CONCHO

June 3, 2019

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

Jim Amos
Bureau of Land Management, CFO
620 E. Green Street
Carlsbad, NM 88220

Closure Report

Cabo Wabo 25 Federal #001H
API#: 30-015-40440
RP#: 2RP-5414
DOR: February 22, 2019
GPS: 32.1074 -103.9448
Unit Letter D, Section 25, Township 25 South, Range 29 East
Eddy County, New Mexico

Mr. Bratcher/Mr. Amos,

COG Operating, LLC (COG) is pleased to submit the following closure report in response to a release that occurred at the Cabo Wabo 25 Federal #001H. The release was located in Unit Letter D, Section 25, Township 25 South and Range 29 East in Eddy County, New Mexico. More specifically the latitude and longitude for the release are 32.1074 North and -103.9448 West.

BACKGROUND

The release was discovered on February 22, 2019 and a C-141 initial report was submitted to the New Mexico Oil Conservation Division (NMOCD) and the Bureau of Land Management (BLM). The failure of a transition on a flowline resulted in the release of approximately seven (7) barrels (bbls) of produced water into the pasture adjacent to the location.

GROUNDWATER AND REGULATORY FRAMEWORK

According to the United States Geological Survey (USGS) the nearest active water well (320629103533002) is located approximately 3.07 miles east of the release point and indicates that groundwater in the project vicinity is approximately two-hundred and sixty-five (265) feet below ground surface (BGS). The water well information is shown in Appendix B.

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

General Site Characterization and Groundwater:

Site Characterization	Average Groundwater Depth (ft.)
None Located	>100 feet

Delineation and Closure Criteria:

Recommended Remedial Action Levels (RRALs)	
Chlorides	20,000 mg/kg
TPH (GRO and DRO and MRO)	2,500 mg/kg
TPH (GRO and DRO)	1,000 mg/kg
Benzene	10 mg/kg
Total BTEX	50 mg/kg

REMEDIAL ACTIONS

- The impacted area was excavated to depths ranging from two and one-half (2.5) feet to four (4) feet BGS.
- All of the excavated material was hauled to an NMOCD approved solid waste disposal facility.
- Confirmation soil samples were taken from the excavation per NMAC 19.15.29.
- A 20-mil poly liner was installed in the bottom of the four (4) foot excavation in order to encapsulate the remaining chloride impacts at depth.
- The site was backfilled with clean “like” material and contoured to match the surrounding location.

SITE RECLAMATION AND RESTORATION

Per NMED 19.15.29.13 reclamation of the pasture area has been performed by removing the impacted soil containing chloride concentrations greater than 600 mg/kg within the first four (4) feet BGS. Approximately eight-hundred and six (806) cubic yards of material was removed and hauled to an NMOCD approved solid waste disposal facility. Once excavated, soil samples were collected from the sidewalls to confirm the removal of impacted soil greater than 600 mg/kg of chlorides. A 20-mil poly liner was installed at the bottom of the excavation in order to encapsulate the chloride impacts at depth. The backfill material was non-contaminated with concentrations below 600 mg/kg of chlorides. The surface was left in a rough condition to approximate natural surface deviations. The site will be mechanically seeded with the BLM #2 seed mixture.

CLOSURE REQUEST

COG Operating, LLC respectfully requests that the New Mexico Oil Conservation Division and the Bureau of Land Management grant closure approval for the Cabo Wabo 25 Federal #001H incident that occurred on February 22, 2019.

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

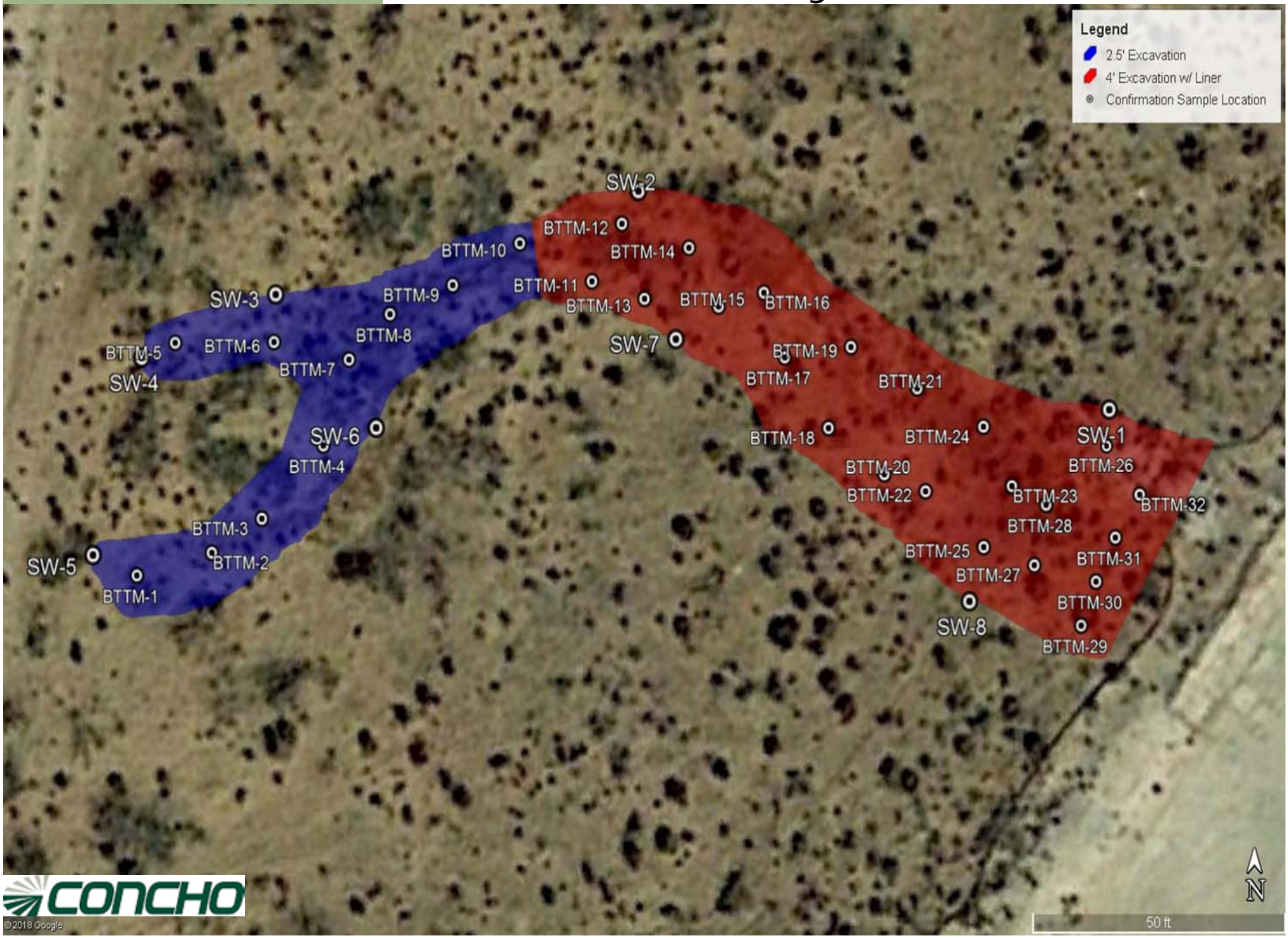
Sincerely,

Sheldon L. Hitchcock
HSE Coordinator
slhitchcock@concho.com

FIGURES

February 22, 2019

Cabo Wabo 25 Federal #001H



TABLES

Table 1
COG Operating LLC.
Cabo Wabo 25 Federal #001H
Eddy County, New Mexico

Sample ID	Sample Depth (ft)	Sample Date	Soil Status		TPH (mg/kg)							Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	MRO	*Total*	GRO	DRO	*Total*			
NMOCD RRAL Limits (mg/kg)					**-**	**-**	**-**	**2,500**	**-**	**-**	**1,000**	**10**	**50**	**20,000**
SW-1	N/A	5/9/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	9
SW-2	N/A	5/9/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	<4.98
SW-3	N/A	5/9/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	10
SW-4	N/A	5/9/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	<4.99
SW-5	N/A	5/9/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	<4.95
SW-6	N/A	5/9/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	<4.96
SW-7	N/A	5/9/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	<4.97
SW-8	N/A	5/9/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	<5.04
BTTM-1	2.5	5/14/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	12
BTTM-2	2.5	5/14/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	18.5
BTTM-3	2.5	5/14/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	70.3
BTTM-4	2.5	5/14/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	12.1
BTTM-5	2.5	5/14/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	13.4
BTTM-6	2.5	5/14/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	17.9
BTTM-7	2.5	5/14/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	21.3
BTTM-8	2.5	5/14/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	17.6
BTTM-9	2.5	5/14/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	0.261
BTTM-10	2.5	5/14/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	19.8
BTTM-11	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	17.1
BTTM-12	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	8.04
BTTM-13	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	13
BTTM-14	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	3180
BTTM-15	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	6.11
BTTM-16	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	1960
BTTM-17	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	6.7
BTTM-18	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	1470
BTTM-19	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	19.5
BTTM-20	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	1510
BTTM-21	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	44.7
BTTM-22	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	1040
BTTM-23	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	69.4
BTTM-24	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	1310
BTTM-25	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	15300
BTTM-26	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	2930
BTTM-27	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	14000
BTTM-28	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	5,340
BTTM-29	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	1,460
BTTM-30	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	15,800
BTTM-31	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	1,190
BTTM-32	4	5/15/2019	X		<15.0	<15.0	<15.0	0.0	<15.0	<15.0	0.0	<0.002	<0.002	26

Encapsulated by Liner

APPENDIX A

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	COG Operating, LLC	OGRID	229137
Contact Name	Jennifer Knowlton	Contact Telephone	(432) 683-7443
Contact email	jknowlton@concho.com	Incident # *(assigned by OCD)*	
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.1074 Longitude -103.9448

(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Cabo Wabo 25 Federal #001H	Site Type	Flowline
Date Release Discovered	February 22, 2019	API# *(if applicable)*	30-015-40440

Unit Letter	Section	Township	Range	County
D	25	25S	29E	Eddy

Surface Owner: ☐ State ■ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
■ Produced Water	Volume Released (bbls) 7	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The release was caused by a hole in the transition on the flowline. The transition is being replaced. The release was in the pasture. A vacuum truck was dispatched to remove all freestanding fluids. Concho will evaluate the site to determine if we may commence remediation immediately or delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Initial Response

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

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

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

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

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

Printed Name: Sheldon L. Hitchcock Title: HSE Coordinator

Signature: Sheldon Hitchcock Date: 6/3/2019

email: slhitchcock@concho.com Telephone: 575-746-2010

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	265 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ■ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ■ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ■ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ■ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ■ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ■ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ■ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ■ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ■ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ■ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ■ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	■ Yes ☐ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: Sheldon L. Hitchcock Title: HSE Coordinator

Signature: Sheldon Hitchcock Date: 6/3/2019

email: slhitchcock@concho.com Telephone: 575-746-2010

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

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

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

■ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

■ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

■ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

■ Description of remediation activities

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

Printed Name: Sheldon L. Hitchcock Title: HSE Coordinator

Signature: Sheldon Hitchcock Date: 6/3/2019

email: slhitchcock@concho.com Telephone: 575-746-2010

OCD Only

Received by: _____ Date: _____

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

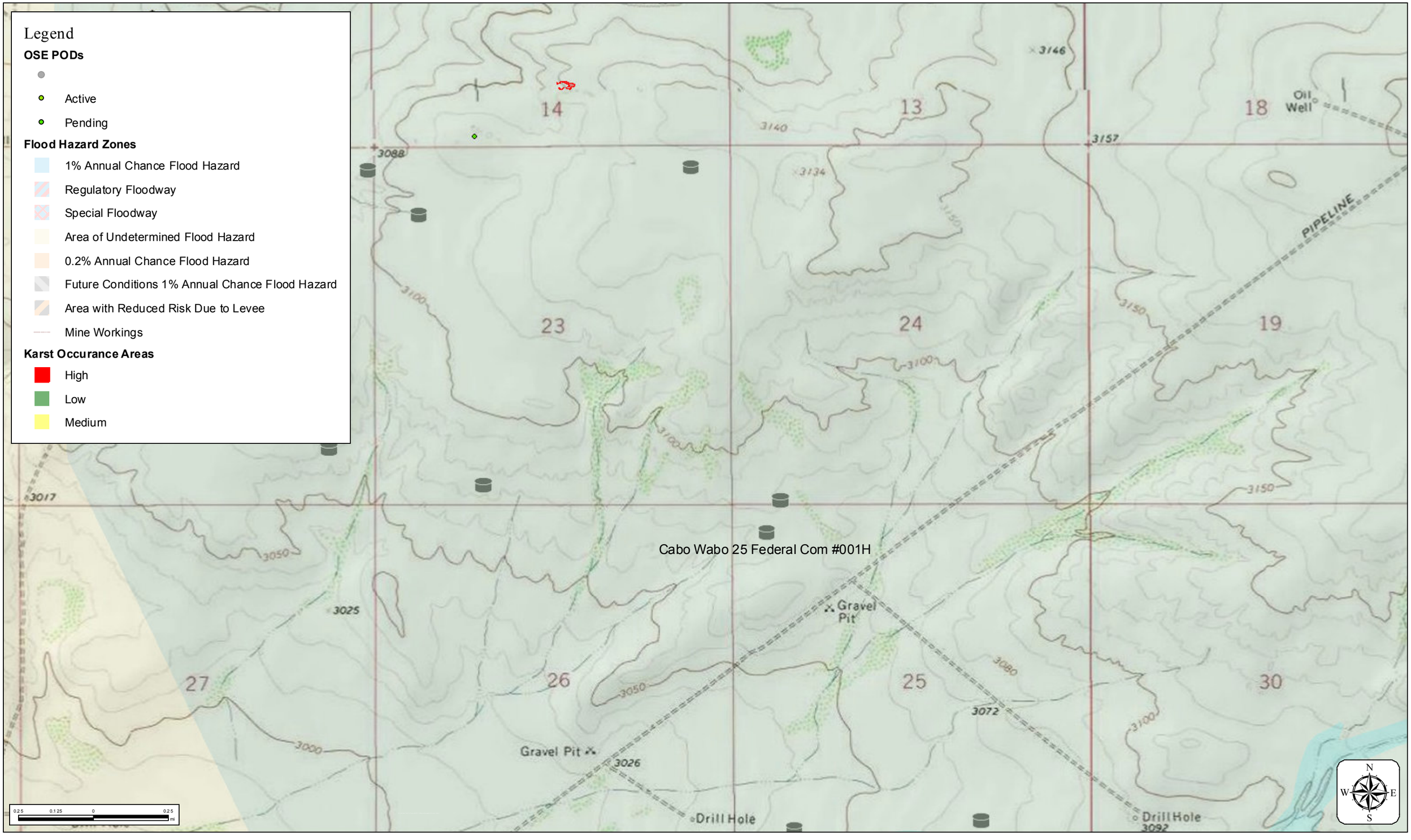
Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

APPENDIX B

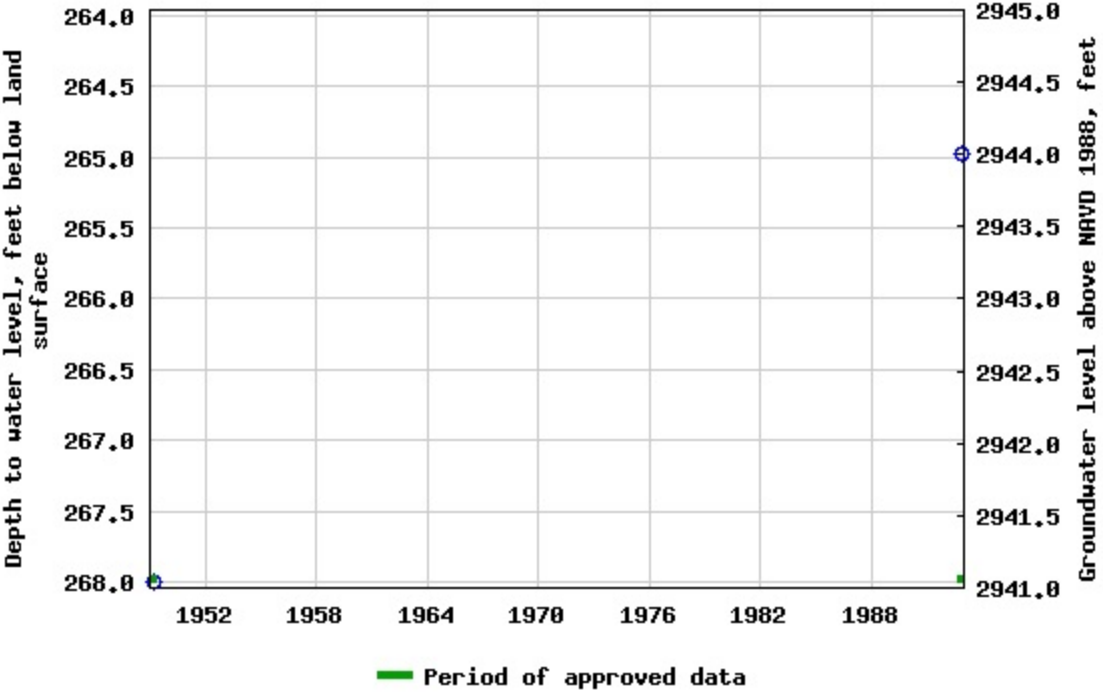
CONCHO

ArcGIS Web Map



USGS

USGS 320629103533002 25S.30E.21.33342 A



APPENDIX C

Certificate of Analysis Summary 624018

COG Operating LLC, Artesia, NM

Project Name: Cabo Wabo 25 Federal #001H

Project Id:

Contact: Sheldon Hitchcock

Project Location: Eddy, NM

Date Received in Lab: Mon May-13-19 10:50 am

Report Date: 14-MAY-19

Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	624018-001		624018-002		624018-003		624018-004		624018-005		624018-006	
	Field Id:	SW-1		SW-2		SW-3		SW-4		SW-5		SW-6	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-09-19 08:00		May-09-19 08:05		May-09-19 08:10		May-09-19 08:15		May-09-19 08:20		May-09-19 08:25	
BTEX by EPA 8021B	***Extracted:***	May-13-19 14:30		May-13-19 14:30		May-13-19 14:30		May-13-19 14:30		May-13-19 14:30		May-13-19 14:30	
	Analyzed:	May-14-19 00:10		May-14-19 00:29		May-14-19 00:48		May-14-19 01:07		May-14-19 01:26		May-14-19 01:45	
	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	<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199
Toluene		<0.00200	0.00200	<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199
Ethylbenzene		<0.00200	0.00200	<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199
m,p-Xylenes		<0.00400	0.00400	<0.00397	0.00397	<0.00402	0.00402	<0.00403	0.00403	<0.00401	0.00401	<0.00398	0.00398
o-Xylene		<0.00200	0.00200	<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199
Total Xylenes		<0.00200	0.00200	<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199
Total BTEX		<0.00200	0.00200	<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199
Chloride by EPA 300	***Extracted:***	May-13-19 17:00		May-13-19 17:00		May-13-19 17:00		May-13-19 17:00		May-13-19 17:00		May-13-19 17:00	
	Analyzed:	May-13-19 20:02		May-13-19 20:18		May-13-19 20:23		May-13-19 20:28		May-13-19 20:33		May-13-19 20:49	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		9.45	5.05	<4.98	4.98	9.60	5.00	<4.99	4.99	<4.95	4.95	<4.96	4.96
TPH By SW8015 Mod	***Extracted:***	May-13-19 17:00		May-13-19 17:00		May-13-19 17:00		May-13-19 17:00		May-13-19 17:00		May-13-19 17:00	
	Analyzed:	May-13-19 20:09		May-13-19 21:09		May-13-19 21:30		May-13-19 21:51		May-13-19 22:11		May-13-19 22:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<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	<15.0	15.0	<15.0	15.0

Certificate of Analysis Summary 624018

COG Operating LLC, Artesia, NM

Project Name: Cabo Wabo 25 Federal #001H

Project Id:
Contact: Sheldon Hitchcock
Project Location: Eddy, NM

Date Received in Lab: Mon May-13-19 10:50 am
Report Date: 14-MAY-19
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	624018-007		624018-008					
	Field Id:	SW-7		SW-8					
	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	May-09-19 08:30		May-09-19 08:35					
BTEX by EPA 8021B	***Extracted:***	May-13-19 14:30		May-13-19 14:30					
	Analyzed:	May-14-19 02:04		May-14-19 02:23					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00202	0.00202				
Toluene		<0.00200	0.00200	<0.00202	0.00202				
Ethylbenzene		<0.00200	0.00200	<0.00202	0.00202				
m,p-Xylenes		<0.00399	0.00399	<0.00403	0.00403				
o-Xylene		<0.00200	0.00200	<0.00202	0.00202				
Total Xylenes		<0.00200	0.00200	<0.00202	0.00202				
Total BTEX		<0.00200	0.00200	<0.00202	0.00202				
Chloride by EPA 300	***Extracted:***	May-13-19 17:00		May-13-19 17:00					
	Analyzed:	May-13-19 20:54		May-13-19 20:59					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		<4.97	4.97	<5.04	5.04				
TPH By SW8015 Mod	***Extracted:***	May-13-19 17:00		May-13-19 17:00					
	Analyzed:	May-13-19 22:51		May-13-19 23:52					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons		<15.0	15.0	<14.9	14.9				
Diesel Range Organics		<15.0	15.0	<14.9	14.9				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<14.9	14.9				
Total TPH		<15.0	15.0	<14.9	14.9				

Analytical Report 624018

for

COG Operating LLC

Project Manager: Sheldon Hitchcock

Cabo Wabo 25 Federal #001H

14-MAY-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

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

14-MAY-19

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

Reference: XENCO Report No(s): **624018**
Cabo Wabo 25 Federal #001H
Project Address: Eddy, NM

Sheldon Hitchcock:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 624018. 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. 624018 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 624018

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #001H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW-1	S	05-09-19 08:00		624018-001
SW-2	S	05-09-19 08:05		624018-002
SW-3	S	05-09-19 08:10		624018-003
SW-4	S	05-09-19 08:15		624018-004
SW-5	S	05-09-19 08:20		624018-005
SW-6	S	05-09-19 08:25		624018-006
SW-7	S	05-09-19 08:30		624018-007
SW-8	S	05-09-19 08:35		624018-008

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3088922 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.
Samples affected are: 624018-004.

Certificate of Analytical Results 624018

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #001H

Sample Id:	**SW-1**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624018-001	Date Collected:	05.09.19 08.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.13.19 17.00	Basis:	Wet Weight
Seq Number:	3088952				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.45**	5.05	mg/kg	05.13.19 20.02		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.13.19 17.00	Basis:	Wet Weight
Seq Number:	3088961				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.13.19 20.09	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.13.19 20.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.13.19 20.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.13.19 20.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	05.13.19 20.09	
o-Terphenyl	84-15-1	88	%	70-135	05.13.19 20.09	

Certificate of Analytical Results 624018

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #001H

Sample Id:	**SW-1**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624018-001	Date Collected:	05.09.19 08.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.13.19 14.30	Basis:	Wet Weight
Seq Number:	3088922				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.14.19 00.10	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.14.19 00.10	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.14.19 00.10	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.14.19 00.10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.14.19 00.10	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.14.19 00.10	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.14.19 00.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	96	%	70-130	05.14.19 00.10	
4-Bromofluorobenzene	460-00-4	123	%	70-130	05.14.19 00.10	

Certificate of Analytical Results 624018

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #001H

Sample Id:	**SW-2**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624018-002	Date Collected:	05.09.19 08.05		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.13.19 17.00	Basis:	Wet Weight
Seq Number:	3088952				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.98	4.98	mg/kg	05.13.19 20.18	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.13.19 17.00	Basis:	Wet Weight
Seq Number:	3088961				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.13.19 21.09	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.13.19 21.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.13.19 21.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.13.19 21.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	05.13.19 21.09	
o-Terphenyl	84-15-1	89	%	70-135	05.13.19 21.09	

Certificate of Analytical Results 624018

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #001H

Sample Id:	**SW-2**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624018-002	Date Collected:	05.09.19 08.05		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.13.19 14.30	Basis:	Wet Weight
Seq Number:	3088922				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.14.19 00.29	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.14.19 00.29	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.14.19 00.29	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.14.19 00.29	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.14.19 00.29	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.14.19 00.29	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.14.19 00.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	05.14.19 00.29	
4-Bromofluorobenzene	460-00-4	119	%	70-130	05.14.19 00.29	

Certificate of Analytical Results 624018

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #001H

Sample Id:	**SW-3**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624018-003	Date Collected:	05.09.19 08.10		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.13.19 17.00	Basis:	Wet Weight
Seq Number:	3088952				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.60**	5.00	mg/kg	05.13.19 20.23		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.13.19 17.00	Basis:	Wet Weight
Seq Number:	3088961				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.13.19 21.30	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.13.19 21.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.13.19 21.30	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.13.19 21.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	05.13.19 21.30	
o-Terphenyl	84-15-1	92	%	70-135	05.13.19 21.30	

Certificate of Analytical Results 624018

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #001H

Sample Id:	**SW-3**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624018-003	Date Collected:	05.09.19 08.10		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.13.19 14.30	Basis:	Wet Weight
Seq Number:	3088922				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.14.19 00.48	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.14.19 00.48	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.14.19 00.48	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.14.19 00.48	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.14.19 00.48	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.14.19 00.48	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.14.19 00.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	05.14.19 00.48	
4-Bromofluorobenzene	460-00-4	128	%	70-130	05.14.19 00.48	

Certificate of Analytical Results 624018

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #001H

Sample Id:	**SW-4**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624018-004	Date Collected:	05.09.19 08.15		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.13.19 17.00	Basis:	Wet Weight
Seq Number:	3088952				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	05.13.19 20.28	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.13.19 17.00	Basis:	Wet Weight
Seq Number:	3088961				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.13.19 21.51	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.13.19 21.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.13.19 21.51	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.13.19 21.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	05.13.19 21.51	
o-Terphenyl	84-15-1	91	%	70-135	05.13.19 21.51	

Certificate of Analytical Results 624018

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #001H

Sample Id:	**SW-4**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624018-004	Date Collected:	05.09.19 08.15		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.13.19 14.30	Basis:	Wet Weight
Seq Number:	3088922				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.14.19 01.07	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.14.19 01.07	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.14.19 01.07	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.14.19 01.07	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.14.19 01.07	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.14.19 01.07	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.14.19 01.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	144	%	70-130	05.14.19 01.07	**
1,4-Difluorobenzene	540-36-3	89	%	70-130	05.14.19 01.07	

Certificate of Analytical Results 624018

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #001H

Sample Id:	**SW-5**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624018-005	Date Collected:	05.09.19 08.20		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.13.19 17.00	Basis:	Wet Weight
Seq Number:	3088952				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.95	4.95	mg/kg	05.13.19 20.33	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.13.19 17.00	Basis:	Wet Weight
Seq Number:	3088961				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.13.19 22.11	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.13.19 22.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.13.19 22.11	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.13.19 22.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	05.13.19 22.11	
o-Terphenyl	84-15-1	89	%	70-135	05.13.19 22.11	

Certificate of Analytical Results 624018

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #001H

Sample Id:	**SW-5**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624018-005	Date Collected:	05.09.19 08.20		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.13.19 14.30	Basis:	Wet Weight
Seq Number:	3088922				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.14.19 01.26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.14.19 01.26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.14.19 01.26	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.14.19 01.26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.14.19 01.26	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.14.19 01.26	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.14.19 01.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	05.14.19 01.26	
4-Bromofluorobenzene	460-00-4	129	%	70-130	05.14.19 01.26	

Certificate of Analytical Results 624018

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #001H

Sample Id:	**SW-6**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624018-006	Date Collected:	05.09.19 08.25		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.13.19 17.00	Basis:	Wet Weight
Seq Number:	3088952				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	05.13.19 20.49	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.13.19 17.00	Basis:	Wet Weight
Seq Number:	3088961				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.13.19 22.31	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.13.19 22.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.13.19 22.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.13.19 22.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	05.13.19 22.31	
o-Terphenyl	84-15-1	87	%	70-135	05.13.19 22.31	

Certificate of Analytical Results 624018

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #001H

Sample Id:	**SW-6**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624018-006	Date Collected:	05.09.19 08.25		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.13.19 14.30	Basis:	Wet Weight
Seq Number:	3088922				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.14.19 01.45	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.14.19 01.45	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.14.19 01.45	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.14.19 01.45	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.14.19 01.45	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.14.19 01.45	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.14.19 01.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	121	%	70-130	05.14.19 01.45	
1,4-Difluorobenzene	540-36-3	99	%	70-130	05.14.19 01.45	

Certificate of Analytical Results 624018

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #001H

Sample Id:	**SW-7**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624018-007	Date Collected:	05.09.19 08.30		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.13.19 17.00	Basis:	Wet Weight
Seq Number:	3088952				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	05.13.19 20.54	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.13.19 17.00	Basis:	Wet Weight
Seq Number:	3088961				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.13.19 22.51	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.13.19 22.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.13.19 22.51	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.13.19 22.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	05.13.19 22.51	
o-Terphenyl	84-15-1	88	%	70-135	05.13.19 22.51	

Certificate of Analytical Results 624018

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #001H

Sample Id:	**SW-7**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624018-007	Date Collected:	05.09.19 08.30		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.13.19 14.30	Basis:	Wet Weight
Seq Number:	3088922				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.14.19 02.04	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.14.19 02.04	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.14.19 02.04	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.14.19 02.04	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.14.19 02.04	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.14.19 02.04	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.14.19 02.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	123	%	70-130	05.14.19 02.04	
1,4-Difluorobenzene	540-36-3	99	%	70-130	05.14.19 02.04	

Certificate of Analytical Results 624018

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #001H

Sample Id:	**SW-8**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624018-008	Date Collected:	05.09.19 08.35		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.13.19 17.00	Basis:	Wet Weight
Seq Number:	3088952				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.04	5.04	mg/kg	05.13.19 20.59	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.13.19 17.00	Basis:	Wet Weight
Seq Number:	3088961				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<14.9	14.9	mg/kg	05.13.19 23.52	U	1
Diesel Range Organics	C10C28DRO	<14.9	14.9	mg/kg	05.13.19 23.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	05.13.19 23.52	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	05.13.19 23.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	05.13.19 23.52	
o-Terphenyl	84-15-1	90	%	70-135	05.13.19 23.52	

Certificate of Analytical Results 624018

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #001H

Sample Id:	**SW-8**	Matrix:	Soil	Date Received:	05.13.19 10.50
Lab Sample Id:	624018-008	Date Collected:	05.09.19 08.35		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.13.19 14.30	Basis:	Wet Weight
Seq Number:	3088922				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.14.19 02.23	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.14.19 02.23	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.14.19 02.23	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.14.19 02.23	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.14.19 02.23	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.14.19 02.23	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.14.19 02.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	05.14.19 02.23	
4-Bromofluorobenzene	460-00-4	129	%	70-130	05.14.19 02.23	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 624018

COG Operating LLC

Cabo Wabo 25 Federal #001H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3088952 Matrix: Solid Date Prep: 05.13.19
MB Sample Id: 7677763-1-BLK LCS Sample Id: 7677763-1-BKS LCSD Sample Id: 7677763-1-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	259	104	260	104	90-110	0	20	mg/kg	05.13.19 19:52	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3088952 Matrix: Soil Date Prep: 05.13.19
Parent Sample Id: 624018-001 MS Sample Id: 624018-001 S MSD Sample Id: 624018-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	9.45	253	272	104	271	103	90-110	0	20	mg/kg	05.13.19 20:08	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3088952 Matrix: Soil Date Prep: 05.13.19
Parent Sample Id: 624019-003 MS Sample Id: 624019-003 S MSD Sample Id: 624019-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7450	250	7530	32	7530	32	90-110	0	20	mg/kg	05.13.19 21:20	X

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3088961 Matrix: Solid Date Prep: 05.13.19
MB Sample Id: 7677810-1-BLK LCS Sample Id: 7677810-1-BKS LCSD Sample Id: 7677810-1-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	<8.00	1000	1010	101	1010	101	70-135	0	20	mg/kg	05.13.19 19:28	
Diesel Range Organics	<8.13	1000	1020	102	1050	105	70-135	3	20	mg/kg	05.13.19 19:28	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		122		127		70-135	%	05.13.19 19:28
o-Terphenyl	101		128		125		70-135	%	05.13.19 19:28

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

QC Summary 624018

COG Operating LLC

Cabo Wabo 25 Federal #001H

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3088961 Matrix: Soil Date Prep: 05.13.19
Parent Sample Id: 624018-001 MS Sample Id: 624018-001 S MSD Sample Id: 624018-001 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	11.3	1000	1010	100	1020	101	70-135	1	20	mg/kg	05.13.19 20:29	
Diesel Range Organics	<8.13	1000	1020	102	1010	101	70-135	1	20	mg/kg	05.13.19 20:29	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		121		70-135	%	05.13.19 20:29
o-Terphenyl	114		128		70-135	%	05.13.19 20:29

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3088922 Matrix: Solid Date Prep: 05.13.19
MB Sample Id: 7677773-1-BLK LCS Sample Id: 7677773-1-BKS LCSD Sample Id: 7677773-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.102	102	0.103	103	70-130	1	35	mg/kg	05.13.19 22:18	
Toluene	<0.00200	0.100	0.102	102	0.100	100	70-130	2	35	mg/kg	05.13.19 22:18	
Ethylbenzene	<0.00200	0.100	0.113	113	0.110	110	70-130	3	35	mg/kg	05.13.19 22:18	
m,p-Xylenes	<0.00401	0.200	0.235	118	0.230	116	70-130	2	35	mg/kg	05.13.19 22:18	
o-Xylene	<0.00200	0.100	0.115	115	0.113	113	70-130	2	35	mg/kg	05.13.19 22:18	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		92		93		70-130	%	05.13.19 22:18
4-Bromofluorobenzene	107		110		108		70-130	%	05.13.19 22:18

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3088922 Matrix: Soil Date Prep: 05.13.19
Parent Sample Id: 624018-001 MS Sample Id: 624018-001 S MSD Sample Id: 624018-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0940	94	0.0980	97	70-130	4	35	mg/kg	05.13.19 22:56	
Toluene	<0.00200	0.0998	0.0919	92	0.0952	94	70-130	4	35	mg/kg	05.13.19 22:56	
Ethylbenzene	<0.00200	0.0998	0.0970	97	0.102	101	70-130	5	35	mg/kg	05.13.19 22:56	
m,p-Xylenes	<0.00399	0.200	0.202	101	0.212	105	70-130	5	35	mg/kg	05.13.19 22:56	
o-Xylene	<0.00200	0.0998	0.100	100	0.105	104	70-130	5	35	mg/kg	05.13.19 22:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		95		70-130	%	05.13.19 22:56
4-Bromofluorobenzene	114		112		70-130	%	05.13.19 22:56

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

Analysis Request of Chain of Custody Record

624018

CONCHO

One Concho Center/600/Illinois
Avenue/Midland, Texas
Tel (432) 683-7443

Client Name: COG-Artesia	**Site Manager:** Sheldon Hitchcock
Project Name: CaboWabo 25 Federal #001H	
Project Location: (county, state) Eddy, NM	**Project #:**
Invoice to: Sheldon Hitchcock	
Receiving Laboratory: Xenco	**Sampler Name:** Sheldon Hitchcock
Comments: Rush	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	# CONTAINERS	FILTERED (Y/N)	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold
	SW-1	5/9	8:00		X			X	1	N/A	X	X	X	
	SW-2		8:05		X			X	1		X	X	X	
	SW-3		8:10		X			X	1		X	X	X	
	SW-4		8:15		X			X	1		X	X	X	
	SW-5		8:20		X			X	1		X	X	X	
	SW-6		8:25		X			X	1		X	X	X	
	SW-7		8:30		X			X	1		X	X	X	
	SW-8		8:35		X			X	1		X	X	X	

Relinquished by:	Date: 05-09-19	Time: 15:55	Received by: Date: 05-09-19 Time: 15:55
Relinquished by:	Date:	Time:	Received by: Date: 5-13-19 Time: 1050
Relinquished by:	Date:	Time:	Received by: Date: Time:

LAB USE ONLY

Sample Temperature 0.5/0.4

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Final 1.000

Page 26 of 27

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 05/13/2019 10:50:00 AM

Work Order #: 624018

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 05/13/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/13/2019
Jessica Kramer

Certificate of Analysis Summary 624488

COG Operating LLC, Artesia, NM

Project Name: Cabo Wabo 25 Federal #1H

Project Id:

Contact: Sheldon Hitchcock

Project Location: Eddy, NM

Date Received in Lab: Thu May-16-19 10:58 am

Report Date: 17-MAY-19

Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	624488-001		624488-002		624488-003		624488-004		624488-005		624488-006	
	Field Id:	Bttm-1		Bttm-2		Bttm-3		Bttm-4		Bttm-5		Bttm-6	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-14-19 13:00		May-14-19 13:10		May-14-19 13:15		May-14-19 13:20		May-14-19 13:35		May-14-19 13:45	
BTEX by EPA 8021B	***Extracted:***	May-16-19 12:00		May-16-19 12:00		May-16-19 12:00		May-16-19 12:00		May-16-19 12:00		May-16-19 12:00	
	Analyzed:	May-16-19 15:22		May-16-19 15:41		May-16-19 16:01		May-16-19 16:21		May-16-19 16:40		May-16-19 17:00	
	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	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202
Toluene		<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202
Ethylbenzene		<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202
m,p-Xylenes		<0.00400	0.00400	<0.00403	0.00403	<0.00398	0.00398	<0.00398	0.00398	<0.00401	0.00401	<0.00404	0.00404
o-Xylene		<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202
Total Xylenes		<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202
Total BTEX		<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202
Chloride by EPA 300	***Extracted:***	May-16-19 13:30		May-16-19 13:30		May-16-19 13:30		May-16-19 13:30		May-16-19 13:30		May-16-19 13:30	
	Analyzed:	May-17-19 14:39		May-17-19 15:01		May-17-19 15:08		May-17-19 15:16		May-17-19 15:23		May-17-19 15:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		12.0	5.05	18.5	4.99	70.3	26.0	12.1	5.01	13.4	4.98	17.9	4.95
TPH By SW8015 Mod	***Extracted:***	May-16-19 16:00		May-16-19 16:00		May-16-19 16:00		May-16-19 16:00		May-16-19 16:00		May-16-19 16:00	
	Analyzed:	May-17-19 01:05		May-17-19 02:02		May-17-19 02:22		May-17-19 02:41		May-17-19 03:00		May-17-19 03:20	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<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	<15.0	15.0	<15.0	15.0

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 624488

COG Operating LLC, Artesia, NM

Project Name: Cabo Wabo 25 Federal #1H

Project Id:

Contact: Sheldon Hitchcock

Project Location: Eddy, NM

Date Received in Lab: Thu May-16-19 10:58 am

Report Date: 17-MAY-19

Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	624488-007		624488-008		624488-009		624488-010					
	Field Id:	Bttm-7		Bttm-8		Bttm-9		Bttm-10					
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	May-14-19 13:50		May-14-19 13:55		May-14-19 14:10		May-14-19 14:20					
BTEX by EPA 8021B	***Extracted:***	May-16-19 12:00		May-16-19 12:00		May-16-19 12:00		May-16-19 12:00					
	Analyzed:	May-16-19 17:20		May-16-19 17:39		May-16-19 17:58		May-16-19 18:17					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00198	0.00198	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200				
Toluene		<0.00198	0.00198	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200				
Ethylbenzene		<0.00198	0.00198	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200				
m,p-Xylenes		<0.00397	0.00397	<0.00402	0.00402	<0.00399	0.00399	<0.00399	0.00399				
o-Xylene		<0.00198	0.00198	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200				
Total Xylenes		<0.00198	0.00198	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200				
Total BTEX		<0.00198	0.00198	<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200				
Chloride by EPA 300	***Extracted:***	May-16-19 13:30		May-16-19 13:30		May-16-19 13:30		May-16-19 13:30					
	Analyzed:	May-17-19 15:38		May-17-19 15:59		May-17-19 16:07		May-17-19 16:28					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		21.3	4.95	17.6	5.00	0.261	0.0503	19.8	4.96				
TPH By SW8015 Mod	***Extracted:***	May-16-19 16:00		May-16-19 16:00		May-16-19 16:00		May-16-19 16:00					
	Analyzed:	May-17-19 03:39		May-17-19 03:58		May-17-19 04:17		May-17-19 04:37					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0				
Diesel Range Organics		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0				

Jessica Kramer
Project Assistant

Analytical Report 624488

for

COG Operating LLC

Project Manager: Sheldon Hitchcock

Cabo Wabo 25 Federal #1H

17-MAY-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

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

17-MAY-19

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

Reference: XENCO Report No(s): **624488**
Cabo Wabo 25 Federal #1H
Project Address: Eddy, NM

Sheldon Hitchcock:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 624488. 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. 624488 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 624488

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Bttm-1	S	05-14-19 13:00		624488-001
Bttm-2	S	05-14-19 13:10		624488-002
Bttm-3	S	05-14-19 13:15		624488-003
Bttm-4	S	05-14-19 13:20		624488-004
Bttm-5	S	05-14-19 13:35		624488-005
Bttm-6	S	05-14-19 13:45		624488-006
Bttm-7	S	05-14-19 13:50		624488-007
Bttm-8	S	05-14-19 13:55		624488-008
Bttm-9	S	05-14-19 14:10		624488-009
Bttm-10	S	05-14-19 14:20		624488-010

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3089288 BTEX by EPA 8021B

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

Certificate of Analytical Results 624488

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-1**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624488-001	Date Collected:	05.14.19 13.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.30	Basis:	Wet Weight
Seq Number:	3089409				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12.0**	5.05	mg/kg	05.17.19 14.39		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 16.00	Basis:	Wet Weight
Seq Number:	3089321				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.17.19 01.05	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.17.19 01.05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.17.19 01.05	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.17.19 01.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	05.17.19 01.05	
o-Terphenyl	84-15-1	113	%	70-135	05.17.19 01.05	

Certificate of Analytical Results 624488

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-1**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624488-001	Date Collected:	05.14.19 13.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089288				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.16.19 15.22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.16.19 15.22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.16.19 15.22	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.16.19 15.22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.16.19 15.22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.16.19 15.22	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.16.19 15.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	05.16.19 15.22	
4-Bromofluorobenzene	460-00-4	95	%	70-130	05.16.19 15.22	

Certificate of Analytical Results 624488

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-2**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624488-002	Date Collected:	05.14.19 13.10		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.30	Basis:	Wet Weight
Seq Number:	3089409				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18.5**	4.99	mg/kg	05.17.19 15.01		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 16.00	Basis:	Wet Weight
Seq Number:	3089321				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.17.19 02.02	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.17.19 02.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.17.19 02.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.17.19 02.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	05.17.19 02.02	
o-Terphenyl	84-15-1	116	%	70-135	05.17.19 02.02	

Certificate of Analytical Results 624488

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-2**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624488-002	Date Collected:	05.14.19 13.10		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089288				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.16.19 15.41	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.16.19 15.41	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.16.19 15.41	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.16.19 15.41	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.16.19 15.41	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.16.19 15.41	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.16.19 15.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	05.16.19 15.41	
1,4-Difluorobenzene	540-36-3	100	%	70-130	05.16.19 15.41	

Certificate of Analytical Results 624488

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-3**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624488-003	Date Collected:	05.14.19 13.15		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.30	Basis:	Wet Weight
Seq Number:	3089409				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**70.3**	26.0	mg/kg	05.17.19 15.08		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 16.00	Basis:	Wet Weight
Seq Number:	3089321				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.17.19 02.22	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.17.19 02.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.17.19 02.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.17.19 02.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	05.17.19 02.22	
o-Terphenyl	84-15-1	117	%	70-135	05.17.19 02.22	

Certificate of Analytical Results 624488

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-3**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624488-003	Date Collected:	05.14.19 13.15		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089288				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.16.19 16.01	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.16.19 16.01	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.16.19 16.01	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.16.19 16.01	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.16.19 16.01	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.16.19 16.01	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.16.19 16.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	05.16.19 16.01	
1,4-Difluorobenzene	540-36-3	103	%	70-130	05.16.19 16.01	

Certificate of Analytical Results 624488

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-4**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624488-004	Date Collected:	05.14.19 13.20		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.30	Basis:	Wet Weight
Seq Number:	3089409				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12.1**	5.01	mg/kg	05.17.19 15.16		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 16.00	Basis:	Wet Weight
Seq Number:	3089321				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.17.19 02.41	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.17.19 02.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.17.19 02.41	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.17.19 02.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	05.17.19 02.41	
o-Terphenyl	84-15-1	117	%	70-135	05.17.19 02.41	

Certificate of Analytical Results 624488

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-4**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624488-004	Date Collected:	05.14.19 13.20		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089288				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.16.19 16.21	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.16.19 16.21	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.16.19 16.21	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.16.19 16.21	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.16.19 16.21	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.16.19 16.21	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.16.19 16.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	05.16.19 16.21	
1,4-Difluorobenzene	540-36-3	103	%	70-130	05.16.19 16.21	

Certificate of Analytical Results 624488

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-5**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624488-005	Date Collected:	05.14.19 13.35		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.30	Basis:	Wet Weight
Seq Number:	3089409				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13.4**	4.98	mg/kg	05.17.19 15.23		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 16.00	Basis:	Wet Weight
Seq Number:	3089321				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.17.19 03.00	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.17.19 03.00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.17.19 03.00	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.17.19 03.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	05.17.19 03.00	
o-Terphenyl	84-15-1	115	%	70-135	05.17.19 03.00	

Certificate of Analytical Results 624488

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-5**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624488-005	Date Collected:	05.14.19 13.35		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089288				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.16.19 16.40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.16.19 16.40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.16.19 16.40	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.16.19 16.40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.16.19 16.40	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.16.19 16.40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.16.19 16.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.16.19 16.40	
4-Bromofluorobenzene	460-00-4	99	%	70-130	05.16.19 16.40	

Certificate of Analytical Results 624488

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-6**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624488-006	Date Collected:	05.14.19 13.45		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.30	Basis:	Wet Weight
Seq Number:	3089409				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**17.9**	4.95	mg/kg	05.17.19 15.30		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 16.00	Basis:	Wet Weight
Seq Number:	3089321				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.17.19 03.20	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.17.19 03.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.17.19 03.20	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.17.19 03.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	05.17.19 03.20	
o-Terphenyl	84-15-1	119	%	70-135	05.17.19 03.20	

Certificate of Analytical Results 624488

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-6**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624488-006	Date Collected:	05.14.19 13.45		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089288				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.16.19 17.00	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.16.19 17.00	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.16.19 17.00	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	05.16.19 17.00	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.16.19 17.00	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.16.19 17.00	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.16.19 17.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	05.16.19 17.00	
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.16.19 17.00	

Certificate of Analytical Results 624488

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-7**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624488-007	Date Collected:	05.14.19 13.50		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.30	Basis:	Wet Weight
Seq Number:	3089409				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**21.3**	4.95	mg/kg	05.17.19 15.38		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 16.00	Basis:	Wet Weight
Seq Number:	3089321				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.17.19 03.39	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.17.19 03.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.17.19 03.39	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.17.19 03.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	05.17.19 03.39	
o-Terphenyl	84-15-1	116	%	70-135	05.17.19 03.39	

Certificate of Analytical Results 624488

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-7**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624488-007	Date Collected:	05.14.19 13.50		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089288				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.16.19 17.20	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.16.19 17.20	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.16.19 17.20	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.16.19 17.20	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.16.19 17.20	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.16.19 17.20	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.16.19 17.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	05.16.19 17.20	
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.16.19 17.20	

Certificate of Analytical Results 624488

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-8**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624488-008	Date Collected:	05.14.19 13.55		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.30	Basis:	Wet Weight
Seq Number:	3089409				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**17.6**	5.00	mg/kg	05.17.19 15.59		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 16.00	Basis:	Wet Weight
Seq Number:	3089321				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<14.9	14.9	mg/kg	05.17.19 03.58	U	1
Diesel Range Organics	C10C28DRO	<14.9	14.9	mg/kg	05.17.19 03.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	05.17.19 03.58	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	05.17.19 03.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	05.17.19 03.58	
o-Terphenyl	84-15-1	118	%	70-135	05.17.19 03.58	

Certificate of Analytical Results 624488

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-8**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624488-008	Date Collected:	05.14.19 13.55		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089288				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.16.19 17.39	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.16.19 17.39	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.16.19 17.39	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.16.19 17.39	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.16.19 17.39	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.16.19 17.39	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.16.19 17.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	05.16.19 17.39	
1,4-Difluorobenzene	540-36-3	103	%	70-130	05.16.19 17.39	

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-9**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624488-009	Date Collected:	05.14.19 14.10		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.30	Basis:	Wet Weight
Seq Number:	3089409				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**0.261**	0.0503	mg/kg	05.17.19 16.07		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 16.00	Basis:	Wet Weight
Seq Number:	3089321				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.17.19 04.17	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.17.19 04.17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.17.19 04.17	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.17.19 04.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	05.17.19 04.17	
o-Terphenyl	84-15-1	116	%	70-135	05.17.19 04.17	

Certificate of Analytical Results 624488

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-9**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624488-009	Date Collected:	05.14.19 14.10		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089288				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.16.19 17.58	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.16.19 17.58	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.16.19 17.58	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.16.19 17.58	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.16.19 17.58	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.16.19 17.58	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.16.19 17.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	05.16.19 17.58	
1,4-Difluorobenzene	540-36-3	103	%	70-130	05.16.19 17.58	

Certificate of Analytical Results 624488

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-10**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624488-010	Date Collected:	05.14.19 14.20		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.30	Basis:	Wet Weight
Seq Number:	3089409				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.8**	4.96	mg/kg	05.17.19 16.28		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 16.00	Basis:	Wet Weight
Seq Number:	3089321				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.17.19 04.37	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.17.19 04.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.17.19 04.37	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.17.19 04.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	05.17.19 04.37	
o-Terphenyl	84-15-1	114	%	70-135	05.17.19 04.37	

Certificate of Analytical Results 624488

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-10**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624488-010	Date Collected:	05.14.19 14.20		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089288				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.16.19 18.17	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.16.19 18.17	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.16.19 18.17	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.16.19 18.17	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.16.19 18.17	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.16.19 18.17	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.16.19 18.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	70-130	05.16.19 18.17	
1,4-Difluorobenzene	540-36-3	103	%	70-130	05.16.19 18.17	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 624488

COG Operating LLC

Cabo Wabo 25 Federal #1H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3089409 Matrix: Solid Date Prep: 05.16.19
MB Sample Id: 7678024-1-BLK LCS Sample Id: 7678024-1-BKS LCSD Sample Id: 7678024-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	250	100	250	100	90-110	0	20	mg/kg	05.17.19 12:50	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3089409 Matrix: Soil Date Prep: 05.16.19
Parent Sample Id: 624486-022 MS Sample Id: 624486-022 S MSD Sample Id: 624486-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	26.3	250	280	101	282	102	90-110	1	20	mg/kg	05.17.19 13:11	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3089409 Matrix: Soil Date Prep: 05.16.19
Parent Sample Id: 624488-007 MS Sample Id: 624488-007 S MSD Sample Id: 624488-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	21.3	248	276	103	274	102	90-110	1	20	mg/kg	05.17.19 15:45	

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3089321 Matrix: Solid Date Prep: 05.16.19
MB Sample Id: 7678031-1-BLK LCS Sample Id: 7678031-1-BKS LCSD Sample Id: 7678031-1-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	<8.00	1000	1080	108	1090	109	70-135	1	20	mg/kg	05.17.19 00:26	
Diesel Range Organics	<8.13	1000	1090	109	1110	111	70-135	2	20	mg/kg	05.17.19 00:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	108		129		129		70-135	%	05.17.19 00:26
o-Terphenyl	109		128		124		70-135	%	05.17.19 00:26

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

QC Summary 624488

COG Operating LLC

Cabo Wabo 25 Federal #1H

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3089321 Matrix: Soil Date Prep: 05.16.19
Parent Sample Id: 624488-001 MS Sample Id: 624488-001 S MSD Sample Id: 624488-001 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	<7.97	996	1130	113	1130	113	70-135	0	20	mg/kg	05.17.19 01:24	
Diesel Range Organics	<8.10	996	1100	110	1090	109	70-135	1	20	mg/kg	05.17.19 01:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		129		70-135	%	05.17.19 01:24
o-Terphenyl	110		110		70-135	%	05.17.19 01:24

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3089288 Matrix: Solid Date Prep: 05.16.19
MB Sample Id: 7678044-1-BLK LCS Sample Id: 7678044-1-BKS LCSD Sample Id: 7678044-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000384	0.0998	0.109	109	0.117	117	70-130	7	35	mg/kg	05.16.19 13:26	
Toluene	<0.000455	0.0998	0.101	101	0.109	109	70-130	8	35	mg/kg	05.16.19 13:26	
Ethylbenzene	<0.000564	0.0998	0.106	106	0.114	114	70-130	7	35	mg/kg	05.16.19 13:26	
m,p-Xylenes	<0.00101	0.200	0.220	110	0.236	118	70-130	7	35	mg/kg	05.16.19 13:26	
o-Xylene	<0.000344	0.0998	0.108	108	0.116	116	70-130	7	35	mg/kg	05.16.19 13:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		104		104		70-130	%	05.16.19 13:26
4-Bromofluorobenzene	83		100		100		70-130	%	05.16.19 13:26

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3089288 Matrix: Soil Date Prep: 05.16.19
Parent Sample Id: 624488-001 MS Sample Id: 624488-001 S MSD Sample Id: 624488-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.000450	0.0994	0.0974	98	0.0947	93	70-130	3	35	mg/kg	05.16.19 14:05	
Toluene	0.000460	0.0994	0.0897	90	0.0869	86	70-130	3	35	mg/kg	05.16.19 14:05	
Ethylbenzene	<0.000561	0.0994	0.0932	94	0.0901	89	70-130	3	35	mg/kg	05.16.19 14:05	
m,p-Xylenes	<0.00101	0.199	0.193	97	0.187	93	70-130	3	35	mg/kg	05.16.19 14:05	
o-Xylene	0.000430	0.0994	0.0929	93	0.0901	89	70-130	3	35	mg/kg	05.16.19 14:05	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		103		70-130	%	05.16.19 14:05
4-Bromofluorobenzene	103		101		70-130	%	05.16.19 14:05

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

Analysis Request of Chain of Custody Record

624488

CONCHO

One Concho Center/600/Illinois Avenue/Midland, Texas
Tel (432) 683-7443

Client Name: COG-Artesia	**Site Manager:** Sheldon Hitchcock
Project Name: Cabo Wabo 25 Federal #1H	
Project Location: (county, state) Eddy, NM	**Project #:**
Invoice to: Sheldon Hitchcock	
Receiving Laboratory: Xenco	**Sampler Name:** Sheldon Hitchcock
Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2014 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	# CONTAINERS	(G)rab/(C)omposit	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold
	Bttm-1	5/14	1:00		X			X	1	C	X	X	X	
	Bttm-2		1:10		X			X	1	C	X	X	X	
	Bttm-3		1:15		X			X	1	C	X	X	X	
	Bttm-4		1:20		X			X	1	C	X	X	X	
	Bttm-5		1:35		X			X	1	C	X	X	X	
	Bttm-6		1:45		X			X	1	C	X	X	X	
	Bttm-7		1:50		X			X	1	C	X	X	X	
	Bttm-8		1:55		X			X	1	C	X	X	X	
	Bttm-9		2:10		X			X	1	C	X	X	X	
	Bttm-10		2:20		X			X	1	C	X	X	X	

Relinquished by: Brenda Reina	Date: 5/14/14	Time: 15:20	Received by: Cassie P
Relinquished by:	Date:	Time:	Received by: Patrick
Relinquished by:	Date:	Time:	Received by:

Received by: Cassie P — Date: 5/14/14 — Time: 15:20

Received by: Patrick — Date: 5/16/14 — Time: 1058

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB USE ONLY

Sample Temperature: 0.3/0.2

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Final 1.000

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 05/16/2019 10:58:00 AM

Work Order #: 624488

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 05/16/2019
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/16/2019
Jessica Kramer

Certificate of Analysis Summary 624486

COG Operating LLC, Artesia, NM

Project Name: Cabo Wabo 25 Federal #1H

Project Id:

Contact: Sheldon Hitchcock

Project Location: Eddy, NM

Date Received in Lab: Thu May-16-19 10:58 am

Report Date: 17-MAY-19

Project Manager: Jessica Kramer

Analysis Requested	*Lab Id:*	624486-001		624486-002		624486-003		624486-004		624486-005		624486-006	
	Field Id:	Bttm-11		Bttm-12		Bttm-13		Bttm-14		Bttm-15		Bttm-16	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-15-19 10:30		May-15-19 10:36		May-15-19 10:40		May-15-19 10:45		May-15-19 10:50		May-15-19 10:55	
BTEX by EPA 8021B	*Extracted:*	May-16-19 11:00		May-16-19 11:00		May-16-19 11:00		May-16-19 11:00		May-16-19 11:00		May-16-19 11:00	
	Analyzed:	May-16-19 15:16		May-16-19 15:35		May-16-19 15:54		May-16-19 16:13		May-16-19 16:32		May-16-19 16:51	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198
Toluene		<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198
Ethylbenzene		<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198
m,p-Xylenes		<0.00403	0.00403	<0.00400	0.00400	<0.00400	0.00400	<0.00401	0.00401	<0.00399	0.00399	<0.00397	0.00397
o-Xylene		<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198
Total Xylenes		<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198
Total BTEX		<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198
Chloride by EPA 300	*Extracted:*	May-16-19 13:00		May-16-19 13:00		May-16-19 13:00		May-16-19 13:00		May-16-19 13:00		May-16-19 13:00	
	Analyzed:	May-16-19 22:06		May-16-19 22:13		May-16-19 22:20		May-16-19 22:42		May-16-19 22:49		May-17-19 11:55	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		17.1	5.02	8.04	5.00	13.0	5.00	3180	25.0	6.11	5.00	1960	24.9
TPH By SW8015 Mod	*Extracted:*	May-16-19 12:00		May-16-19 12:00		May-16-19 12:00		May-16-19 12:00		May-16-19 12:00		May-16-19 12:00	
	Analyzed:	May-16-19 16:03		May-16-19 17:03		May-16-19 17:23		May-16-19 17:43		May-16-19 18:02		May-16-19 18:22	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<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	<15.0	15.0	<15.0	15.0

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 624486

COG Operating LLC, Artesia, NM

Project Name: Cabo Wabo 25 Federal #1H

Project Id:
Contact: Sheldon Hitchcock
Project Location: Eddy, NM

Date Received in Lab: Thu May-16-19 10:58 am
Report Date: 17-MAY-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	624486-007		624486-008		624486-009		624486-010		624486-011		624486-012	
	Field Id:	Bttm-17		Bttm-18		Bttm-19		Bttm-20		Bttm-21		Bttm-22	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-15-19 11:00		May-15-19 11:05		May-15-19 11:10		May-15-19 11:15		May-15-19 13:30		May-15-19 13:35	
BTEX by EPA 8021B	***Extracted:***	May-16-19 11:00		May-16-19 11:00		May-16-19 11:00		May-16-19 11:00		May-16-19 11:00		May-16-19 11:00	
	Analyzed:	May-16-19 17:10		May-16-19 17:29		May-16-19 17:48		May-16-19 18:07		May-16-19 19:21		May-16-19 19:40	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Toluene		<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Ethylbenzene		<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
m,p-Xylenes		<0.00403	0.00403	<0.00398	0.00398	<0.00398	0.00398	<0.00401	0.00401	<0.00402	0.00402	<0.00399	0.00399
o-Xylene		<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Total Xylenes		<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Total BTEX		<0.00202	0.00202	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00200	0.00200
Chloride by EPA 300	***Extracted:***	May-16-19 13:00		May-16-19 13:00		May-16-19 13:00		May-16-19 13:00		May-16-19 13:00		May-16-19 13:00	
	Analyzed:	May-16-19 23:04		May-16-19 23:11		May-16-19 23:18		May-16-19 23:40		May-16-19 23:47		May-17-19 00:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		6.70	4.96	1470	5.04	19.5	4.98	1510	5.03	44.7	5.05	1040	5.00
TPH By SW8015 Mod	***Extracted:***	May-16-19 12:00		May-16-19 12:00		May-16-19 12:00		May-16-19 12:00		May-16-19 12:00		May-16-19 12:00	
	Analyzed:	May-16-19 18:41		May-16-19 19:00		May-16-19 19:20		May-16-19 19:39		May-16-19 20:36		May-16-19 20:55	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<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	<15.0	15.0	<15.0	15.0

Certificate of Analysis Summary 624486

COG Operating LLC, Artesia, NM

Project Name: Cabo Wabo 25 Federal #1H

Project Id:

Contact: Sheldon Hitchcock

Project Location: Eddy, NM

Date Received in Lab: Thu May-16-19 10:58 am

Report Date: 17-MAY-19

Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	624486-013		624486-014		624486-015		624486-016		624486-017		624486-018	
	Field Id:	Bttm-23		Bttm-24		Bttm-25		Bttm-26		Bttm-27		Bttm-28	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-15-19 13:40		May-15-19 13:45		May-15-19 13:50		May-15-19 13:55		May-15-19 14:00		May-15-19 14:05	
BTEX by EPA 8021B	***Extracted:***	May-16-19 11:00		May-16-19 11:00		May-16-19 11:00		May-16-19 11:00		May-16-19 11:00		May-16-19 11:00	
	Analyzed:	May-16-19 19:59		May-16-19 20:18		May-16-19 20:37		May-16-19 20:56		May-16-19 21:15		May-16-19 21:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Toluene		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Ethylbenzene		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
m,p-Xylenes		<0.00402	0.00402	<0.00398	0.00398	<0.00401	0.00401	<0.00399	0.00399	<0.00403	0.00403	<0.00398	0.00398
o-Xylene		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Total Xylenes		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Total BTEX		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Chloride by EPA 300	***Extracted:***	May-16-19 13:00		May-16-19 13:00		May-16-19 13:00		May-16-19 13:00		May-16-19 13:00		May-16-19 13:00	
	Analyzed:	May-17-19 00:16		May-17-19 00:23		May-17-19 00:31		May-17-19 00:38		May-17-19 00:45		May-17-19 00:52	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		69.4	5.04	1310	5.01	15300	99.6	2960	25.0	14000	99.2	5340	49.9
TPH By SW8015 Mod	***Extracted:***	May-16-19 12:00		May-16-19 12:00		May-16-19 12:00		May-16-19 12:00		May-16-19 12:00		May-16-19 12:00	
	Analyzed:	May-16-19 21:15		May-16-19 21:34		May-16-19 21:53		May-16-19 22:12		May-16-19 22:31		May-16-19 22:50	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0

Certificate of Analysis Summary 624486

COG Operating LLC, Artesia, NM

Project Name: Cabo Wabo 25 Federal #1H

Project Id:
Contact: Sheldon Hitchcock
Project Location: Eddy, NM

Date Received in Lab: Thu May-16-19 10:58 am
Report Date: 17-MAY-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	624486-019		624486-020		624486-021		624486-022					
	Field Id:	Bttm-29		Bttm-30		Bttm-31		Bttm-32					
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	May-15-19 14:10		May-15-19 14:15		May-15-19 14:20		May-15-19 14:25					
BTEX by EPA 8021B	***Extracted:***	May-16-19 11:00		May-16-19 11:00		May-16-19 17:00		May-16-19 17:00					
	Analyzed:	May-16-19 21:53		May-16-19 22:12		May-17-19 01:00		May-17-19 01:19					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201				
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201				
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201				
m,p-Xylenes		<0.00400	0.00400	<0.00399	0.00399	<0.00400	0.00400	<0.00402	0.00402				
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201				
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201				
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201				
Chloride by EPA 300	***Extracted:***	May-16-19 13:30		May-16-19 13:30		May-16-19 13:30		May-16-19 13:30					
	Analyzed:	May-17-19 14:18		May-17-19 14:25		May-17-19 14:32		May-17-19 13:04					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		1460	5.02	15800	99.6	1190	5.00	26.3	5.00				
TPH By SW8015 Mod	***Extracted:***	May-16-19 12:00		May-16-19 12:00		May-16-19 11:30		May-16-19 11:30					
	Analyzed:	May-16-19 23:09		May-16-19 23:29		May-16-19 12:43		May-16-19 13:43					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Diesel Range Organics		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				

Analytical Report 624486

for

COG Operating LLC

Project Manager: Sheldon Hitchcock

Cabo Wabo 25 Federal #1H

17-MAY-19

Collected By: Client

1211 W. Florida Ave
Midland TX 79701

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

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

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

17-MAY-19

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

Reference: XENCO Report No(s): **624486**
Cabo Wabo 25 Federal #1H
Project Address: Eddy, NM

Sheldon Hitchcock:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 624486. 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. 624486 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Sample Cross Reference 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Bttm-11	S	05-15-19 10:30		624486-001
Bttm-12	S	05-15-19 10:36		624486-002
Bttm-13	S	05-15-19 10:40		624486-003
Bttm-14	S	05-15-19 10:45		624486-004
Bttm-15	S	05-15-19 10:50		624486-005
Bttm-16	S	05-15-19 10:55		624486-006
Bttm-17	S	05-15-19 11:00		624486-007
Bttm-18	S	05-15-19 11:05		624486-008
Bttm-19	S	05-15-19 11:10		624486-009
Bttm-20	S	05-15-19 11:15		624486-010
Bttm-21	S	05-15-19 13:30		624486-011
Bttm-22	S	05-15-19 13:35		624486-012
Bttm-23	S	05-15-19 13:40		624486-013
Bttm-24	S	05-15-19 13:45		624486-014
Bttm-25	S	05-15-19 13:50		624486-015
Bttm-26	S	05-15-19 13:55		624486-016
Bttm-27	S	05-15-19 14:00		624486-017
Bttm-28	S	05-15-19 14:05		624486-018
Bttm-29	S	05-15-19 14:10		624486-019
Bttm-30	S	05-15-19 14:15		624486-020
Bttm-31	S	05-15-19 14:20		624486-021
Bttm-32	S	05-15-19 14:25		624486-022

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3089283 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3089307 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-11**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-001	Date Collected:	05.15.19 10.30		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.00	Basis:	Wet Weight
Seq Number:	3089337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**17.1**	5.02	mg/kg	05.16.19 22.06		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 16.03	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 16.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 16.03	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 16.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	05.16.19 16.03	
o-Terphenyl	84-15-1	115	%	70-135	05.16.19 16.03	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-11**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-001	Date Collected:	05.15.19 10.30		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 11.00	Basis:	Wet Weight
Seq Number:	3089283				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.16.19 15.16	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.16.19 15.16	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.16.19 15.16	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.16.19 15.16	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.16.19 15.16	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.16.19 15.16	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.16.19 15.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	70-130	05.16.19 15.16	
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.16.19 15.16	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-12**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-002	Date Collected:	05.15.19 10.36		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.00	Basis:	Wet Weight
Seq Number:	3089337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.04**	5.00	mg/kg	05.16.19 22.13		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 17.03	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 17.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 17.03	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 17.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	121	%	70-135	05.16.19 17.03	
o-Terphenyl	84-15-1	120	%	70-135	05.16.19 17.03	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-12**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-002	Date Collected:	05.15.19 10.36		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 11.00	Basis:	Wet Weight
Seq Number:	3089283				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.16.19 15.35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.16.19 15.35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.16.19 15.35	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.16.19 15.35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.16.19 15.35	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.16.19 15.35	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.16.19 15.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.16.19 15.35	
4-Bromofluorobenzene	460-00-4	123	%	70-130	05.16.19 15.35	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-13**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-003	Date Collected:	05.15.19 10.40		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.00	Basis:	Wet Weight
Seq Number:	3089337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13.0**	5.00	mg/kg	05.16.19 22.20		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 17.23	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 17.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 17.23	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 17.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	05.16.19 17.23	
o-Terphenyl	84-15-1	118	%	70-135	05.16.19 17.23	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-13**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-003	Date Collected:	05.15.19 10.40		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 11.00	Basis:	Wet Weight
Seq Number:	3089283				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.16.19 15.54	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.16.19 15.54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.16.19 15.54	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.16.19 15.54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.16.19 15.54	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.16.19 15.54	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.16.19 15.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	70-130	05.16.19 15.54	
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.16.19 15.54	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-14**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-004	Date Collected:	05.15.19 10.45		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.00	Basis:	Wet Weight
Seq Number:	3089337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3180**	25.0	mg/kg	05.16.19 22.42		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 17.43	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 17.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 17.43	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 17.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	05.16.19 17.43	
o-Terphenyl	84-15-1	120	%	70-135	05.16.19 17.43	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-14**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-004	Date Collected:	05.15.19 10.45		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 11.00	Basis:	Wet Weight
Seq Number:	3089283				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.16.19 16.13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.16.19 16.13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.16.19 16.13	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.16.19 16.13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.16.19 16.13	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.16.19 16.13	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.16.19 16.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	122	%	70-130	05.16.19 16.13	
1,4-Difluorobenzene	540-36-3	103	%	70-130	05.16.19 16.13	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-15**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-005	Date Collected:	05.15.19 10.50		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.00	Basis:	Wet Weight
Seq Number:	3089337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.11**	5.00	mg/kg	05.16.19 22.49		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 18.02	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 18.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 18.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 18.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	05.16.19 18.02	
o-Terphenyl	84-15-1	109	%	70-135	05.16.19 18.02	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-15**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-005	Date Collected:	05.15.19 10.50		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 11.00	Basis:	Wet Weight
Seq Number:	3089283				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.16.19 16.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.16.19 16.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.16.19 16.32	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.16.19 16.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.16.19 16.32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.16.19 16.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.16.19 16.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	119	%	70-130	05.16.19 16.32	
1,4-Difluorobenzene	540-36-3	103	%	70-130	05.16.19 16.32	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-16**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-006	Date Collected:	05.15.19 10.55		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.00	Basis:	Wet Weight
Seq Number:	3089337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1960**	24.9	mg/kg	05.17.19 11.55		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 18.22	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 18.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 18.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 18.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	05.16.19 18.22	
o-Terphenyl	84-15-1	113	%	70-135	05.16.19 18.22	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-16**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-006	Date Collected:	05.15.19 10.55		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 11.00	Basis:	Wet Weight
Seq Number:	3089283				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.16.19 16.51	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.16.19 16.51	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.16.19 16.51	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.16.19 16.51	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.16.19 16.51	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.16.19 16.51	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.16.19 16.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.16.19 16.51	
4-Bromofluorobenzene	460-00-4	122	%	70-130	05.16.19 16.51	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-17**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-007	Date Collected:	05.15.19 11.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.00	Basis:	Wet Weight
Seq Number:	3089337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.70**	4.96	mg/kg	05.16.19 23.04		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 18.41	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 18.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 18.41	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 18.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	05.16.19 18.41	
o-Terphenyl	84-15-1	117	%	70-135	05.16.19 18.41	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-17**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-007	Date Collected:	05.15.19 11.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 11.00	Basis:	Wet Weight
Seq Number:	3089283				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.16.19 17.10	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.16.19 17.10	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.16.19 17.10	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.16.19 17.10	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.16.19 17.10	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.16.19 17.10	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.16.19 17.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	70-130	05.16.19 17.10	
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.16.19 17.10	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-18**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-008	Date Collected:	05.15.19 11.05		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.00	Basis:	Wet Weight
Seq Number:	3089337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1470**	5.04	mg/kg	05.16.19 23.11		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 19.00	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 19.00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 19.00	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 19.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	05.16.19 19.00	
o-Terphenyl	84-15-1	118	%	70-135	05.16.19 19.00	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-18**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-008	Date Collected:	05.15.19 11.05		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 11.00	Basis:	Wet Weight
Seq Number:	3089283				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.16.19 17.29	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.16.19 17.29	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.16.19 17.29	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.16.19 17.29	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.16.19 17.29	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.16.19 17.29	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.16.19 17.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	05.16.19 17.29	
4-Bromofluorobenzene	460-00-4	120	%	70-130	05.16.19 17.29	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-19**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-009	Date Collected:	05.15.19 11.10		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.00	Basis:	Wet Weight
Seq Number:	3089337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.5**	4.98	mg/kg	05.16.19 23.18		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 19.20	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 19.20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 19.20	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 19.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	05.16.19 19.20	
o-Terphenyl	84-15-1	118	%	70-135	05.16.19 19.20	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-19**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-009	Date Collected:	05.15.19 11.10		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 11.00	Basis:	Wet Weight
Seq Number:	3089283				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.16.19 17.48	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.16.19 17.48	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.16.19 17.48	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.16.19 17.48	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.16.19 17.48	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.16.19 17.48	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.16.19 17.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	05.16.19 17.48	
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.16.19 17.48	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-20**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-010	Date Collected:	05.15.19 11.15		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.00	Basis:	Wet Weight
Seq Number:	3089337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1510**	5.03	mg/kg	05.16.19 23.40		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 19.39	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 19.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 19.39	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 19.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	05.16.19 19.39	
o-Terphenyl	84-15-1	118	%	70-135	05.16.19 19.39	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-20**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-010	Date Collected:	05.15.19 11.15		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 11.00	Basis:	Wet Weight
Seq Number:	3089283				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.16.19 18.07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.16.19 18.07	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.16.19 18.07	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.16.19 18.07	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.16.19 18.07	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.16.19 18.07	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.16.19 18.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.16.19 18.07	
4-Bromofluorobenzene	460-00-4	119	%	70-130	05.16.19 18.07	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-21**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-011	Date Collected:	05.15.19 13.30		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.00	Basis:	Wet Weight
Seq Number:	3089337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**44.7**	5.05	mg/kg	05.16.19 23.47		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 20.36	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 20.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 20.36	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 20.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	05.16.19 20.36	
o-Terphenyl	84-15-1	115	%	70-135	05.16.19 20.36	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-21**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-011	Date Collected:	05.15.19 13.30		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 11.00	Basis:	Wet Weight
Seq Number:	3089283				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.16.19 19.21	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.16.19 19.21	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.16.19 19.21	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.16.19 19.21	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.16.19 19.21	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.16.19 19.21	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.16.19 19.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	05.16.19 19.21	
4-Bromofluorobenzene	460-00-4	116	%	70-130	05.16.19 19.21	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-22**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-012	Date Collected:	05.15.19 13.35		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.00	Basis:	Wet Weight
Seq Number:	3089337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1040**	5.00	mg/kg	05.17.19 00.09		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 20.55	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 20.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 20.55	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 20.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	05.16.19 20.55	
o-Terphenyl	84-15-1	114	%	70-135	05.16.19 20.55	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-22**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-012	Date Collected:	05.15.19 13.35		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 11.00	Basis:	Wet Weight
Seq Number:	3089283				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.16.19 19.40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.16.19 19.40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.16.19 19.40	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.16.19 19.40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.16.19 19.40	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.16.19 19.40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.16.19 19.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	120	%	70-130	05.16.19 19.40	
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.16.19 19.40	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-23**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-013	Date Collected:	05.15.19 13.40		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.00	Basis:	Wet Weight
Seq Number:	3089337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**69.4**	5.04	mg/kg	05.17.19 00.16		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 21.15	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 21.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 21.15	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 21.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	05.16.19 21.15	
o-Terphenyl	84-15-1	116	%	70-135	05.16.19 21.15	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-23**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-013	Date Collected:	05.15.19 13.40		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 11.00	Basis:	Wet Weight
Seq Number:	3089283				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.16.19 19.59	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.16.19 19.59	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.16.19 19.59	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.16.19 19.59	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.16.19 19.59	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.16.19 19.59	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.16.19 19.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.16.19 19.59	
4-Bromofluorobenzene	460-00-4	121	%	70-130	05.16.19 19.59	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-24**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-014	Date Collected:	05.15.19 13.45		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.00	Basis:	Wet Weight
Seq Number:	3089337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1310**	5.01	mg/kg	05.17.19 00.23		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<14.9	14.9	mg/kg	05.16.19 21.34	U	1
Diesel Range Organics	C10C28DRO	<14.9	14.9	mg/kg	05.16.19 21.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	05.16.19 21.34	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	05.16.19 21.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	05.16.19 21.34	
o-Terphenyl	84-15-1	117	%	70-135	05.16.19 21.34	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-24**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-014	Date Collected:	05.15.19 13.45		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 11.00	Basis:	Wet Weight
Seq Number:	3089283				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.16.19 20.18	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.16.19 20.18	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.16.19 20.18	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.16.19 20.18	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.16.19 20.18	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.16.19 20.18	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.16.19 20.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	124	%	70-130	05.16.19 20.18	
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.16.19 20.18	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-25**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-015	Date Collected:	05.15.19 13.50		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.00	Basis:	Wet Weight
Seq Number:	3089337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**15300**	99.6	mg/kg	05.17.19 00.31		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 21.53	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 21.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 21.53	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 21.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	05.16.19 21.53	
o-Terphenyl	84-15-1	117	%	70-135	05.16.19 21.53	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-25**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-015	Date Collected:	05.15.19 13.50		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 11.00	Basis:	Wet Weight
Seq Number:	3089283				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.16.19 20.37	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.16.19 20.37	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.16.19 20.37	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.16.19 20.37	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.16.19 20.37	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.16.19 20.37	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.16.19 20.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.16.19 20.37	
4-Bromofluorobenzene	460-00-4	123	%	70-130	05.16.19 20.37	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-26**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-016	Date Collected:	05.15.19 13.55		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.00	Basis:	Wet Weight
Seq Number:	3089337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2960**	25.0	mg/kg	05.17.19 00.38		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 22.12	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 22.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 22.12	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 22.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	05.16.19 22.12	
o-Terphenyl	84-15-1	115	%	70-135	05.16.19 22.12	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-26**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-016	Date Collected:	05.15.19 13.55		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 11.00	Basis:	Wet Weight
Seq Number:	3089283				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.16.19 20.56	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.16.19 20.56	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.16.19 20.56	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.16.19 20.56	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.16.19 20.56	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.16.19 20.56	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.16.19 20.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	122	%	70-130	05.16.19 20.56	
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.16.19 20.56	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-27**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-017	Date Collected:	05.15.19 14.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.00	Basis:	Wet Weight
Seq Number:	3089337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14000**	99.2	mg/kg	05.17.19 00.45		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 22.31	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 22.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 22.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 22.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	05.16.19 22.31	
o-Terphenyl	84-15-1	119	%	70-135	05.16.19 22.31	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-27**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-017	Date Collected:	05.15.19 14.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 11.00	Basis:	Wet Weight
Seq Number:	3089283				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.16.19 21.15	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.16.19 21.15	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.16.19 21.15	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.16.19 21.15	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.16.19 21.15	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.16.19 21.15	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.16.19 21.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	122	%	70-130	05.16.19 21.15	
1,4-Difluorobenzene	540-36-3	102	%	70-130	05.16.19 21.15	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-28**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-018	Date Collected:	05.15.19 14.05		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.00	Basis:	Wet Weight
Seq Number:	3089337				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5340**	49.9	mg/kg	05.17.19 00.52		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 22.50	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 22.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 22.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 22.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	05.16.19 22.50	
o-Terphenyl	84-15-1	117	%	70-135	05.16.19 22.50	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-28**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-018	Date Collected:	05.15.19 14.05		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 11.00	Basis:	Wet Weight
Seq Number:	3089283				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.16.19 21.34	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.16.19 21.34	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.16.19 21.34	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.16.19 21.34	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.16.19 21.34	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.16.19 21.34	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.16.19 21.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.16.19 21.34	
4-Bromofluorobenzene	460-00-4	124	%	70-130	05.16.19 21.34	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-29**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-019	Date Collected:	05.15.19 14.10		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.30	Basis:	Wet Weight
Seq Number:	3089409				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1460**	5.02	mg/kg	05.17.19 14.18		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 23.09	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 23.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 23.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 23.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	05.16.19 23.09	
o-Terphenyl	84-15-1	117	%	70-135	05.16.19 23.09	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-29**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-019	Date Collected:	05.15.19 14.10		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 11.00	Basis:	Wet Weight
Seq Number:	3089283				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.16.19 21.53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.16.19 21.53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.16.19 21.53	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.16.19 21.53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.16.19 21.53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.16.19 21.53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.16.19 21.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	123	%	70-130	05.16.19 21.53	
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.16.19 21.53	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-30**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-020	Date Collected:	05.15.19 14.15		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.30	Basis:	Wet Weight
Seq Number:	3089409				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**15800**	99.6	mg/kg	05.17.19 14.25		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 12.00	Basis:	Wet Weight
Seq Number:	3089320				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 23.29	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 23.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 23.29	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 23.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	05.16.19 23.29	
o-Terphenyl	84-15-1	115	%	70-135	05.16.19 23.29	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-30**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-020	Date Collected:	05.15.19 14.15		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 11.00	Basis:	Wet Weight
Seq Number:	3089283				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.16.19 22.12	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.16.19 22.12	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.16.19 22.12	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.16.19 22.12	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.16.19 22.12	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.16.19 22.12	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.16.19 22.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	122	%	70-130	05.16.19 22.12	
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.16.19 22.12	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-31**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-021	Date Collected:	05.15.19 14.20		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.30	Basis:	Wet Weight
Seq Number:	3089409				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1190**	5.00	mg/kg	05.17.19 14.32		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 11.30	Basis:	Wet Weight
Seq Number:	3089319				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 12.43	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 12.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 12.43	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 12.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	05.16.19 12.43	
o-Terphenyl	84-15-1	104	%	70-135	05.16.19 12.43	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-31**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-021	Date Collected:	05.15.19 14.20		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 17.00	Basis:	Wet Weight
Seq Number:	3089307				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.17.19 01.00	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.17.19 01.00	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.17.19 01.00	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.17.19 01.00	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.17.19 01.00	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.17.19 01.00	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.17.19 01.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	122	%	70-130	05.17.19 01.00	
1,4-Difluorobenzene	540-36-3	99	%	70-130	05.17.19 01.00	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-32**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-022	Date Collected:	05.15.19 14.25		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	05.16.19 13.30	Basis:	Wet Weight
Seq Number:	3089409				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**26.3**	5.00	mg/kg	05.17.19 13.04		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.19 11.30	Basis:	Wet Weight
Seq Number:	3089319				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.19 13.43	U	1
Diesel Range Organics	C10C28DRO	<15.0	15.0	mg/kg	05.16.19 13.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	05.16.19 13.43	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.19 13.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	05.16.19 13.43	
o-Terphenyl	84-15-1	103	%	70-135	05.16.19 13.43	

Certificate of Analytical Results 624486

COG Operating LLC, Artesia, NM

Cabo Wabo 25 Federal #1H

Sample Id:	**Bttm-32**	Matrix:	Soil	Date Received:	05.16.19 10.58
Lab Sample Id:	624486-022	Date Collected:	05.15.19 14.25		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.16.19 17.00	Basis:	Wet Weight
Seq Number:	3089307				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.17.19 01.19	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.17.19 01.19	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.17.19 01.19	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.17.19 01.19	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.17.19 01.19	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.17.19 01.19	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.17.19 01.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	122	%	70-130	05.17.19 01.19	
1,4-Difluorobenzene	540-36-3	100	%	70-130	05.17.19 01.19	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 624486

COG Operating LLC

Cabo Wabo 25 Federal #1H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3089337 Matrix: Solid Date Prep: 05.16.19
MB Sample Id: 7677988-1-BLK LCS Sample Id: 7677988-1-BKS LCSD Sample Id: 7677988-1-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	258	103	258	103	90-110	0	20	mg/kg	05.16.19 21:22	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3089409 Matrix: Solid Date Prep: 05.16.19
MB Sample Id: 7678024-1-BLK LCS Sample Id: 7678024-1-BKS LCSD Sample Id: 7678024-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	250	100	250	100	90-110	0	20	mg/kg	05.17.19 12:50	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3089337 Matrix: Soil Date Prep: 05.16.19
Parent Sample Id: 624484-001 MS Sample Id: 624484-001 S MSD Sample Id: 624484-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	48.2	248	313	107	315	108	90-110	1	20	mg/kg	05.16.19 21:44	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3089337 Matrix: Soil Date Prep: 05.16.19
Parent Sample Id: 624486-009 MS Sample Id: 624486-009 S MSD Sample Id: 624486-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	19.5	249	283	106	286	107	90-110	1	20	mg/kg	05.16.19 23:25	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3089409 Matrix: Soil Date Prep: 05.16.19
Parent Sample Id: 624486-022 MS Sample Id: 624486-022 S MSD Sample Id: 624486-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	26.3	250	280	101	282	102	90-110	1	20	mg/kg	05.17.19 13:11	

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

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

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

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

QC Summary 624486

COG Operating LLC

Cabo Wabo 25 Federal #1H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3089409 Matrix: Soil Date Prep: 05.16.19
Parent Sample Id: 624488-007 MS Sample Id: 624488-007 S MSD Sample Id: 624488-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	21.3	248	276	103	274	102	90-110	1	20	mg/kg	05.17.19 15:45	

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3089319 Matrix: Solid Date Prep: 05.16.19
MB Sample Id: 7678029-1-BLK LCS Sample Id: 7678029-1-BKS LCSD Sample Id: 7678029-1-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	<8.00	1000	1030	103	1030	103	70-135	0	20	mg/kg	05.16.19 12:03	
Diesel Range Organics	<8.13	1000	1080	108	1070	107	70-135	1	20	mg/kg	05.16.19 12:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		128		126		70-135	%	05.16.19 12:03
o-Terphenyl	106		121		113		70-135	%	05.16.19 12:03

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3089320 Matrix: Solid Date Prep: 05.16.19
MB Sample Id: 7678030-1-BLK LCS Sample Id: 7678030-1-BKS LCSD Sample Id: 7678030-1-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	<8.00	1000	1050	105	1030	103	70-135	2	20	mg/kg	05.16.19 15:23	
Diesel Range Organics	<8.13	1000	1110	111	1080	108	70-135	3	20	mg/kg	05.16.19 15:23	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		128		129		70-135	%	05.16.19 15:23
o-Terphenyl	106		123		116		70-135	%	05.16.19 15:23

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3089319 Matrix: Soil Date Prep: 05.16.19
Parent Sample Id: 624486-021 MS Sample Id: 624486-021 S MSD Sample Id: 624486-021 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	<7.99	999	1080	108	1120	112	70-135	4	20	mg/kg	05.16.19 13:03	
Diesel Range Organics	<8.12	999	1060	106	1110	111	70-135	5	20	mg/kg	05.16.19 13:03	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	125		122		70-135	%	05.16.19 13:03
o-Terphenyl	107		110		70-135	%	05.16.19 13:03

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

QC Summary 624486

COG Operating LLC

Cabo Wabo 25 Federal #1H

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3089320 Matrix: Soil Date Prep: 05.16.19
Parent Sample Id: 624486-001 MS Sample Id: 624486-001 S MSD Sample Id: 624486-001 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	<8.00	1000	1140	114	1160	116	70-135	2	20	mg/kg	05.16.19 16:23	
Diesel Range Organics	<8.13	1000	1120	112	1130	113	70-135	1	20	mg/kg	05.16.19 16:23	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	126		127		70-135	%	05.16.19 16:23
o-Terphenyl	111		112		70-135	%	05.16.19 16:23

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3089283 Matrix: Solid Date Prep: 05.16.19
MB Sample Id: 7678036-1-BLK LCS Sample Id: 7678036-1-BKS LCSD Sample Id: 7678036-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.100	100	0.101	101	70-130	1	35	mg/kg	05.16.19 13:24	
Toluene	<0.00200	0.0998	0.0999	100	0.100	100	70-130	0	35	mg/kg	05.16.19 13:24	
Ethylbenzene	<0.00200	0.0998	0.110	110	0.109	109	70-130	1	35	mg/kg	05.16.19 13:24	
m,p-Xylenes	<0.00399	0.200	0.232	116	0.230	116	70-130	1	35	mg/kg	05.16.19 13:24	
o-Xylene	<0.00200	0.0998	0.113	113	0.113	113	70-130	0	35	mg/kg	05.16.19 13:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		93		95		70-130	%	05.16.19 13:24
4-Bromofluorobenzene	99		108		108		70-130	%	05.16.19 13:24

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3089307 Matrix: Solid Date Prep: 05.16.19
MB Sample Id: 7678055-1-BLK LCS Sample Id: 7678055-1-BKS LCSD Sample Id: 7678055-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.100	100	0.103	103	70-130	3	35	mg/kg	05.16.19 23:08	
Toluene	<0.00201	0.100	0.0984	98	0.0997	100	70-130	1	35	mg/kg	05.16.19 23:08	
Ethylbenzene	<0.00201	0.100	0.106	106	0.107	107	70-130	1	35	mg/kg	05.16.19 23:08	
m,p-Xylenes	<0.00402	0.201	0.224	111	0.225	113	70-130	0	35	mg/kg	05.16.19 23:08	
o-Xylene	<0.00201	0.100	0.111	111	0.112	112	70-130	1	35	mg/kg	05.16.19 23:08	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		95		94		70-130	%	05.16.19 23:08
4-Bromofluorobenzene	106		110		109		70-130	%	05.16.19 23:08

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

QC Summary 624486

COG Operating LLC

Cabo Wabo 25 Federal #1H

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3089283 Matrix: Soil Date Prep: 05.16.19

Parent Sample Id: 624486-001 MS Sample Id: 624486-001 S MSD Sample Id: 624486-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0877	88	0.101	101	70-130	14	35	mg/kg	05.16.19 14:02	
Toluene	<0.00199	0.0994	0.0852	86	0.0996	100	70-130	16	35	mg/kg	05.16.19 14:02	
Ethylbenzene	<0.00199	0.0994	0.0923	93	0.109	109	70-130	17	35	mg/kg	05.16.19 14:02	
m,p-Xylenes	<0.00398	0.199	0.193	97	0.228	113	70-130	17	35	mg/kg	05.16.19 14:02	
o-Xylene	<0.00199	0.0994	0.0946	95	0.111	111	70-130	16	35	mg/kg	05.16.19 14:02	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		96		70-130	%	05.16.19 14:02
4-Bromofluorobenzene	109		110		70-130	%	05.16.19 14:02

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3089307 Matrix: Soil Date Prep: 05.16.19

Parent Sample Id: 624486-021 MS Sample Id: 624486-021 S MSD Sample Id: 624486-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0847	84	0.0951	95	70-130	12	35	mg/kg	05.16.19 23:46	
Toluene	<0.00202	0.101	0.0868	86	0.0940	94	70-130	8	35	mg/kg	05.16.19 23:46	
Ethylbenzene	<0.00202	0.101	0.0942	93	0.102	102	70-130	8	35	mg/kg	05.16.19 23:46	
m,p-Xylenes	<0.00403	0.202	0.199	99	0.215	108	70-130	8	35	mg/kg	05.16.19 23:46	
o-Xylene	<0.00202	0.101	0.0993	98	0.106	106	70-130	7	35	mg/kg	05.16.19 23:46	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		96		70-130	%	05.16.19 23:46
4-Bromofluorobenzene	115		114		70-130	%	05.16.19 23:46

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

Analysis Request of Chain of Custody Record

624486

CONCHO

One Concho Center/600/Illinois Avenue/Midland, Texas
Tel (432) 683-7443

Client Name: COG-Artesia	**Site Manager:** Sheldon Hitchcock
Project Name: Cabo Bajo 25 Federal #1H	
Project Location: (county, state) Eddy, NM	**Project #:**
Invoice to: Sheldon Hitchcock	
Receiving Laboratory: Xenco	**Sampler Name:** Sheldon Hitchcock
Comments: Rush	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	# CONTAINERS	(G)rab/(C)omposit	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold
	B++m-11	5/15	10:30		X			X	1	C	X	X	X	
	B++m-12		10:35											
	B++m-13		10:40											
	B++m-14		10:45											
	B++m-15		10:50											
	B++m-16		10:55											
	B++m-17		11:00											
	B++m-18		11:05											
	B++m-19		11:10											
	B++m-20		11:15											

Relinquished by:	Date:	Time:	Received by: Date: 05-15-19 Time: 15:30
Relinquished by:	Date:	Time:	Received by: Date: 5/16/19 Time: 1058
Relinquished by:	Date:	Time:	Received by: Date: Time:

LAB USE ONLY

Sample Temperature 0.3/0.2

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

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Analysis Request of Chain of Custody Record

Page 2 of 3

CONCHO

One Concho Center/600/Illinois Avenue/Midland, Texas
Tel (432) 683-7443

Client Name: COG-Artesia	**Site Manager:** Sheldon Hitchcock
Project Name: Cabo Wabo 25 Federal #1H	
Project Location: (county, state) Eddy, NM	**Project #:**
Invoice to: Sheldon Hitchcock	
Receiving Laboratory: Xenco	**Sampler Name:** Sheldon Hitchcock
Comments: Rush	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	# CONTAINERS	(G)rab/(C)omposit	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold
	Bttm - 21	5/15	1:30		X			X	1	C	X	X	X	
	Bttm - 22		1:35											
	Bttm - 23		1:40											
	Bttm - 24		1:45											
	Bttm - 25		1:50											
	Bttm - 26		1:55											
	Bttm - 27		2:00											
	Bttm - 28		2:05											
	Bttm - 29		2:10											
	Bttm - 30		2:15											

Relinquished by: Sheldon Hitchcock	Date:	Time:	Received by:	Date: 05.15.19	Time: 15:20
Relinquished by:	Date:	Time:	Received by:	Date: 5/16/19	Time: 1058
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature: 0-3/0.2

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

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Page 59 of 62

Analysis Request of Chain of Custody Record

6244816

CONCHO

One Concho Center/600/Illinois Avenue/Midland, Texas
Tel (432) 683-7443

Client Name: COG-Artesia	**Site Manager:** Sheldon Hitchcock
Project Name: Cabo Wabo 25 Federal #1 H	
Project Location: (county, state) Eddy, NM	**Project #:**
Invoice to: Sheldon Hitchcock	
Receiving Laboratory: Xenco	**Sampler Name:** Sheldon Hitchcock
Comments: Rush	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2019 DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD	# CONTAINERS	(G)rab/(C)omposit	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold
	Bttm-31	5/15	2:20		X				X		1	C	X	X	X	
	Bttm-32	5/15	2:25		X				X		1	C	X	X	X	

Relinquished by: Sheldon Hitchcock	Date:	Time:	Received by:	Date: 05-15-19	Time: 15:20
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature 0.3/0.2

REMARKS:

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

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

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After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 05/16/2019 10:58:00 AM

Work Order #: 624486

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 05/16/2019

Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/16/2019

Jessica Kramer

APPENDIX D

E SE S SW
90 120 150 180 210
156°SE (T) 32°6.436', -103°56.676' ±98.4ft ▲ 3084ft

CONCHO COG Operating LLC

CABO WABO 25 FEDERAL #1H
UNIT D, SEC. 25-T25S-R29E
330' FNL & 660' FWL
EDDY CO., NM #NMNM098821
API #30-015-40440

15 May 2019, 14:02:35

S SW W
180 210 240 270 30

230°SW (T) 32°6.455', -103°56.716' ±16.4ft ▲ 3082ft

15 May 2019, 14:04:24