EPA 300

Lab Sample ID 575484-018 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 575484-015, -016, -017, -018, -019.

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

Batch: LBA-3040879 BTEX by EPA 8021B

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

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 575484-016, 575484-007.

Batch: LBA-3040899 BTEX by EPA 8021B

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



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T1 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-001 Date Collected: 01.30.18 10.30 Sample Depth: 0 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: LRI % Moisture:
Analyst: LRI Date Prep: 02.12.18 17.30 Basis: Wet Weight
Seq Number: 3040821 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.8	4.94	mg/kg	02.13.18 03.04		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 02.09.18 07.00 Basis: Wet Weight
Seq Number: 3040789 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.09.18 10.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.09.18 10.02	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.09.18 10.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.09.18 10.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	02.09.18 10.02	
o-Terphenyl	84-15-1	98	%	70-135	02.09.18 10.02	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T1
Lab Sample Id: 575484-001

Matrix: Soil
Date Collected: 01.30.18 10.30

Date Received: 02.06.18 09.45
Sample Depth: 0 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3040879

Date Prep: 02.09.18 15.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00473	0.00200	mg/kg	02.13.18 13.59		1
Toluene	108-88-3	0.0140	0.00200	mg/kg	02.13.18 13.59		1
Ethylbenzene	100-41-4	0.00229	0.00200	mg/kg	02.13.18 13.59		1
m,p-Xylenes	179601-23-1	0.00638	0.00401	mg/kg	02.13.18 13.59		1
o-Xylene	95-47-6	0.00201	0.00200	mg/kg	02.13.18 13.59		1
Total Xylenes	1330-20-7	0.00839	0.00200	mg/kg	02.13.18 13.59		1
Total BTEX		0.0294	0.00200	mg/kg	02.13.18 13.59		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	83		%	80-120	02.13.18 13.59	
4-Bromofluorobenzene	460-00-4	98		%	80-120	02.13.18 13.59	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T1 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-002 Date Collected: 01.30.18 10.30 Sample Depth: 1 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: LRI % Moisture:
Analyst: LRI Date Prep: 02.12.18 17.30 Basis: Wet Weight
Seq Number: 3040821 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.71	4.99	mg/kg	02.13.18 03.25		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 02.09.18 07.00 Basis: Wet Weight
Seq Number: 3040789 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.09.18 11.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	17.3	15.0	mg/kg	02.09.18 11.03		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.09.18 11.03	U	1
Total TPH	PHC635	17.3	15.0	mg/kg	02.09.18 11.03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	02.09.18 11.03	
o-Terphenyl	84-15-1	97	%	70-135	02.09.18 11.03	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T1
Lab Sample Id: 575484-002

Matrix: Soil
Date Collected: 01.30.18 10.30

Date Received: 02.06.18 09.45
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3040879

Date Prep: 02.09.18 15.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00914	0.00199	mg/kg	02.13.18 13.59		1
Toluene	108-88-3	0.0305	0.00199	mg/kg	02.13.18 13.59		1
Ethylbenzene	100-41-4	0.00425	0.00199	mg/kg	02.13.18 13.59		1
m,p-Xylenes	179601-23-1	0.0112	0.00398	mg/kg	02.13.18 13.59		1
o-Xylene	95-47-6	0.00382	0.00199	mg/kg	02.13.18 13.59		1
Total Xylenes	1330-20-7	0.0150	0.00199	mg/kg	02.13.18 13.59		1
Total BTEX		0.0589	0.00199	mg/kg	02.13.18 13.59		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	82		%	80-120	02.13.18 13.59	
4-Bromofluorobenzene	460-00-4	109		%	80-120	02.13.18 13.59	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T1 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-003 Date Collected: 01.30.18 10.30 Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: LRI % Moisture:
Analyst: LRI Date Prep: 02.12.18 17.30 Basis: Wet Weight
Seq Number: 3040821 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.91	4.91	mg/kg	02.13.18 03.32	U	1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 02.09.18 07.00 Basis: Wet Weight
Seq Number: 3040789 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.09.18 11.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.09.18 11.23	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	02.09.18 11.23	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.09.18 11.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	02.09.18 11.23	
o-Terphenyl	84-15-1	98	%	70-135	02.09.18 11.23	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM BOBWHITE 12 STATE CAM #4H

Sample Id: T1 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-003 Date Collected: 01.30.18 10.30 Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 02.09.18 15.45 Basis: Wet Weight
Seq Number: 3040879 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.13.18 13.59	U	1
Toluene	108-88-3	0.0116	0.00200	mg/kg	02.13.18 13.59		1
Ethylbenzene	100-41-4	0.00263	0.00200	mg/kg	02.13.18 13.59		1
m,p-Xylenes	179601-23-1	0.00803	0.00399	mg/kg	02.13.18 13.59		1
o-Xylene	95-47-6	0.00268	0.00200	mg/kg	02.13.18 13.59		1
Total Xylenes	1330-20-7	0.0107	0.00200	mg/kg	02.13.18 13.59		1
Total BTEX		0.0249	0.00200	mg/kg	02.13.18 13.59		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	80-120	02.13.18 13.59		
1,4-Difluorobenzene	540-36-3	84	%	80-120	02.13.18 13.59		



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T1 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-004 Date Collected: 01.30.18 10.30 Sample Depth: 3 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: LRI % Moisture:
Analyst: LRI Date Prep: 02.12.18 17.30 Basis: Wet Weight
Seq Number: 3040821 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.6	4.92	mg/kg	02.13.18 03.39		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 02.09.18 07.00 Basis: Wet Weight
Seq Number: 3040789 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	02.09.18 11.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	02.09.18 11.44	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	02.09.18 11.44	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	02.09.18 11.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	93	%	70-135	02.09.18 11.44		
o-Terphenyl	84-15-1	92	%	70-135	02.09.18 11.44		



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T1
Lab Sample Id: 575484-004

Matrix: Soil
Date Collected: 01.30.18 10.30

Date Received: 02.06.18 09.45
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3040879

Date Prep: 02.09.18 15.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00308	0.00201	mg/kg	02.13.18 13.59		1
Toluene	108-88-3	0.00686	0.00201	mg/kg	02.13.18 13.59		1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.13.18 13.59	U	1
m,p-Xylenes	179601-23-1	0.00548	0.00402	mg/kg	02.13.18 13.59		1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.13.18 13.59	U	1
Total Xylenes	1330-20-7	0.00548	0.00201	mg/kg	02.13.18 13.59		1
Total BTEX		0.0154	0.00201	mg/kg	02.13.18 13.59		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	90	%	80-120	02.13.18 13.59		
4-Bromofluorobenzene	460-00-4	100	%	80-120	02.13.18 13.59		



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T1 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-005 Date Collected: 01.30.18 10.30 Sample Depth: 4 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: LRI % Moisture:
Analyst: LRI Date Prep: 02.12.18 17.30 Basis: Wet Weight
Seq Number: 3040821 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.2	5.01	mg/kg	02.13.18 03.46		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 02.09.18 07.00 Basis: Wet Weight
Seq Number: 3040789 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.09.18 12.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.09.18 12.04	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.09.18 12.04	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.09.18 12.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	02.09.18 12.04	
o-Terphenyl	84-15-1	95	%	70-135	02.09.18 12.04	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM BOBWHITE 12 STATE CAM #4H

Sample Id: T1 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-005 Date Collected: 01.30.18 10.30 Sample Depth: 4 ft
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 02.09.18 15.45 Basis: Wet Weight
Seq Number: 3040879 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.13.18 13.59	U	1
Toluene	108-88-3	0.00644	0.00200	mg/kg	02.13.18 13.59		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.13.18 13.59	U	1
m,p-Xylenes	179601-23-1	0.00486	0.00401	mg/kg	02.13.18 13.59		1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.13.18 13.59	U	1
Total Xylenes	1330-20-7	0.00486	0.00200	mg/kg	02.13.18 13.59		1
Total BTEX		0.0113	0.00200	mg/kg	02.13.18 13.59		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104		%	80-120	02.13.18 13.59	
1,4-Difluorobenzene	540-36-3	88		%	80-120	02.13.18 13.59	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T2
Lab Sample Id: 575484-006

Matrix: Soil
Date Collected: 01.30.18 10.30

Date Received: 02.06.18 09.45
Sample Depth: 0 ft

Analytical Method: Chloride by EPA 300

Tech: LRI

Analyst: LRI

Seq Number: 3040821

Date Prep: 02.12.18 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	317	4.92	mg/kg	02.13.18 03.53		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3040789

Date Prep: 02.09.18 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	10700	74.9	mg/kg	02.09.18 12.24		5
Diesel Range Organics (DRO)	C10C28DRO	12400	74.9	mg/kg	02.09.18 12.24		5
Oil Range Hydrocarbons (ORO)	PHCG2835	931	74.9	mg/kg	02.09.18 12.24		5
Total TPH	PHC635	24000	74.9	mg/kg	02.09.18 12.24		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	02.09.18 12.24	
o-Terphenyl	84-15-1	81	%	70-135	02.09.18 12.24	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM BOBWHITE 12 STATE CAM #4H

Sample Id: T2 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-006 Date Collected: 01.30.18 10.30 Sample Depth: 0 ft
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 02.12.18 09.00 Basis: Wet Weight
Seq Number: 3040899 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	29.3	9.94	mg/kg	02.12.18 12.10		5000
Toluene	108-88-3	303	9.94	mg/kg	02.12.18 12.10		5000
Ethylbenzene	100-41-4	92.3	9.94	mg/kg	02.12.18 12.10		5000
m,p-Xylenes	179601-23-1	300	19.9	mg/kg	02.12.18 12.10		5000
o-Xylene	95-47-6	135	9.94	mg/kg	02.12.18 12.10		5000
Total Xylenes	1330-20-7	435	9.94	mg/kg	02.12.18 12.10		5000
Total BTEX		860	9.94	mg/kg	02.12.18 12.10		5000
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111		%	80-120	02.12.18 12.10	
1,4-Difluorobenzene	540-36-3	81		%	80-120	02.12.18 12.10	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T2 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-007 Date Collected: 01.30.18 10.30 Sample Depth: 1 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: LRI % Moisture:
Analyst: LRI Date Prep: 02.12.18 17.30 Basis: Wet Weight
Seq Number: 3040821 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	70.8	5.03	mg/kg	02.13.18 04.00		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 02.09.18 07.00 Basis: Wet Weight
Seq Number: 3040789 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	323	15.0	mg/kg	02.09.18 12.44		1
Diesel Range Organics (DRO)	C10C28DRO	779	15.0	mg/kg	02.09.18 12.44		1
Oil Range Hydrocarbons (ORO)	PHCG2835	46.6	15.0	mg/kg	02.09.18 12.44		1
Total TPH	PHC635	1150	15.0	mg/kg	02.09.18 12.44		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	02.09.18 12.44	
o-Terphenyl	84-15-1	91	%	70-135	02.09.18 12.44	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM BOBWHITE 12 STATE CAM #4H

Sample Id: T2 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-007 Date Collected: 01.30.18 10.30 Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 02.10.18 08.45 Basis: Wet Weight
Seq Number: 3040879 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.0121	0.00200	mg/kg	02.13.18 14.46		1
Toluene	108-88-3	0.228	0.00200	mg/kg	02.13.18 14.46		1
Ethylbenzene	100-41-4	0.212	0.00200	mg/kg	02.13.18 14.46		1
m,p-Xylenes	179601-23-1	0.695	0.00399	mg/kg	02.13.18 14.46		1
o-Xylene	95-47-6	0.319	0.00200	mg/kg	02.13.18 14.46		1
Total Xylenes	1330-20-7	1.01	0.00200	mg/kg	02.13.18 14.46		1
Total BTEX		1.47	0.00200	mg/kg	02.13.18 14.46		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	84		%	80-120	02.13.18 14.46	
4-Bromofluorobenzene	460-00-4	159		%	80-120	02.13.18 14.46	**



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T2
Lab Sample Id: 575484-008

Matrix: Soil
Date Collected: 01.30.18 10.30

Date Received: 02.06.18 09.45
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: LRI

Analyst: LRI

Seq Number: 3040821

Date Prep: 02.12.18 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	57.5	5.02	mg/kg	02.13.18 04.21		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3040789

Date Prep: 02.09.18 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	96.2	15.0	mg/kg	02.09.18 13.04		1
Diesel Range Organics (DRO)	C10C28DRO	329	15.0	mg/kg	02.09.18 13.04		1
Oil Range Hydrocarbons (ORO)	PHCG2835	17.9	15.0	mg/kg	02.09.18 13.04		1
Total TPH	PHC635	443	15.0	mg/kg	02.09.18 13.04		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	02.09.18 13.04	
o-Terphenyl	84-15-1	107	%	70-135	02.09.18 13.04	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T2
Lab Sample Id: 575484-008

Matrix: Soil
Date Collected: 01.30.18 10.30

Date Received: 02.06.18 09.45
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3040879

Date Prep: 02.09.18 15.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00206	0.00200	mg/kg	02.13.18 13.59		1
Toluene	108-88-3	0.0168	0.00200	mg/kg	02.13.18 13.59		1
Ethylbenzene	100-41-4	0.0106	0.00200	mg/kg	02.13.18 13.59		1
m,p-Xylenes	179601-23-1	0.0503	0.00401	mg/kg	02.13.18 13.59		1
o-Xylene	95-47-6	0.0328	0.00200	mg/kg	02.13.18 13.59		1
Total Xylenes	1330-20-7	0.0831	0.00200	mg/kg	02.13.18 13.59		1
Total BTEX		0.113	0.00200	mg/kg	02.13.18 13.59		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	81	%	80-120	02.13.18 13.59		
4-Bromofluorobenzene	460-00-4	115	%	80-120	02.13.18 13.59		



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM BOBWHITE 12 STATE CAM #4H

Sample Id: T2 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-009 Date Collected: 01.30.18 10.30 Sample Depth: 3 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: LRI % Moisture:
Analyst: LRI Date Prep: 02.12.18 15.00 Basis: Wet Weight
Seq Number: 3040823 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	36.5	4.99	mg/kg	02.12.18 17.22		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 02.09.18 07.00 Basis: Wet Weight
Seq Number: 3040789 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.09.18 13.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	109	15.0	mg/kg	02.09.18 13.26		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.09.18 13.26	U	1
Total TPH	PHC635	109	15.0	mg/kg	02.09.18 13.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	02.09.18 13.26	
o-Terphenyl	84-15-1	97	%	70-135	02.09.18 13.26	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T2
Lab Sample Id: 575484-009

Matrix: Soil
Date Collected: 01.30.18 10.30

Date Received: 02.06.18 09.45
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3040879

Prep Method: SW5030B

% Moisture:

Date Prep: 02.09.18 15.45

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.13.18 13.59	U	1
Toluene	108-88-3	0.00486	0.00202	mg/kg	02.13.18 13.59		1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.13.18 13.59	U	1
m,p-Xylenes	179601-23-1	0.00745	0.00403	mg/kg	02.13.18 13.59		1
o-Xylene	95-47-6	0.00420	0.00202	mg/kg	02.13.18 13.59		1
Total Xylenes	1330-20-7	0.0117	0.00202	mg/kg	02.13.18 13.59		1
Total BTEX		0.0165	0.00202	mg/kg	02.13.18 13.59		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	93	%	80-120	02.13.18 13.59		
1,4-Difluorobenzene	540-36-3	83	%	80-120	02.13.18 13.59		



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T3 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-010 Date Collected: 01.30.18 10.45 Sample Depth: 0 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: LRI % Moisture:
Analyst: LRI Date Prep: 02.12.18 15.00 Basis: Wet Weight
Seq Number: 3040823 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.40	4.97	mg/kg	02.12.18 17.29		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 02.09.18 07.00 Basis: Wet Weight
Seq Number: 3040789 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.09.18 13.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	18.9	15.0	mg/kg	02.09.18 13.46		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.09.18 13.46	U	1
Total TPH	PHC635	18.9	15.0	mg/kg	02.09.18 13.46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	02.09.18 13.46	
o-Terphenyl	84-15-1	98	%	70-135	02.09.18 13.46	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T3
Lab Sample Id: 575484-010

Matrix: Soil
Date Collected: 01.30.18 10.45

Date Received: 02.06.18 09.45
Sample Depth: 0 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3040879

Prep Method: SW5030B

% Moisture:

Date Prep: 02.09.18 15.45

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00773	0.00201	mg/kg	02.13.18 13.59		1
Toluene	108-88-3	0.0324	0.00201	mg/kg	02.13.18 13.59		1
Ethylbenzene	100-41-4	0.00484	0.00201	mg/kg	02.13.18 13.59		1
m,p-Xylenes	179601-23-1	0.0135	0.00402	mg/kg	02.13.18 13.59		1
o-Xylene	95-47-6	0.00464	0.00201	mg/kg	02.13.18 13.59		1
Total Xylenes	1330-20-7	0.0181	0.00201	mg/kg	02.13.18 13.59		1
Total BTEX		0.0631	0.00201	mg/kg	02.13.18 13.59		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	108	%	80-120	02.13.18 13.59		
1,4-Difluorobenzene	540-36-3	89	%	80-120	02.13.18 13.59		



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T3 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-011 Date Collected: 01.30.18 10.45 Sample Depth: 1 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: LRI % Moisture:
Analyst: LRI Date Prep: 02.12.18 15.00 Basis: Wet Weight
Seq Number: 3040823 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	30.5	4.96	mg/kg	02.12.18 17.36		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 02.09.18 07.00 Basis: Wet Weight
Seq Number: 3040789 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.09.18 14.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	23.7	15.0	mg/kg	02.09.18 14.47		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.09.18 14.47	U	1
Total TPH	PHC635	23.7	15.0	mg/kg	02.09.18 14.47		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	02.09.18 14.47	
o-Terphenyl	84-15-1	102	%	70-135	02.09.18 14.47	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM BOBWHITE 12 STATE CAM #4H

Sample Id: T3
Lab Sample Id: 575484-011

Matrix: Soil
Date Collected: 01.30.18 10.45

Date Received: 02.06.18 09.45
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3040879

Date Prep: 02.09.18 15.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00691	0.00199	mg/kg	02.13.18 13.59		1
Toluene	108-88-3	0.0309	0.00199	mg/kg	02.13.18 13.59		1
Ethylbenzene	100-41-4	0.00617	0.00199	mg/kg	02.13.18 13.59		1
m,p-Xylenes	179601-23-1	0.0178	0.00398	mg/kg	02.13.18 13.59		1
o-Xylene	95-47-6	0.00621	0.00199	mg/kg	02.13.18 13.59		1
Total Xylenes	1330-20-7	0.0240	0.00199	mg/kg	02.13.18 13.59		1
Total BTEX		0.0680	0.00199	mg/kg	02.13.18 13.59		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98		%	80-120	02.13.18 13.59	
1,4-Difluorobenzene	540-36-3	86		%	80-120	02.13.18 13.59	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T3 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-012 Date Collected: 01.30.18 10.45 Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: LRI % Moisture:
Analyst: LRI Date Prep: 02.12.18 15.00 Basis: Wet Weight
Seq Number: 3040823 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.10	4.99	mg/kg	02.12.18 17.43		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 02.09.18 07.00 Basis: Wet Weight
Seq Number: 3040789 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.09.18 15.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	28.7	15.0	mg/kg	02.09.18 15.07		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.09.18 15.07	U	1
Total TPH	PHC635	28.7	15.0	mg/kg	02.09.18 15.07		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	02.09.18 15.07	
o-Terphenyl	84-15-1	97	%	70-135	02.09.18 15.07	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM BOBWHITE 12 STATE CAM #4H

Sample Id: T3
Lab Sample Id: 575484-012

Matrix: Soil
Date Collected: 01.30.18 10.45

Date Received: 02.06.18 09.45
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3040879

Date Prep: 02.09.18 15.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.13.18 13.59	U	1
Toluene	108-88-3	0.00652	0.00200	mg/kg	02.13.18 13.59		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.13.18 13.59	U	1
m,p-Xylenes	179601-23-1	0.00414	0.00399	mg/kg	02.13.18 13.59		1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.13.18 13.59	U	1
Total Xylenes	1330-20-7	0.00414	0.00200	mg/kg	02.13.18 13.59		1
Total BTEX		0.0107	0.00200	mg/kg	02.13.18 13.59		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	90	%	80-120	02.13.18 13.59		
4-Bromofluorobenzene	460-00-4	101	%	80-120	02.13.18 13.59		



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T3 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-013 Date Collected: 01.30.18 10.45 Sample Depth: 3 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: LRI % Moisture:
Analyst: LRI Date Prep: 02.12.18 15.00 Basis: Wet Weight
Seq Number: 3040823 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	25.5	4.99	mg/kg	02.12.18 17.50		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 02.09.18 07.00 Basis: Wet Weight
Seq Number: 3040789 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.09.18 15.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	02.09.18 15.27	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.09.18 15.27	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	02.09.18 15.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	102	%	70-135	02.09.18 15.27		
o-Terphenyl	84-15-1	100	%	70-135	02.09.18 15.27		



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM BOBWHITE 12 STATE CAM #4H

Sample Id: T3 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-013 Date Collected: 01.30.18 10.45 Sample Depth: 3 ft
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 02.09.18 15.45 Basis: Wet Weight
Seq Number: 3040879 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.13.18 13.59	U	1
Toluene	108-88-3	0.00315	0.00200	mg/kg	02.13.18 13.59		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.13.18 13.59	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.13.18 13.59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.13.18 13.59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.13.18 13.59	U	1
Total BTEX		0.00315	0.00200	mg/kg	02.13.18 13.59		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	85	%	80-120	02.13.18 13.59		
4-Bromofluorobenzene	460-00-4	101	%	80-120	02.13.18 13.59		



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T4 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-014 Date Collected: 01.30.18 10.45 Sample Depth: 0 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: LRI % Moisture:
Analyst: LRI Date Prep: 02.12.18 15.00 Basis: Wet Weight
Seq Number: 3040823 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8120	49.9	mg/kg	02.12.18 17.57		10

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 02.09.18 07.00 Basis: Wet Weight
Seq Number: 3040789 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	3920	14.9	mg/kg	02.09.18 15.47		1
Diesel Range Organics (DRO)	C10C28DRO	4330	14.9	mg/kg	02.09.18 15.47		1
Oil Range Hydrocarbons (ORO)	PHCG2835	374	14.9	mg/kg	02.09.18 15.47		1
Total TPH	PHC635	8620	14.9	mg/kg	02.09.18 15.47		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	02.09.18 15.47	
o-Terphenyl	84-15-1	96	%	70-135	02.09.18 15.47	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM BOBWHITE 12 STATE CAM #4H

Sample Id: T4 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-014 Date Collected: 01.30.18 10.45 Sample Depth: 0 ft
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 02.09.18 15.45 Basis: Wet Weight
Seq Number: 3040879 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	4.51	2.02	mg/kg	02.13.18 13.59		1000
Toluene	108-88-3	100	2.02	mg/kg	02.13.18 13.59		1000
Ethylbenzene	100-41-4	30.8	2.02	mg/kg	02.13.18 13.59		1000
m,p-Xylenes	179601-23-1	95.1	4.03	mg/kg	02.13.18 13.59		1000
o-Xylene	95-47-6	39.5	2.02	mg/kg	02.13.18 13.59		1000
Total Xylenes	1330-20-7	135	2.02	mg/kg	02.13.18 13.59		1000
Total BTEX		270	2.02	mg/kg	02.13.18 13.59		1000
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115		%	80-120	02.13.18 13.59	
1,4-Difluorobenzene	540-36-3	83		%	80-120	02.13.18 13.59	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T4 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-015 Date Collected: 01.30.18 10.45 Sample Depth: 1 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: LRI % Moisture:
Analyst: LRI Date Prep: 02.12.18 17.00 Basis: Wet Weight
Seq Number: 3040835 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10300	99.4	mg/kg	02.13.18 00.03		20

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 02.09.18 07.00 Basis: Wet Weight
Seq Number: 3040789 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	6910	74.9	mg/kg	02.10.18 09.38		5
Diesel Range Organics (DRO)	C10C28DRO	5980	74.9	mg/kg	02.10.18 09.38		5
Oil Range Hydrocarbons (ORO)	PHCG2835	485	74.9	mg/kg	02.10.18 09.38		5
Total TPH	PHC635	13400	74.9	mg/kg	02.10.18 09.38		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	02.10.18 09.38	
o-Terphenyl	84-15-1	90	%	70-135	02.10.18 09.38	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM BOBWHITE 12 STATE CAM #4H

Sample Id: T4
Lab Sample Id: 575484-015

Matrix: Soil
Date Collected: 01.30.18 10.45

Date Received: 02.06.18 09.45
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3040899

Date Prep: 02.12.18 09.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	41.1	9.98	mg/kg	02.12.18 12.29		5000
Toluene	108-88-3	323	9.98	mg/kg	02.12.18 12.29		5000
Ethylbenzene	100-41-4	84.9	9.98	mg/kg	02.12.18 12.29		5000
m,p-Xylenes	179601-23-1	264	20.0	mg/kg	02.12.18 12.29		5000
o-Xylene	95-47-6	113	9.98	mg/kg	02.12.18 12.29		5000
Total Xylenes	1330-20-7	377	9.98	mg/kg	02.12.18 12.29		5000
Total BTEX		826	9.98	mg/kg	02.12.18 12.29		5000
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	117	%	80-120	02.12.18 12.29		
1,4-Difluorobenzene	540-36-3	86	%	80-120	02.12.18 12.29		



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T4
Lab Sample Id: 575484-016

Matrix: Soil
Date Collected: 01.30.18 10.45

Date Received: 02.06.18 09.45
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: LRI

Analyst: LRI

Seq Number: 3040835

Date Prep: 02.12.18 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10300	100	mg/kg	02.13.18 00.31		20

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3040789

Date Prep: 02.09.18 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	79.8	15.0	mg/kg	02.09.18 16.28		1
Diesel Range Organics (DRO)	C10C28DRO	144	15.0	mg/kg	02.09.18 16.28		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.09.18 16.28	U	1
Total TPH	PHC635	224	15.0	mg/kg	02.09.18 16.28		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	02.09.18 16.28	
o-Terphenyl	84-15-1	102	%	70-135	02.09.18 16.28	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM BOBWHITE 12 STATE CAM #4H

Sample Id: T4
Lab Sample Id: 575484-016

Matrix: Soil
Date Collected: 01.30.18 10.45

Date Received: 02.06.18 09.45
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3040879

Prep Method: SW5030B

% Moisture:

Date Prep: 02.10.18 08.45

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00620	0.00199	mg/kg	02.13.18 14.46		1
Toluene	108-88-3	0.168	0.00199	mg/kg	02.13.18 14.46		1
Ethylbenzene	100-41-4	0.189	0.00199	mg/kg	02.13.18 14.46		1
m,p-Xylenes	179601-23-1	0.645	0.00398	mg/kg	02.13.18 14.46		1
o-Xylene	95-47-6	0.303	0.00199	mg/kg	02.13.18 14.46		1
Total Xylenes	1330-20-7	0.948	0.00199	mg/kg	02.13.18 14.46		1
Total BTEX		1.31	0.00199	mg/kg	02.13.18 14.46		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	168		%	80-120	02.13.18 14.46	**
1,4-Difluorobenzene	540-36-3	82		%	80-120	02.13.18 14.46	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T4
Lab Sample Id: 575484-017

Matrix: Soil
Date Collected: 01.30.18 10.45

Date Received: 02.06.18 09.45
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: LRI

Analyst: LRI

Seq Number: 3040835

Date Prep: 02.12.18 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1340	4.99	mg/kg	02.13.18 00.10		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3040789

Date Prep: 02.09.18 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	21.4	15.0	mg/kg	02.09.18 16.49		1
Diesel Range Organics (DRO)	C10C28DRO	99.0	15.0	mg/kg	02.09.18 16.49		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.09.18 16.49	U	1
Total TPH	PHC635	120	15.0	mg/kg	02.09.18 16.49		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	02.09.18 16.49	
o-Terphenyl	84-15-1	102	%	70-135	02.09.18 16.49	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T4
Lab Sample Id: 575484-017

Matrix: Soil
Date Collected: 01.30.18 10.45

Date Received: 02.06.18 09.45
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3040747

Prep Method: SW5030B

% Moisture:

Date Prep: 02.10.18 09.15

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.11.18 02.19	U	1
Toluene	108-88-3	0.00733	0.00201	mg/kg	02.11.18 02.19		1
Ethylbenzene	100-41-4	0.0136	0.00201	mg/kg	02.11.18 02.19		1
m,p-Xylenes	179601-23-1	0.0583	0.00402	mg/kg	02.11.18 02.19		1
o-Xylene	95-47-6	0.0314	0.00201	mg/kg	02.11.18 02.19		1
Total Xylenes	1330-20-7	0.0897	0.00201	mg/kg	02.11.18 02.19		1
Total BTEX		0.111	0.00201	mg/kg	02.11.18 02.19		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115		%	80-120	02.11.18 02.19	
1,4-Difluorobenzene	540-36-3	80		%	80-120	02.11.18 02.19	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM

BOBWHITE 12 STATE CAM #4H

Sample Id: T4
Lab Sample Id: 575484-018

Matrix: Soil
Date Collected: 01.30.18 10.45

Date Received: 02.06.18 09.45
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: LRI

Analyst: LRI

Seq Number: 3040835

Date Prep: 02.12.18 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	743	4.98	mg/kg	02.12.18 22.32		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3040789

Date Prep: 02.09.18 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	178	15.0	mg/kg	02.09.18 17.09		1
Diesel Range Organics (DRO)	C10C28DRO	416	15.0	mg/kg	02.09.18 17.09		1
Oil Range Hydrocarbons (ORO)	PHCG2835	30.6	15.0	mg/kg	02.09.18 17.09		1
Total TPH	PHC635	625	15.0	mg/kg	02.09.18 17.09		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	95	%	70-135	02.09.18 17.09		
o-Terphenyl	84-15-1	84	%	70-135	02.09.18 17.09		



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM BOBWHITE 12 STATE CAM #4H

Sample Id: T4 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-018 Date Collected: 01.30.18 10.45 Sample Depth: 4 ft
Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B
Tech: ALJ % Moisture:
Analyst: ALJ Date Prep: 02.10.18 09.15 Basis: Wet Weight
Seq Number: 3040747 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00417	0.00199	mg/kg	02.11.18 02.00		1
Toluene	108-88-3	0.212	0.00199	mg/kg	02.11.18 02.00		1
Ethylbenzene	100-41-4	0.262	0.00199	mg/kg	02.11.18 02.00		1
m,p-Xylenes	179601-23-1	0.786	0.00398	mg/kg	02.11.18 02.00		1
o-Xylene	95-47-6	0.326	0.00199	mg/kg	02.11.18 02.00		1
Total Xylenes	1330-20-7	1.11	0.00199	mg/kg	02.11.18 02.00		1
Total BTEX		1.59	0.00199	mg/kg	02.11.18 02.00		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	83		%	80-120	02.11.18 02.00	
4-Bromofluorobenzene	460-00-4	105		%	80-120	02.11.18 02.00	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM BOBWHITE 12 STATE CAM #4H

Sample Id: T4 Matrix: Soil Date Received: 02.06.18 09.45
Lab Sample Id: 575484-019 Date Collected: 01.30.18 10.45 Sample Depth: 6 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: LRI % Moisture:
Analyst: LRI Date Prep: 02.12.18 17.00 Basis: Wet Weight
Seq Number: 3040835 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	32.6	4.99	mg/kg	02.13.18 00.59		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
Tech: ARM % Moisture:
Analyst: ARM Date Prep: 02.09.18 07.00 Basis: Wet Weight
Seq Number: 3040789 SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	02.09.18 17.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	31.5	15.0	mg/kg	02.09.18 17.30		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	02.09.18 17.30	U	1
Total TPH	PHC635	31.5	15.0	mg/kg	02.09.18 17.30		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	02.09.18 17.30	
o-Terphenyl	84-15-1	99	%	70-135	02.09.18 17.30	



Certificate of Analytical Results 575484



COG Operating LLC, Artesia, NM BOBWHITE 12 STATE CAM #4H

Sample Id: T4
Lab Sample Id: 575484-019

Matrix: Soil
Date Collected: 01.30.18 10.45

Date Received: 02.06.18 09.45
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3040747

Prep Method: SW5030B

% Moisture:

Date Prep: 02.10.18 09.15

Basis: Wet Weight

SUB: T104704400-18-14

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.10.18 23.29	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.10.18 23.29	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.10.18 23.29	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	02.10.18 23.29	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.10.18 23.29	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.10.18 23.29	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.10.18 23.29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	81	%	80-120	02.10.18 23.29		
4-Bromofluorobenzene	460-00-4	104	%	80-120	02.10.18 23.29		

- 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

+ NELAC certification not offered for this compound.

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

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 - San Antonio - Atlanta - Midland/Odessa - Tampa/Lakeland - Phoenix - Latin America

4147 Greenbriar Dr, Stafford, TX 77477
 9701 Harry Hines Blvd, Dallas, TX 75220
 5332 Blackberry Drive, San Antonio TX 78238
 1211 W Florida Ave, Midland, TX 79701
 2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	

COG Operating LLC
BOBWHITE 12 STATE CAM #4H

Analytical Method: Chloride by EPA 300

Seq Number: 3040823

MB Sample Id: 7638977-1-BLK

Matrix: Solid

LCS Sample Id: 7638977-1-BKS

Prep Method: E300P

Date Prep: 02.12.18

LCSD Sample Id: 7638977-1-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	274	110	273	109	90-110	0	20	mg/kg	02.12.18 14:35	

Analytical Method: Chloride by EPA 300

Seq Number: 3040823

MB Sample Id: 7638978-1-BLK

Matrix: Solid

LCS Sample Id: 7638978-1-BKS

Prep Method: E300P

Date Prep: 02.12.18

LCSD Sample Id: 7638978-1-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	272	109	265	106	90-110	3	20	mg/kg	02.12.18 22:18	

Analytical Method: Chloride by EPA 300

Seq Number: 3040821

MB Sample Id: 7638980-1-BLK

Matrix: Solid

LCS Sample Id: 7638980-1-BKS

Prep Method: E300P

Date Prep: 02.12.18

LCSD Sample Id: 7638980-1-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	271	108	262	105	90-110	3	20	mg/kg	02.12.18 02:08	

Analytical Method: Chloride by EPA 300

Seq Number: 3040823

Parent Sample Id: 576138-001

Matrix: Soil

MS Sample Id: 576138-001 S

Prep Method: E300P

Date Prep: 02.12.18

MSD Sample Id: 576138-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	251	248	506	103	496	99	90-110	2	20	mg/kg	02.12.18 14:56	

Analytical Method: Chloride by EPA 300

Seq Number: 3040823

Parent Sample Id: 576139-003

Matrix: Soil

MS Sample Id: 576139-003 S

Prep Method: E300P

Date Prep: 02.12.18

MSD Sample Id: 576139-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	389	247	646	104	665	112	90-110	3	20	mg/kg	02.12.18 16:34	X

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery $[D] = 100 * (C - A) / B$
 $RPD = 200 * | (C - E) / (C + E) |$
 $[D] = 100 * (C) / [B]$ LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD ResultMS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



QC Summary 575484

COG Operating LLC BOBWHITE 12 STATE CAM #4H

Analytical Method: Chloride by EPA 300

Seq Number: 3040835

Parent Sample Id: 575484-017

Matrix: Soil

MS Sample Id: 575484-017 S

Prep Method: E300P

Date Prep: 02.12.18

MSD Sample Id: 575484-017 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1340	250	1590	100	1590	100	90-110	0	20	mg/kg	02.13.18 00:17	

Analytical Method: Chloride by EPA 300

Seq Number: 3040835

Parent Sample Id: 575484-018

Matrix: Soil

MS Sample Id: 575484-018 S

Prep Method: E300P

Date Prep: 02.12.18

MSD Sample Id: 575484-018 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	743	249	970	91	965	89	90-110	1	20	mg/kg	02.12.18 22:39	X

Analytical Method: Chloride by EPA 300

Seq Number: 3040821

Parent Sample Id: 575479-001

Matrix: Soil

MS Sample Id: 575479-001 S

Prep Method: E300P

Date Prep: 02.12.18

MSD Sample Id: 575479-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	28.9	250	300	108	302	109	90-110	1	20	mg/kg	02.13.18 02:29	

Analytical Method: Chloride by EPA 300

Seq Number: 3040821

Parent Sample Id: 575484-007

Matrix: Soil

MS Sample Id: 575484-007 S

Prep Method: E300P

Date Prep: 02.12.18

MSD Sample Id: 575484-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	70.8	247	335	107	325	103	90-110	3	20	mg/kg	02.13.18 04:07	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3040789

MB Sample Id: 7638959-1-BLK

Matrix: Solid

LCS Sample Id: 7638959-1-BKS

Prep Method: TX1005P

Date Prep: 02.09.18

LCSD Sample Id: 7638959-1-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	895	90	839	84	70-135	6	35	mg/kg	02.09.18 09:20	
Diesel Range Organics (DRO)	<15.0	1000	993	99	954	95	70-135	4	35	mg/kg	02.09.18 09:20	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		101		95		70-135	%	02.09.18 09:20
o-Terphenyl	102		103		95		70-135	%	02.09.18 09:20

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

$[D] = 100 * (C-A) / B$
 $RPD = 200 * | (C-E) / (C+E) |$
 $[D] = 100 * (C) / [B]$

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
BOBWHITE 12 STATE CAM #4H

Analytical Method: TPH By SW8015 Mod

Seq Number: 3040789

Parent Sample Id: 575484-001

Matrix: Soil

MS Sample Id: 575484-001 S

Prep Method: TX1005P

Date Prep: 02.09.18

MSD Sample Id: 575484-001 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	997	934	94	915	92	70-135	2	35	mg/kg	02.09.18 10:23	
Diesel Range Organics (DRO)	<15.0	997	1020	102	1020	102	70-135	0	35	mg/kg	02.09.18 10:23	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		106		70-135	%	02.09.18 10:23
o-Terphenyl	106		102		70-135	%	02.09.18 10:23

Analytical Method: BTEX by EPA 8021B

Seq Number: 3040879

MB Sample Id: 7638895-1-BLK

Matrix: Solid

LCS Sample Id: 7638895-1-BKS

Prep Method: SW5030B

Date Prep: 02.09.18

LCSD Sample Id: 7638895-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0871	87	0.0850	85	70-130	2	35	mg/kg	02.13.18 13:59	
Toluene	<0.00199	0.0996	0.0863	87	0.0851	85	70-130	1	35	mg/kg	02.13.18 13:59	
Ethylbenzene	<0.00199	0.0996	0.0921	92	0.0911	91	71-129	1	35	mg/kg	02.13.18 13:59	
m,p-Xylenes	<0.00398	0.199	0.179	90	0.176	88	70-135	2	35	mg/kg	02.13.18 13:59	
o-Xylene	<0.00199	0.0996	0.0915	92	0.0904	90	71-133	1	35	mg/kg	02.13.18 13:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	88		80		83		80-120	%	02.13.18 13:59
4-Bromofluorobenzene	104		108		106		80-120	%	02.13.18 13:59

Analytical Method: BTEX by EPA 8021B

Seq Number: 3040747

MB Sample Id: 7638894-1-BLK

Matrix: Solid

LCS Sample Id: 7638894-1-BKS

Prep Method: SW5030B

Date Prep: 02.10.18

LCSD Sample Id: 7638894-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0852	84	0.0814	81	70-130	5	35	mg/kg	02.10.18 21:15	
Toluene	<0.00202	0.101	0.0895	89	0.0858	86	70-130	4	35	mg/kg	02.10.18 21:15	
Ethylbenzene	<0.00202	0.101	0.0978	97	0.0942	94	71-129	4	35	mg/kg	02.10.18 21:15	
m,p-Xylenes	<0.00403	0.202	0.193	96	0.187	94	70-135	3	35	mg/kg	02.10.18 21:15	
o-Xylene	<0.00202	0.101	0.0963	95	0.0927	93	71-133	4	35	mg/kg	02.10.18 21:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	82		86		86		80-120	%	02.10.18 21:15
4-Bromofluorobenzene	97		119		114		80-120	%	02.10.18 21:15

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery $[D] = 100 * (C-A) / B$
 $RPD = 200 * |(C-E) / (C+E)|$
 $[D] = 100 * (C) / [B]$ LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD ResultMS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

COG Operating LLC
BOBWHITE 12 STATE CAM #4H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3040899

MB Sample Id: 7639034-1-BLK

Matrix: Solid

LCS Sample Id: 7639034-1-BKS

Prep Method: SW5030B

Date Prep: 02.12.18

LCSD Sample Id: 7639034-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.101	102	0.105	105	70-130	4	35	mg/kg	02.12.18 08:26	
Toluene	<0.00199	0.0994	0.0964	97	0.100	100	70-130	4	35	mg/kg	02.12.18 08:26	
Ethylbenzene	<0.00199	0.0994	0.101	102	0.105	105	71-129	4	35	mg/kg	02.12.18 08:26	
m,p-Xylenes	<0.00398	0.199	0.196	98	0.204	102	70-135	4	35	mg/kg	02.12.18 08:26	
o-Xylene	<0.00199	0.0994	0.0987	99	0.103	103	71-133	4	35	mg/kg	02.12.18 08:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	86		80		83		80-120	%	02.12.18 08:26
4-Bromofluorobenzene	92		104		109		80-120	%	02.12.18 08:26

Analytical Method: BTEX by EPA 8021B

Seq Number: 3040879

Parent Sample Id: 575479-004

Matrix: Soil

MS Sample Id: 575479-004 S

Prep Method: SW5030B

Date Prep: 02.09.18

MSD Sample Id: 575479-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0851	85	0.0731	73	70-130	15	35	mg/kg	02.13.18 13:59	
Toluene	<0.00200	0.0998	0.0788	79	0.0730	73	70-130	8	35	mg/kg	02.13.18 13:59	
Ethylbenzene	<0.00200	0.0998	0.0841	84	0.0770	77	71-129	9	35	mg/kg	02.13.18 13:59	
m,p-Xylenes	<0.00399	0.200	0.163	82	0.149	75	70-135	9	35	mg/kg	02.13.18 13:59	
o-Xylene	<0.00200	0.0998	0.0831	83	0.0761	76	71-133	9	35	mg/kg	02.13.18 13:59	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		88		80-120	%	02.13.18 13:59
4-Bromofluorobenzene	99		97		80-120	%	02.13.18 13:59

Analytical Method: BTEX by EPA 8021B

Seq Number: 3040747

Parent Sample Id: 575485-010

Matrix: Soil

MS Sample Id: 575485-010 S

Prep Method: SW5030B

Date Prep: 02.10.18

MSD Sample Id: 575485-010 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	0.0548	55	0.0464	47	70-130	17	35	mg/kg	02.10.18 21:53	X
Toluene	<0.00201	0.100	0.0582	58	0.0509	51	70-130	13	35	mg/kg	02.10.18 21:53	X
Ethylbenzene	<0.00201	0.100	0.0673	67	0.0577	58	71-129	15	35	mg/kg	02.10.18 21:53	X
m,p-Xylenes	<0.00402	0.201	0.133	66	0.120	60	70-135	10	35	mg/kg	02.10.18 21:53	X
o-Xylene	<0.00201	0.100	0.0680	68	0.0609	61	71-133	11	35	mg/kg	02.10.18 21:53	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	82		89		80-120	%	02.10.18 21:53
4-Bromofluorobenzene	115		114		80-120	%	02.10.18 21:53

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery $[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$ LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD ResultMS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

COG Operating LLC
BOBWHITE 12 STATE CAM #4H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3040899

Parent Sample Id: 575589-001

Matrix: Soil

MS Sample Id: 575589-001 S

Prep Method: SW5030B

Date Prep: 02.12.18

MSD Sample Id: 575589-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0751	75	0.0796	79	70-130	6	35	mg/kg	02.12.18 09:08	
Toluene	<0.00201	0.100	0.0745	75	0.0779	77	70-130	4	35	mg/kg	02.12.18 09:08	
Ethylbenzene	<0.00201	0.100	0.0772	77	0.0802	79	71-129	4	35	mg/kg	02.12.18 09:08	
m,p-Xylenes	<0.00402	0.201	0.151	75	0.157	78	70-135	4	35	mg/kg	02.12.18 09:08	
o-Xylene	<0.00201	0.100	0.0756	76	0.0786	78	71-133	4	35	mg/kg	02.12.18 09:08	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		82		80-120	%	02.12.18 09:08
4-Bromofluorobenzene	96		112		80-120	%	02.12.18 09:08

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery $[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$ LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD ResultMS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

Setting the Standard since 1990

Stafford, Texas (281-240-4200)

Dallas Texas (214-902-0300)

San Antonio, Texas (210-509-3334)

Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes			
Company Name / Branch: COG Operating LLC		Project Name/Number: BOB WHITE 12. STATE COM #4H		Project Location:		Invoice To: COG Operating LLC Attn: Robert McNeill 600 W. Illinois Ave. Midland TX, 79701		Project Number:		Field ID / Point of Collection		Field Comments		Matrix Codes	
Company Address: 2407 Pecos Ave. Artesia NM 88210		Phone No: 575-746-2010		Email: dneel2@concho.com		Project Contact: Dakota Neel		Samplers Name: R6		Collection		Number of preserved bottles		Field Comments	
										Sample Depth		Date		Time	
										Date		Time		Matrix	
										HCl		NaOH/Zn		Acetate	
										HNO3		H2SO4		NaOH	
										MEOH		NONE			
1		T1		12/13		10:30		5							
2		T1													
3		T1													
4		T1													
5		T1													
6		T2													
7		T2													
8		T2													
9		T2													
10															

Data Deliverable Information				Notes:			
Turnaround Time (Business days)		Level II Std QC		Level IV (Full Data Pkg raw data)			
Same Day TAT		☐		☐			
Next Day EMERGENCY		☐		Level III Std QC+ Forms		TRRP Level IV	
2 Day EMERGENCY		☐		Level 3 (CLP Forms)		UST / RG -411	
3 Day EMERGENCY		☐		TRRP Checklist			
TAT Starts Day received by Lab, if received by 5:00 pm				FED-EX / UPS: Tracking #			
Relinquished by Sampler:				Relinquished By:			
Date Time:		Received By:		Date Time:		Received By:	
1		1		2		2	
Relinquished by:		Relinquished By:		Date Time:		Received By:	
3		3		2-5-18 1:30 PM		2-5-18 1:30 PM	
Relinquished by:		Relinquished By:		Date Time:		Received By:	
5		5		2-5-18 4:45		2-5-18 4:45	

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY			
Relinquished by Sampler:		Relinquished By:	
Date Time:	Received By:	Date Time:	Received By:
1	1	2	2
Relinquished by:	Relinquished By:	Date Time:	Received By:
3	3	2-5-18 1:30 PM	2-5-18 1:30 PM
Relinquished by:	Relinquished By:	Date Time:	Received By:
5	5	2-5-18 4:45	2-5-18 4:45

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY			
Relinquished by Sampler:		Relinquished By:	
Date Time:	Received By:	Date Time:	Received By:
1	1	2	2
Relinquished by:	Relinquished By:	Date Time:	Received By:
3	3	2-5-18 1:30 PM	2-5-18 1:30 PM
Relinquished by:	Relinquished By:	Date Time:	Received By:
5	5	2-5-18 4:45	2-5-18 4:45

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY			
Relinquished by Sampler:		Relinquished By:	
Date Time:	Received By:	Date Time:	Received By:
1	1	2	2
Relinquished by:	Relinquished By:	Date Time:	Received By:
3	3	2-5-18 1:30 PM	2-5-18 1:30 PM
Relinquished by:	Relinquished By:	Date Time:	Received By:
5	5	2-5-18 4:45	2-5-18 4:45

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY			
Relinquished by Sampler:		Relinquished By:	
Date Time:	Received By:	Date Time:	Received By:
1	1	2	2
Relinquished by:	Relinquished By:	Date Time:	Received By:
3	3	2-5-18 1:30 PM	2-5-18 1:30 PM
Relinquished by:	Relinquished By:	Date Time:	Received By:
5	5	2-5-18 4:45	2-5-18 4:45

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY			
Relinquished by Sampler:		Relinquished By:	
Date Time:	Received By:	Date Time:	Received By:
1	1	2	2
Relinquished by:	Relinquished		

IR ID: HOU-068 C/F: 0.3
Temp: 4.2 Corrected: 4.5

Notices or expenses incurred by the Client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$5 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 and enforced unless previously negotiated under a fully executed client contract.

Setting the Standard since 1990

Stafford, Texas (281-240-4200)

Dallas Texas (214-902-0300)

San Antonio, Texas (210-509-3334)

Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

www.xenco.com

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes			
Company Name / Branch: COG Operating LLC				Project Name/Number: Bob Whittier 5749E com #4H											
Company Address: 2407 Pecos Ave. Artesia NM 8210				Project Location:											
Email: dnelz@concho.com Phone No: 575-746-2010				Invoice To: COG Operating LLC Attn: Robert McNeill 600 W. Illinois Ave. Midland TX, 79701											
Project Contact: Dakota Neel				PO Number:											
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles								
							HCl	NaOH/H ₂ O	Acetate	HNO ₃	H ₂ SO ₄	NaOH	MeOH	NONE	
1	T3	0'	1/30/18	10:45	S										
2	T3	1'			I										
3	T3	2'			I										
4	T3	3'			I										
5	T4	0'			I										
6	T4	1'			I										
7	T4	2'			I										
8	T4	3'			I										
9	T4	4'			I										
10	T4	6'			I										
Turnaround Time (Business days)		Data Deliverable Information		Notes:											
☐ Same Day TAT ☐ 5 Day TAT		☐ Level II Std QC ☐ Level IV (Full Data Pkg raw data)													
☐ Next Day EMERGENCY ☐ 7 Day TAT		☐ Level III Std QC+ Forms ☐ TRRP Level IV													
☐ 2 Day EMERGENCY ☐ Contract TAT		☐ Level 3 (CLP Forms) ☐ UST / RG -411													
☐ 3 Day EMERGENCY		☐ TRRP Checklist													
TAT Starts Day received by Lab, if received by 5:00 pm															
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY															
Relinquished by Sampler:		Received By:													
Date Time:	1	Date Time:	2												
Relinquished by:		Received By:													
Date Time:	1	Date Time:	2												
Relinquished by:		Received By:													
Date Time:	1	Date Time:	2												

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

ORIGIN ID:H0BA (575) 392

**
MAIL SERVICES ETC, LLC
4008 N GRIMES

HOBBS, NM 88240
UNITED STATES US

DATE: 05FEB18
: 53.00 LB MAN
0909328/CAFE3108
: 26x15x14 IN

L RECIPIENT

TO XENCO LABORATORIES
XENCO LABORATORIES
4143 GREENBRIAR DR

STAFFORD TX 77477

(281) 240-4200

INV:

PO:

REF:

DEPT:



FedEx
Express



1 of 2

TRKH#

0201

6606 3916 1069

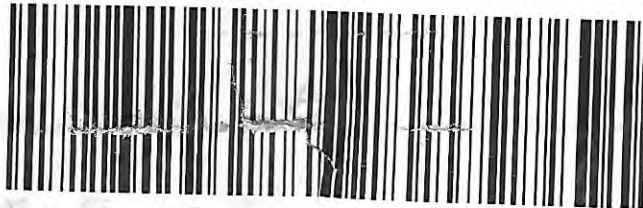
MASTER

TUE - 06 FEB 10:30A
PRIORITY OVERNIGHT

AB SGRA

77477

TX-US IAH



54168-434 RFD 09/16



Inter-Office Shipment

Page 1 of 3

IOS Number **1055591**

Date/Time: 02/06/18 11:11

Created by: Maria Paula Guerra

Please send report to: Kelsey Brooks

Lab# From: **Houston**

Delivery Priority:

Address: 4147 Greenbriar Dr.

Lab# To: **Midland**

Air Bill No.:

Phone: Stafford, TX 77477

E-Mail: kelsey.brooks@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
575484-001	S	T1	01/30/18 10:30	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 1	
575484-001	S	T1	01/30/18 10:30	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575484-001	S	T1	01/30/18 10:30	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575484-002	S	T1	01/30/18 10:30	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575484-002	S	T1	01/30/18 10:30	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 1	
575484-002	S	T1	01/30/18 10:30	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575484-003	S	T1	01/30/18 10:30	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575484-003	S	T1	01/30/18 10:30	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 1	
575484-003	S	T1	01/30/18 10:30	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575484-004	S	T1	01/30/18 10:30	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575484-004	S	T1	01/30/18 10:30	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575484-004	S	T1	01/30/18 10:30	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 1	
575484-005	S	T1	01/30/18 10:30	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 1	
575484-005	S	T1	01/30/18 10:30	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575484-005	S	T1	01/30/18 10:30	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575484-006	S	T2	01/30/18 10:30	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575484-006	S	T2	01/30/18 10:30	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575484-006	S	T2	01/30/18 10:30	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 1	
575484-007	S	T2	01/30/18 10:30	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575484-007	S	T2	01/30/18 10:30	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575484-007	S	T2	01/30/18 10:30	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 1	
575484-008	S	T2	01/30/18 10:30	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575484-008	S	T2	01/30/18 10:30	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 1	
575484-008	S	T2	01/30/18 10:30	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575484-009	S	T2	01/30/18 10:30	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 1	



Inter-Office Shipment

Page 2 of 3

IOS Number **1055591**

Date/Time: 02/06/18 11:11

Created by: Maria Paula Guerra

Please send report to: Kelsey Brooks

Lab# From: **Houston**

Delivery Priority:

Address: 4147 Greenbriar Dr.

Lab# To: **Midland**

Air Bill No.:

Phone: Stafford, TX 77477

E-Mail: kelsey.brooks@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
575484-009	S	T2	01/30/18 10:30	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575484-009	S	T2	01/30/18 10:30	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575484-010	S	T3	01/30/18 10:45	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575484-010	S	T3	01/30/18 10:45	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 I	
575484-010	S	T3	01/30/18 10:45	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575484-011	S	T3	01/30/18 10:45	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575484-011	S	T3	01/30/18 10:45	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 I	
575484-011	S	T3	01/30/18 10:45	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575484-012	S	T3	01/30/18 10:45	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575484-012	S	T3	01/30/18 10:45	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 I	
575484-012	S	T3	01/30/18 10:45	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575484-013	S	T3	01/30/18 10:45	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 I	
575484-013	S	T3	01/30/18 10:45	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575484-013	S	T3	01/30/18 10:45	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575484-014	S	T4	01/30/18 10:45	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 I	
575484-014	S	T4	01/30/18 10:45	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575484-014	S	T4	01/30/18 10:45	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575484-015	S	T4	01/30/18 10:45	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575484-015	S	T4	01/30/18 10:45	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575484-015	S	T4	01/30/18 10:45	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 I	
575484-016	S	T4	01/30/18 10:45	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575484-016	S	T4	01/30/18 10:45	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 I	
575484-016	S	T4	01/30/18 10:45	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575484-017	S	T4	01/30/18 10:45	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 I	
575484-017	S	T4	01/30/18 10:45	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	



Inter-Office Shipment

Page 3 of 3

IOS Number **1055591**

Date/Time: 02/06/18 11:11

Created by: Maria Paula Guerra

Please send report to: Kelsey Brooks

Lab# From: **Houston**

Delivery Priority:

Address: 4147 Greenbriar Dr.

Lab# To: **Midland**

Air Bill No.:

Phone: Stafford, TX 77477

E-Mail: kelsey.brooks@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
575484-017	S	T4	01/30/18 10:45	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575484-018	S	T4	01/30/18 10:45	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 I	
575484-018	S	T4	01/30/18 10:45	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575484-018	S	T4	01/30/18 10:45	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	
575484-019	S	T4	01/30/18 10:45	E300_CL	Chloride by EPA 300	02/12/18	02/27/18	KEB	CL	
575484-019	S	T4	01/30/18 10:45	SW8015MOD_NM	TPH By SW8015 Mod	02/12/18	02/13/18	KEB	PHCC10C28 PHCC28C35 I	
575484-019	S	T4	01/30/18 10:45	SW8021B	BTEX by EPA 8021B	02/12/18	02/13/18	KEB	BR4FBZ BZ BZME EBZ X	

Inter Office Shipment or Sample Comments:

Relinquished By

Maria Paula Guerra

Received By:

Connie Hernandez

Date Relinquished: 02/06/2018

Date Received: 02/08/2018 11:30

Cooler Temperature: 1.8



XENCO Laboratories



Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 1055591

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Maria Paula Guerra

Date Sent: 02/06/2018 11:11 AM

Received By: Connie Hernandez

Date Received: 02/08/2018 11:30 AM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	1.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received with appropriate temperature?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 *Custody Seals Signed and dated for Containers/coolers	N/A
#6 *IOS present?	Yes
#7 Any missing/extra samples?	No
#8 IOS agrees with sample label(s)/matrix?	Yes
#9 Sample matrix/ properties agree with IOS?	Yes
#10 Samples in proper container/ bottle?	Yes
#11 Samples properly preserved?	Yes
#12 Sample container(s) intact?	Yes
#13 Sufficient sample amount for indicated test(s)?	Yes
#14 All samples received within hold time?	Yes

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Connie Hernandez

Date: 02/08/2018



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: COG Operating LLC

Date/ Time Received: 02/06/2018 09:45:00 AM

Work Order #: 575484

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : IR:HOU068

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#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)?	Yes Xenco Midland
#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: 
Maria Paula Guerra

Date: 02/06/2018

Checklist reviewed by: 
Kelsey Brooks

Date: 02/06/2018