CONCHO

December 4, 2019

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

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

Closure Report
Jazzbass 34 Federal #003H
API#: 30-025-27916
RP#: 1RP-5555
DOR: June 8, 2019
GPS: 32.080757 -103.355432
Unit Letter O, Section 34, Township 25 South, Range 35 East
Lea County, New Mexico

To Whom It May Concern,

COG Operating, LLC (COG) is pleased to submit the following closure report in response to a release that occurred at the Jazzbass 34 Federal #003H. The release was located in Unit Letter O, Section 34, Township 25 South and Range 35 East in Lea County, New Mexico. More specifically the latitude and longitude for the release are 32.080757 North and -103.355432 West.

BACKGROUND

The release was discovered on June 6, 2019 and a C-141 initial report was submitted to the New Mexico Oil Conservation Division (NMOCD) and the Bureau of Land Management (BLM). A flowline failure resulted in a release of approximately eight (8) barrels (bbls) of produced water. The fluid impacted the pasture adjacent to the lease road.

GROUNDWATER AND REGULATORY FRAMEWORK

According to the United States Geological Survey (USGS) groundwater in the project vicinity is approximately two-hundred and thirty (230) 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 a depth of 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 bottom and sidewalls of the excavation per NMAC 19.15.29.
- The site was backfilled with clean “like” material and contoured to match the surrounding terrain.

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 two-hundred and ninety-six (296) 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. 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 once proper seasonal conditions exist.

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 Boone 16 State Com #002H incident that occurred on June 8, 2019.

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

Sincerely,

Sheldon Hitchcock

Sheldon L. Hitchcock
HSE Coordinator
slhitchcock@concho.com

FIGURES

June 8, 2019

Jazzbass 34 Federal #003H

CONCHO

TABLES

Table 1
COG Operating LLC.
Jazzbass 34 Federal #003H
Lea 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	8/30/2019	X		<25.0	<25.0	<25.0					<0.001	<0.001	334
SW-2	N/A	8/30/2019	X		<25.0	<25.0	<25.0					<0.001	<0.001	<10.0
SW-3	N/A	8/30/2019	X		<25.0	<25.0	<25.0					<0.001	<0.001	232
SW-4	N/A	8/30/2019	X		<25.0	<25.0	<25.0					<0.001	<0.001	<10.0
BTTM-1	4	8/30/2019	X		<25.0	<25.0	<25.0					<0.001	<0.001	4260
BTTM-2	4	8/30/2019	X		<25.0	<25.0	<25.0					<0.001	<0.001	4160
BTTM-3	4	8/30/2019	X		<25.0	<25.0	<25.0					<0.001	<0.001	4320
BTTM-4	4	8/30/2019	X		<25.0	41.2	<25.0					<0.001	<0.001	5880
BTTM-5	4	8/30/2019	X		<25.0	103	<25.0					<0.001	<0.001	5810
BTTM-6	4	8/30/2019	X		<25.0	167	<25.0					<0.001	<0.001	3140
BTTM-7	4	8/30/2019	X		<25.0	157	<25.0					<0.001	<0.001	2,900
BTTM-8	4	8/30/2019	X		<25.0	141	<25.0					<0.001	<0.001	3,740
BTTM-9	4	8/30/2019	X		<25.0	89.8	<25.0					<0.001	<0.001	3,370
BTTM-10	4	8/30/2019	X		<25.0	166	<25.0					<0.001	<0.001	3,300
T-1	6	8/30/2019	X		<25.0	<25.0	<25.0					<0.001	<0.001	370

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 32.080757 Longitude -103.355432
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Jazzbass 34 Federal #003H	Site Type	Flowline
Date Release Discovered	June 8, 2019	API# *(if applicable)*	30-025-27916

Unit Letter	Section	Township	Range	County
O	34	25S	35E	Lea

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) 8	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

he release was caused by a hole in the flowline. The flowline is being repaired.
The release was in the pasture. A vacuum truck was dispatched to remove all freestanding fluids.

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: 12/4/2019

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?	230 (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 Hitch Date: 12/4/2019

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	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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: 12/4/2019

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

OCD Only

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ 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: 12/2/2019

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.

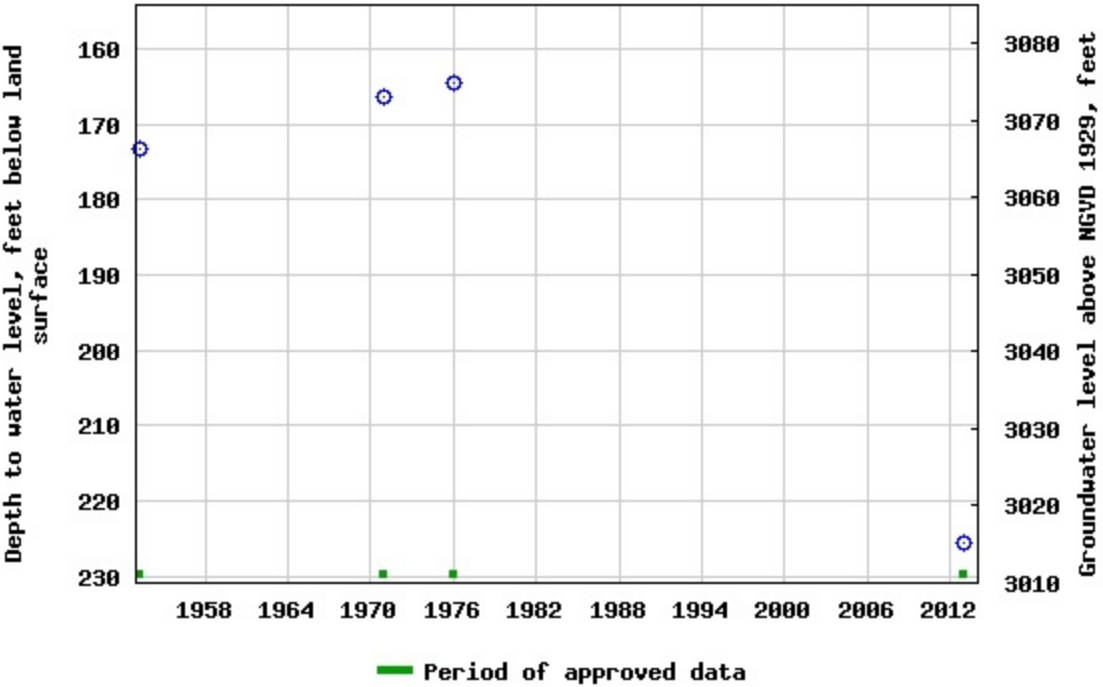
Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

APPENDIX B

USGS

USGS 320704103222301 25S.35E.21.122224



CONCHO

ArcGIS Web Map

Legend

OSE PODs

- Active

Flood Hazard Zones

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Mine Workings

Karst Occurance Areas

- High
- Low
- Medium

230

Jazzbass 34 Federal #003H

APPENDIX C

Certificate of Analysis Summary 635671

COG Operating LLC, Artesia, NM

Project Name: Jazz Bass 34 Fed #3H

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

Date Received in Lab: Fri Aug-30-19 01:05 pm
Report Date: 03-SEP-19
Project Manager: Jessica Kramer

Analysis Requested								
	Lab Id:	635671-001						
	Field Id:	T-1						
	Depth:							
	Matrix:	SOIL						
	Sampled:	Aug-30-19 11:00						
BTEX by EPA 8021B	***Extracted:***	Aug-30-19 13:08						
	Analyzed:	Aug-30-19 15:51						
	Units/RL:	mg/kg	RL					
Benzene		<0.000998	0.000998					
Toluene		<0.000998	0.000998					
Ethylbenzene		<0.000998	0.000998					
m,p-Xylenes		<0.00200	0.00200					
o-Xylene		<0.000998	0.000998					
Total Xylenes		<0.000998	0.000998					
Total BTEX		<0.000998	0.000998					
Chloride by EPA 300	***Extracted:***	Aug-30-19 14:08						
	Analyzed:	Aug-30-19 16:05						
	Units/RL:	mg/kg	RL					
Chloride		370 D	50.0					
TPH By SW8015 Mod	***Extracted:***	Aug-30-19 14:00						
	Analyzed:	Aug-30-19 14:23						
	Units/RL:	mg/kg	RL					
Gasoline Range Hydrocarbons		<25.0	25.0					
Diesel Range Organics		<25.0	25.0					
Motor Oil Range Hydrocarbons (MRO)		<25.0	25.0					
Total TPH		<25.0	25.0					

Jessica Kramer
Project Assistant

Analytical Report 635671

for

COG Operating LLC

Project Manager: Sheldon Hitchcock

Jazz Bass 34 Fed #3H

03-SEP-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

03-SEP-19

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

Reference: XENCO Report No(s): **635671**
Jazz Bass 34 Fed #3H
Project Address: Lea, 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) 635671. 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. 635671 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 635671

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-1	S	08-30-19 11:00		635671-001

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3100258 Chloride by EPA 300

Lab Sample ID 635676-010 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 635671-001.

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

Batch: LBA-3100260 BTEX by EPA 8021B

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

Certificate of Analytical Results 635671

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**T-1**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635671-001	Date Collected:	08.30.19 11.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.30.19 14.08	Basis:	Wet Weight
Seq Number:	3100258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**370**	50.0	mg/kg	09.02.19 16.39	D	5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 14.00	Basis:	Wet Weight
Seq Number:	3100262				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.30.19 14.23	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.30.19 14.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.30.19 14.23	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.30.19 14.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	126	%	70-135	08.30.19 14.23	
o-Terphenyl	84-15-1	110	%	70-135	08.30.19 14.23	

Certificate of Analytical Results 635671

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**T-1**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635671-001	Date Collected:	08.30.19 11.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 13.08	Basis:	Wet Weight
Seq Number:	3100260				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000998	0.000998	mg/kg	08.30.19 15.51	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	08.30.19 15.51	U	1
Ethylbenzene	100-41-4	<0.000998	0.000998	mg/kg	08.30.19 15.51	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.30.19 15.51	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	08.30.19 15.51	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	08.30.19 15.51	U	1
Total BTEX		<0.000998	0.000998	mg/kg	08.30.19 15.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	08.30.19 15.51	
4-Bromofluorobenzene	460-00-4	106	%	70-130	08.30.19 15.51	

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 635671

COG Operating LLC

Jazz Bass 34 Fed #3H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3100258 Matrix: Solid Date Prep: 08.30.19
MB Sample Id: 7685390-1-BLK LCS Sample Id: 7685390-1-BKS LCSD Sample Id: 7685390-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3.32	250	254	102	253	101	80-120	0	20	mg/kg	08.30.19 14:29	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3100258 Matrix: Soil Date Prep: 08.30.19
Parent Sample Id: 635671-001 MS Sample Id: 635671-001 S MSD Sample Id: 635671-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	370	249	687	127	688	128	80-120	0	20	mg/kg	08.30.19 16:11	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3100258 Matrix: Soil Date Prep: 08.30.19
Parent Sample Id: 635676-010 MS Sample Id: 635676-010 S MSD Sample Id: 635676-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3300	4990	8060	95	8120	97	80-120	1	20	mg/kg	08.30.19 18:16	

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3100262 Matrix: Solid Date Prep: 08.30.19
MB Sample Id: 7685426-1-BLK LCS Sample Id: 7685426-1-BKS LCSD Sample Id: 7685426-1-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	<9.88	1000	1020	102	1010	101	70-135	1	35	mg/kg	08.30.19 11:06	
Diesel Range Organics	<9.88	1000	1010	101	1010	101	70-135	0	35	mg/kg	08.30.19 11:06	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		117		118		70-135	%	08.30.19 11:06
o-Terphenyl	96		109		110		70-135	%	08.30.19 11:06

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 635671

COG Operating LLC

Jazz Bass 34 Fed #3H

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3100262 Matrix: Soil Date Prep: 08.30.19
Parent Sample Id: 635671-001 MS Sample Id: 635671-001 S MSD Sample Id: 635671-001 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	<9.84	996	1130	113	1100	110	70-135	3	35	mg/kg	08.30.19 14:42	
Diesel Range Organics	<9.84	996	1150	115	1120	112	70-135	3	35	mg/kg	08.30.19 14:42	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	128		128		70-135	%	08.30.19 14:42
o-Terphenyl	118		125		70-135	%	08.30.19 14:42

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3100260 Matrix: Solid Date Prep: 08.30.19
MB Sample Id: 7685424-1-BLK LCS Sample Id: 7685424-1-BKS LCSD Sample Id: 7685424-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0880	88	0.0929	93	70-130	5	35	mg/kg	08.30.19 11:31	
Toluene	<0.00100	0.100	0.0970	97	0.101	101	70-130	4	35	mg/kg	08.30.19 11:31	
Ethylbenzene	<0.00100	0.100	0.108	108	0.116	116	71-129	7	35	mg/kg	08.30.19 11:31	
m,p-Xylenes	<0.00100	0.200	0.224	112	0.239	120	70-135	6	35	mg/kg	08.30.19 11:31	
o-Xylene	<0.000500	0.100	0.110	110	0.118	118	71-133	7	35	mg/kg	08.30.19 11:31	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	112		109		104		70-130	%	08.30.19 11:31
4-Bromofluorobenzene	118		126		121		70-130	%	08.30.19 11:31

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3100260 Matrix: Soil Date Prep: 08.30.19
Parent Sample Id: 635671-001 MS Sample Id: 635671-001 S MSD Sample Id: 635671-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00101	0.101	0.0930	92	0.0879	88	70-130	6	35	mg/kg	08.30.19 14:52	
Toluene	<0.000505	0.101	0.0968	96	0.0914	91	70-130	6	35	mg/kg	08.30.19 14:52	
Ethylbenzene	<0.000505	0.101	0.108	107	0.101	101	71-129	7	35	mg/kg	08.30.19 14:52	
m,p-Xylenes	<0.00101	0.202	0.227	112	0.210	105	70-135	8	35	mg/kg	08.30.19 14:52	
o-Xylene	<0.000505	0.101	0.115	114	0.105	105	71-133	9	35	mg/kg	08.30.19 14:52	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		112		70-130	%	08.30.19 14:52
4-Bromofluorobenzene	120		125		70-130	%	08.30.19 14:52

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

Page 1 of 1

CONCHO

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

63 5671

Client Name: COG-Artesia	Site Manager: Sheldon Hitchcock
Project Name: Jazz Bass 34 Fed. #3H	
Project Location: (county, state) Lea, NM	Project #:
Invoice to: Sheldon Hitchcock	
Receiving Laboratory: Xenco	Sampler Name: Sheldon Hitchcock
Comments: Rush	

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	(C)omposite/(G)rab	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold
	T-1	8/30	11:00		X			X	1	C	X	X	X	

ANALYSIS REQUEST
(Circle or Specify Method No.)

Relinquished by:	Date: 8/30/19	Time: 13:05	Received by:	Date: 8/30/19	Time: 13:05
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature 2.3

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 08/30/2019 01:05:00 PM

Work Order #: 635671

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

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.3
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**Yes**
#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: Martha Castro Date: 08/30/2019

Checklist reviewed by: Jessica Kramer Date: 08/30/2019

Certificate of Analysis Summary 635674

COG Operating LLC, Artesia, NM

Project Name: Jazz Bass 34 Fed #3H

Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea, NM

Date Received in Lab: Fri Aug-30-19 01:05 pm

Report Date: 03-SEP-19

Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	635674-001		635674-002		635674-003		635674-004					
	Field Id:	SW-1		SW-2		SW-3		SW-4					
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Aug-30-19 10:30		Aug-30-19 10:32		Aug-30-19 10:34		Aug-30-19 10:36					
BTEX by EPA 8021B	***Extracted:***	Aug-30-19 13:08		Aug-30-19 13:08		Aug-30-19 13:08		Aug-30-19 13:08					
	Analyzed:	Aug-30-19 16:11		Aug-30-19 16:31		Aug-30-19 16:51		Aug-30-19 17:11					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.000998	0.000998	<0.000994	0.000994	<0.000990	0.000990	<0.00100	0.00100				
Toluene		<0.000998	0.000998	<0.000994	0.000994	<0.000990	0.000990	<0.00100	0.00100				
Ethylbenzene		<0.000998	0.000998	<0.000994	0.000994	<0.000990	0.000990	<0.00100	0.00100				
m,p-Xylenes		<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200				
o-Xylene		<0.000998	0.000998	<0.000994	0.000994	<0.000990	0.000990	<0.00100	0.00100				
Total Xylenes		<0.000998	0.000998	<0.000994	0.000994	<0.000990	0.000990	<0.00100	0.00100				
Total BTEX		<0.000998	0.000998	<0.000994	0.000994	<0.000990	0.000990	<0.00100	0.00100				
Chloride by EPA 300	***Extracted:***	Aug-30-19 14:08		Aug-30-19 14:08		Aug-30-19 14:08		Aug-30-19 14:08					
	Analyzed:	Aug-30-19 16:24		Aug-30-19 16:30		Aug-30-19 16:36		Aug-30-19 16:42					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		334 D	50.0	<9.96	9.96	232	49.3	<9.86	9.86				
TPH By SW8015 Mod	***Extracted:***	Aug-30-19 14:00		Aug-30-19 14:00		Aug-30-19 14:00		Aug-30-19 14:00					
	Analyzed:	Aug-30-19 15:22		Aug-30-19 15:42		Aug-30-19 16:02		Aug-30-19 16:22					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons		<25.0	25.0	<24.9	24.9	<25.0	25.0	<24.9	24.9				
Diesel Range Organics		<25.0	25.0	<24.9	24.9	<25.0	25.0	<24.9	24.9				
Motor Oil Range Hydrocarbons (MRO)		<25.0	25.0	<24.9	24.9	<25.0	25.0	<24.9	24.9				
Total TPH		<25.0	25.0	<24.9	24.9	<25.0	25.0	<24.9	24.9				

Jessica Kramer
Project Assistant

Analytical Report 635674

for

COG Operating LLC

Project Manager: Sheldon Hitchcock

Jazz Bass 34 Fed #3H

03-SEP-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

03-SEP-19

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

Reference: XENCO Report No(s): **635674**
Jazz Bass 34 Fed #3H
Project Address: Lea, 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) 635674. 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. 635674 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 635674

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW-1	S	08-30-19 10:30		635674-001
SW-2	S	08-30-19 10:32		635674-002
SW-3	S	08-30-19 10:34		635674-003
SW-4	S	08-30-19 10:36		635674-004

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3100260 BTEX by EPA 8021B

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

Certificate of Analytical Results 635674

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**SW-1**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635674-001	Date Collected:	08.30.19 10.30		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.30.19 14.08	Basis:	Wet Weight
Seq Number:	3100258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**334**	50.0	mg/kg	08.30.19 16.48	D	5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 14.00	Basis:	Wet Weight
Seq Number:	3100262				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.30.19 15.22	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.30.19 15.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.30.19 15.22	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.30.19 15.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	08.30.19 15.22	
o-Terphenyl	84-15-1	111	%	70-135	08.30.19 15.22	

Certificate of Analytical Results 635674

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**SW-1**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635674-001	Date Collected:	08.30.19 10.30		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 13.08	Basis:	Wet Weight
Seq Number:	3100260				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000998	0.000998	mg/kg	08.30.19 16.11	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	08.30.19 16.11	U	1
Ethylbenzene	100-41-4	<0.000998	0.000998	mg/kg	08.30.19 16.11	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.30.19 16.11	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	08.30.19 16.11	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	08.30.19 16.11	U	1
Total BTEX		<0.000998	0.000998	mg/kg	08.30.19 16.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	08.30.19 16.11	
1,4-Difluorobenzene	540-36-3	100	%	70-130	08.30.19 16.11	

Certificate of Analytical Results 635674

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**SW-2**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635674-002	Date Collected:	08.30.19 10.32		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.30.19 14.08	Basis:	Wet Weight
Seq Number:	3100258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.96	9.96	mg/kg	08.30.19 16.30	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 14.00	Basis:	Wet Weight
Seq Number:	3100262				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<24.9	24.9	mg/kg	08.30.19 15.42	U	1
Diesel Range Organics	C10C28DRO	<24.9	24.9	mg/kg	08.30.19 15.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.30.19 15.42	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.30.19 15.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	129	%	70-135	08.30.19 15.42	
o-Terphenyl	84-15-1	115	%	70-135	08.30.19 15.42	

Certificate of Analytical Results 635674

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**SW-2**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635674-002	Date Collected:	08.30.19 10.32		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 13.08	Basis:	Wet Weight
Seq Number:	3100260				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000994	0.000994	mg/kg	08.30.19 16.31	U	1
Toluene	108-88-3	<0.000994	0.000994	mg/kg	08.30.19 16.31	U	1
Ethylbenzene	100-41-4	<0.000994	0.000994	mg/kg	08.30.19 16.31	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.30.19 16.31	U	1
o-Xylene	95-47-6	<0.000994	0.000994	mg/kg	08.30.19 16.31	U	1
Total Xylenes	1330-20-7	<0.000994	0.000994	mg/kg	08.30.19 16.31	U	1
Total BTEX		<0.000994	0.000994	mg/kg	08.30.19 16.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	08.30.19 16.31	
1,4-Difluorobenzene	540-36-3	117	%	70-130	08.30.19 16.31	

Certificate of Analytical Results 635674

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**SW-3**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635674-003	Date Collected:	08.30.19 10.34		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.30.19 14.08	Basis:	Wet Weight
Seq Number:	3100258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**232**	49.3	mg/kg	08.30.19 16.36		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 14.00	Basis:	Wet Weight
Seq Number:	3100262				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.30.19 16.02	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.30.19 16.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.30.19 16.02	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.30.19 16.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	08.30.19 16.02	
o-Terphenyl	84-15-1	112	%	70-135	08.30.19 16.02	

Certificate of Analytical Results 635674

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**SW-3**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635674-003	Date Collected:	08.30.19 10.34		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 13.08	Basis:	Wet Weight
Seq Number:	3100260				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000990	0.000990	mg/kg	08.30.19 16.51	U	1
Toluene	108-88-3	<0.000990	0.000990	mg/kg	08.30.19 16.51	U	1
Ethylbenzene	100-41-4	<0.000990	0.000990	mg/kg	08.30.19 16.51	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	08.30.19 16.51	U	1
o-Xylene	95-47-6	<0.000990	0.000990	mg/kg	08.30.19 16.51	U	1
Total Xylenes	1330-20-7	<0.000990	0.000990	mg/kg	08.30.19 16.51	U	1
Total BTEX		<0.000990	0.000990	mg/kg	08.30.19 16.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	70-130	08.30.19 16.51	
1,4-Difluorobenzene	540-36-3	106	%	70-130	08.30.19 16.51	

Certificate of Analytical Results 635674

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**SW-4**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635674-004	Date Collected:	08.30.19 10.36		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.30.19 14.08	Basis:	Wet Weight
Seq Number:	3100258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.86	9.86	mg/kg	08.30.19 16.42	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 14.00	Basis:	Wet Weight
Seq Number:	3100262				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<24.9	24.9	mg/kg	08.30.19 16.22	U	1
Diesel Range Organics	C10C28DRO	<24.9	24.9	mg/kg	08.30.19 16.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.30.19 16.22	U	1
Total TPH	PHC635	<24.9	24.9	mg/kg	08.30.19 16.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	08.30.19 16.22	
o-Terphenyl	84-15-1	113	%	70-135	08.30.19 16.22	

Certificate of Analytical Results 635674

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**SW-4**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635674-004	Date Collected:	08.30.19 10.36		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 13.08	Basis:	Wet Weight
Seq Number:	3100260				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.30.19 17.11	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.30.19 17.11	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.30.19 17.11	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.30.19 17.11	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.30.19 17.11	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.30.19 17.11	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.30.19 17.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	08.30.19 17.11	
4-Bromofluorobenzene	460-00-4	105	%	70-130	08.30.19 17.11	

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 635674

COG Operating LLC

Jazz Bass 34 Fed #3H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3100258 Matrix: Solid Date Prep: 08.30.19
MB Sample Id: 7685390-1-BLK LCS Sample Id: 7685390-1-BKS LCSD Sample Id: 7685390-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3.32	250	254	102	253	101	80-120	0	20	mg/kg	08.30.19 14:29	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3100258 Matrix: Soil Date Prep: 08.30.19
Parent Sample Id: 635671-001 MS Sample Id: 635671-001 S MSD Sample Id: 635671-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	370	249	687	127	688	128	80-120	0	20	mg/kg	08.30.19 16:11	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3100258 Matrix: Soil Date Prep: 08.30.19
Parent Sample Id: 635676-010 MS Sample Id: 635676-010 S MSD Sample Id: 635676-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3300	4990	8060	95	8120	97	80-120	1	20	mg/kg	08.30.19 18:16	

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3100262 Matrix: Solid Date Prep: 08.30.19
MB Sample Id: 7685426-1-BLK LCS Sample Id: 7685426-1-BKS LCSD Sample Id: 7685426-1-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	<9.88	1000	1020	102	1010	101	70-135	1	35	mg/kg	08.30.19 11:06	
Diesel Range Organics	<9.88	1000	1010	101	1010	101	70-135	0	35	mg/kg	08.30.19 11:06	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		117		118		70-135	%	08.30.19 11:06
o-Terphenyl	96		109		110		70-135	%	08.30.19 11:06

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 635674

COG Operating LLC

Jazz Bass 34 Fed #3H

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3100262 Matrix: Soil Date Prep: 08.30.19
Parent Sample Id: 635671-001 MS Sample Id: 635671-001 S MSD Sample Id: 635671-001 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	<9.84	996	1130	113	1100	110	70-135	3	35	mg/kg	08.30.19 14:42	
Diesel Range Organics	<9.84	996	1150	115	1120	112	70-135	3	35	mg/kg	08.30.19 14:42	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	128		128		70-135	%	08.30.19 14:42
o-Terphenyl	118		125		70-135	%	08.30.19 14:42

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3100260 Matrix: Solid Date Prep: 08.30.19
MB Sample Id: 7685424-1-BLK LCS Sample Id: 7685424-1-BKS LCSD Sample Id: 7685424-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0880	88	0.0929	93	70-130	5	35	mg/kg	08.30.19 11:31	
Toluene	<0.00100	0.100	0.0970	97	0.101	101	70-130	4	35	mg/kg	08.30.19 11:31	
Ethylbenzene	<0.00100	0.100	0.108	108	0.116	116	71-129	7	35	mg/kg	08.30.19 11:31	
m,p-Xylenes	<0.00100	0.200	0.224	112	0.239	120	70-135	6	35	mg/kg	08.30.19 11:31	
o-Xylene	<0.000500	0.100	0.110	110	0.118	118	71-133	7	35	mg/kg	08.30.19 11:31	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	112		109		104		70-130	%	08.30.19 11:31
4-Bromofluorobenzene	118		126		121		70-130	%	08.30.19 11:31

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3100260 Matrix: Soil Date Prep: 08.30.19
Parent Sample Id: 635671-001 MS Sample Id: 635671-001 S MSD Sample Id: 635671-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00101	0.101	0.0930	92	0.0879	88	70-130	6	35	mg/kg	08.30.19 14:52	
Toluene	<0.000505	0.101	0.0968	96	0.0914	91	70-130	6	35	mg/kg	08.30.19 14:52	
Ethylbenzene	<0.000505	0.101	0.108	107	0.101	101	71-129	7	35	mg/kg	08.30.19 14:52	
m,p-Xylenes	<0.00101	0.202	0.227	112	0.210	105	70-135	8	35	mg/kg	08.30.19 14:52	
o-Xylene	<0.000505	0.101	0.115	114	0.105	105	71-133	9	35	mg/kg	08.30.19 14:52	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		112		70-130	%	08.30.19 14:52
4-Bromofluorobenzene	120		125		70-130	%	08.30.19 14:52

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

Page 1 of 1

CONCHO

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

635674

Client Name: COG-Artesia	**Site Manager:** Sheldon Hitchcock
Project Name: Jazz Bass 34 Fed #3H	
Project Location: (county, state) Lea, 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	TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	# CONTAINERS	(C)omposite/(G)rab	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold
	SW-1	8/30	10:30		X			X	1	C	X	X	X	
	SW-2	"	10:32		X			X	1	C	X	X	X	
	SW-3	"	10:34		X			X	1	C	X	X	X	
	SW-4	"	10:36		X			X	1	C	X	X	X	

	Date:	Time:		Date:	Time:
Relinquished by: Sheldon Hitchcock	8/30/19	13:05	Received by: Courtney	8/30/19	13:05
Relinquished by:			Received by:		
Relinquished by:			Received by:		

LAB USE ONLY

Sample Temperature: 2.3

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 17 of 18

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 08/30/2019 01:05:00 PM

Work Order #: 635674

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

Temperature Measuring device used : T-NM 007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.3
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**Yes**
#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: Martha Castro Date: 08/30/2019

Checklist reviewed by: Jessica Kramer Date: 08/30/2019

Certificate of Analysis Summary 635676

COG Operating LLC, Artesia, NM

Project Name: Jazz Bass 34 Fed #3H

Project Id:

Contact: Sheldon Hitchcock

Project Location: Lea NM

Date Received in Lab: Fri Aug-30-19 01:05 pm

Report Date: 03-SEP-19

Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	635676-001		635676-002		635676-003		635676-004		635676-005		635676-006	
	Field Id:	BTTM-1		BTTM-2		BTTM-3		BTTM-4		BTTM-5		BTTM-6	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-30-19 10:00		Aug-30-19 10:02		Aug-30-19 10:04		Aug-30-19 10:06		Aug-30-19 10:08		Aug-30-19 10:10	
BTEX by EPA 8021B	***Extracted:***	Aug-30-19 13:08		Aug-30-19 13:08		Aug-30-19 13:08		Aug-30-19 13:08		Aug-30-19 13:08		Aug-30-19 13:08	
	Analyzed:	Aug-30-19 17:34		Aug-30-19 17:54		Aug-30-19 18:13		Aug-30-19 18:33		Aug-30-19 18:53		Aug-30-19 19:53	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00100	0.00100	<0.000980	0.000980	<0.000990	0.000990	<0.00101	0.00101	<0.000996	0.000996	<0.00100	0.00100
Toluene		<0.00100	0.00100	<0.000980	0.000980	<0.000990	0.000990	<0.00101	0.00101	<0.000996	0.000996	<0.00100	0.00100
Ethylbenzene		<0.00100	0.00100	<0.000980	0.000980	<0.000990	0.000990	<0.00101	0.00101	<0.000996	0.000996	<0.00100	0.00100
m,p-Xylenes		<0.00200	0.00200	<0.00196	0.00196	<0.00198	0.00198	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201
o-Xylene		<0.00100	0.00100	<0.000980	0.000980	<0.000990	0.000990	<0.00101	0.00101	<0.000996	0.000996	<0.00100	0.00100
Total Xylenes		<0.00100	0.00100	<0.000980	0.000980	<0.000990	0.000990	<0.00101	0.00101	<0.000996	0.000996	<0.00100	0.00100
Total BTEX		<0.00100	0.00100	<0.000980	0.000980	<0.000990	0.000990	<0.00101	0.00101	<0.000996	0.000996	<0.00100	0.00100
Chloride by EPA 300	***Extracted:***	Aug-30-19 14:08		Aug-30-19 14:08		Aug-30-19 14:08		Aug-30-19 14:08		Aug-30-19 14:08		Aug-30-19 14:08	
	Analyzed:	Aug-30-19 17:01		Aug-30-19 17:07		Aug-30-19 17:14		Aug-30-19 17:20		Aug-30-19 17:26		Aug-30-19 17:32	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		4260	199	4160	198	4320	200	5880	250	5810	248	3140	201
TPH By SW8015 Mod	***Extracted:***	Aug-30-19 14:00		Aug-30-19 14:00		Aug-30-19 14:00		Aug-30-19 14:00		Aug-30-19 14:00		Aug-30-19 14:00	
	Analyzed:	Aug-30-19 16:42		Aug-30-19 17:02		Aug-30-19 17:23		Aug-30-19 17:43		Aug-30-19 18:03		Aug-30-19 18:43	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons		<25.1	25.1	<25.1	25.1	<25.0	25.0	<25.1	25.1	<25.1	25.1	<25.0	25.0
Diesel Range Organics		<25.1	25.1	<25.1	25.1	<25.0	25.0	41.2	25.1	103	25.1	167	25.0
Motor Oil Range Hydrocarbons (MRO)		<25.1	25.1	<25.1	25.1	<25.0	25.0	<25.1	25.1	<25.1	25.1	<25.0	25.0
Total TPH		<25.1	25.1	<25.1	25.1	<25.0	25.0	41.2	25.1	103	25.1	167	25.0

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 635676

COG Operating LLC, Artesia, NM

Project Name: Jazz Bass 34 Fed #3H

Project Id:
Contact: Sheldon Hitchcock
Project Location: Lea NM

Date Received in Lab: Fri Aug-30-19 01:05 pm
Report Date: 03-SEP-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	635676-007		635676-008		635676-009		635676-010					
	Field Id:	BTTM-7		BTTM-8		BTTM-9		BTTM-10					
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Aug-30-19 10:12		Aug-30-19 10:14		Aug-30-19 10:16		Aug-30-19 10:18					
BTEX by EPA 8021B	***Extracted:***	Aug-30-19 13:08		Aug-30-19 13:08		Aug-30-19 13:08		Aug-30-19 13:08					
	Analyzed:	Aug-30-19 20:12		Aug-30-19 20:32		Aug-30-19 20:52		Aug-30-19 21:12					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00101	0.00101	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101				
Toluene		<0.00101	0.00101	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101				
Ethylbenzene		<0.00101	0.00101	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101				
m,p-Xylenes		<0.00202	0.00202	<0.00201	0.00201	<0.00201	0.00201	<0.00201	0.00201				
o-Xylene		<0.00101	0.00101	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101				
Total Xylenes		<0.00101	0.00101	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101				
Total BTEX		<0.00101	0.00101	<0.00100	0.00100	<0.00100	0.00100	<0.00101	0.00101				
Chloride by EPA 300	***Extracted:***	Aug-30-19 14:08		Aug-30-19 14:08		Aug-30-19 14:08		Aug-30-19 14:08					
	Analyzed:	Aug-30-19 17:39		Aug-30-19 17:45		Aug-30-19 17:51		Aug-30-19 17:57					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		2900	200	3740	200	3370	200	3300	200				
TPH By SW8015 Mod	***Extracted:***	Aug-30-19 14:00		Aug-30-19 14:00		Aug-30-19 14:00		Aug-30-19 14:00					
	Analyzed:	Aug-30-19 19:03		Aug-30-19 19:23		Aug-30-19 19:44		Aug-30-19 20:04					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons		<25.2	25.2	<24.9	24.9	<25.1	25.1	<25.1	25.1				
Diesel Range Organics		157	25.2	141	24.9	89.8	25.1	166	25.1				
Motor Oil Range Hydrocarbons (MRO)		<25.2	25.2	<24.9	24.9	<25.1	25.1	<25.1	25.1				
Total TPH		157	25.2	141	24.9	89.8	25.1	166	25.1				

Jessica Kramer
Project Assistant

Analytical Report 635676

for

COG Operating LLC

Project Manager: Sheldon Hitchcock

Jazz Bass 34 Fed #3H

03-SEP-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

03-SEP-19

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

Reference: XENCO Report No(s): **635676**
Jazz Bass 34 Fed #3H
Project Address: Lea 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) 635676. 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. 635676 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 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BTTM-1	S	08-30-19 10:00		635676-001
BTTM-2	S	08-30-19 10:02		635676-002
BTTM-3	S	08-30-19 10:04		635676-003
BTTM-4	S	08-30-19 10:06		635676-004
BTTM-5	S	08-30-19 10:08		635676-005
BTTM-6	S	08-30-19 10:10		635676-006
BTTM-7	S	08-30-19 10:12		635676-007
BTTM-8	S	08-30-19 10:14		635676-008
BTTM-9	S	08-30-19 10:16		635676-009
BTTM-10	S	08-30-19 10:18		635676-010

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3100260 BTEX by EPA 8021B

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

Certificate of Analytical Results 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**BTTM-1**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635676-001	Date Collected:	08.30.19 10.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.30.19 14.08	Basis:	Wet Weight
Seq Number:	3100258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4260**	199	mg/kg	08.30.19 17.01		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 14.00	Basis:	Wet Weight
Seq Number:	3100262				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.30.19 16.42	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.30.19 16.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.30.19 16.42	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.30.19 16.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	08.30.19 16.42	
o-Terphenyl	84-15-1	115	%	70-135	08.30.19 16.42	

Certificate of Analytical Results 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**BTTM-1**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635676-001	Date Collected:	08.30.19 10.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 13.08	Basis:	Wet Weight
Seq Number:	3100260				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.30.19 17.34	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.30.19 17.34	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.30.19 17.34	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	08.30.19 17.34	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.30.19 17.34	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.30.19 17.34	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.30.19 17.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	70-130	08.30.19 17.34	
1,4-Difluorobenzene	540-36-3	106	%	70-130	08.30.19 17.34	

Certificate of Analytical Results 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**BTTM-2**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635676-002	Date Collected:	08.30.19 10.02		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.30.19 14.08	Basis:	Wet Weight
Seq Number:	3100258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4160**	198	mg/kg	08.30.19 17.07		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 14.00	Basis:	Wet Weight
Seq Number:	3100262				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.30.19 17.02	U	1
Diesel Range Organics	C10C28DRO	<25.1	25.1	mg/kg	08.30.19 17.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.30.19 17.02	U	1
Total TPH	PHC635	<25.1	25.1	mg/kg	08.30.19 17.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	126	%	70-135	08.30.19 17.02	
o-Terphenyl	84-15-1	112	%	70-135	08.30.19 17.02	

Certificate of Analytical Results 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**BTTM-2**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635676-002	Date Collected:	08.30.19 10.02		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 13.08	Basis:	Wet Weight
Seq Number:	3100260				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000980	0.000980	mg/kg	08.30.19 17.54	U	1
Toluene	108-88-3	<0.000980	0.000980	mg/kg	08.30.19 17.54	U	1
Ethylbenzene	100-41-4	<0.000980	0.000980	mg/kg	08.30.19 17.54	U	1
m,p-Xylenes	179601-23-1	<0.00196	0.00196	mg/kg	08.30.19 17.54	U	1
o-Xylene	95-47-6	<0.000980	0.000980	mg/kg	08.30.19 17.54	U	1
Total Xylenes	1330-20-7	<0.000980	0.000980	mg/kg	08.30.19 17.54	U	1
Total BTEX		<0.000980	0.000980	mg/kg	08.30.19 17.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109	%	70-130	08.30.19 17.54	
4-Bromofluorobenzene	460-00-4	115	%	70-130	08.30.19 17.54	

Certificate of Analytical Results 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**BTTM-3**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635676-003	Date Collected:	08.30.19 10.04		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.30.19 14.08	Basis:	Wet Weight
Seq Number:	3100258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4320**	200	mg/kg	08.30.19 17.14		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 14.00	Basis:	Wet Weight
Seq Number:	3100262				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.30.19 17.23	U	1
Diesel Range Organics	C10C28DRO	<25.0	25.0	mg/kg	08.30.19 17.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.30.19 17.23	U	1
Total TPH	PHC635	<25.0	25.0	mg/kg	08.30.19 17.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	08.30.19 17.23	
o-Terphenyl	84-15-1	106	%	70-135	08.30.19 17.23	

Certificate of Analytical Results 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**BTTM-3**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635676-003	Date Collected:	08.30.19 10.04		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 13.08	Basis:	Wet Weight
Seq Number:	3100260				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000990	0.000990	mg/kg	08.30.19 18.13	U	1
Toluene	108-88-3	<0.000990	0.000990	mg/kg	08.30.19 18.13	U	1
Ethylbenzene	100-41-4	<0.000990	0.000990	mg/kg	08.30.19 18.13	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	08.30.19 18.13	U	1
o-Xylene	95-47-6	<0.000990	0.000990	mg/kg	08.30.19 18.13	U	1
Total Xylenes	1330-20-7	<0.000990	0.000990	mg/kg	08.30.19 18.13	U	1
Total BTEX		<0.000990	0.000990	mg/kg	08.30.19 18.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	70-130	08.30.19 18.13	
1,4-Difluorobenzene	540-36-3	111	%	70-130	08.30.19 18.13	

Certificate of Analytical Results 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**BTTM-4**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635676-004	Date Collected:	08.30.19 10.06		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.30.19 14.08	Basis:	Wet Weight
Seq Number:	3100258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5880**	250	mg/kg	08.30.19 17.20		25

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 14.00	Basis:	Wet Weight
Seq Number:	3100262				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.30.19 17.43	U	1
Diesel Range Organics	C10C28DRO	**41.2**	25.1	mg/kg	08.30.19 17.43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.30.19 17.43	U	1
Total TPH	PHC635	**41.2**	25.1	mg/kg	08.30.19 17.43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	08.30.19 17.43	
o-Terphenyl	84-15-1	110	%	70-135	08.30.19 17.43	

Certificate of Analytical Results 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**BTTM-4**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635676-004	Date Collected:	08.30.19 10.06		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 13.08	Basis:	Wet Weight
Seq Number:	3100260				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	08.30.19 18.33	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	08.30.19 18.33	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	08.30.19 18.33	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	08.30.19 18.33	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	08.30.19 18.33	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	08.30.19 18.33	U	1
Total BTEX		<0.00101	0.00101	mg/kg	08.30.19 18.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	08.30.19 18.33	
1,4-Difluorobenzene	540-36-3	99	%	70-130	08.30.19 18.33	

Certificate of Analytical Results 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**BTTM-5**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635676-005	Date Collected:	08.30.19 10.08		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.30.19 14.08	Basis:	Wet Weight
Seq Number:	3100258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5810**	248	mg/kg	08.30.19 17.26		25

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 14.00	Basis:	Wet Weight
Seq Number:	3100262				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.30.19 18.03	U	1
Diesel Range Organics	C10C28DRO	**103**	25.1	mg/kg	08.30.19 18.03		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.30.19 18.03	U	1
Total TPH	PHC635	**103**	25.1	mg/kg	08.30.19 18.03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	08.30.19 18.03	
o-Terphenyl	84-15-1	115	%	70-135	08.30.19 18.03	

Certificate of Analytical Results 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**BTTM-5**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635676-005	Date Collected:	08.30.19 10.08		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 13.08	Basis:	Wet Weight
Seq Number:	3100260				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	08.30.19 18.53	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	08.30.19 18.53	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	08.30.19 18.53	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	08.30.19 18.53	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	08.30.19 18.53	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	08.30.19 18.53	U	1
Total BTEX		<0.000996	0.000996	mg/kg	08.30.19 18.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	08.30.19 18.53	
1,4-Difluorobenzene	540-36-3	113	%	70-130	08.30.19 18.53	

Certificate of Analytical Results 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**BTTM-6**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635676-006	Date Collected:	08.30.19 10.10		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.30.19 14.08	Basis:	Wet Weight
Seq Number:	3100258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3140**	201	mg/kg	08.30.19 17.32		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 14.00	Basis:	Wet Weight
Seq Number:	3100262				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.0	25.0	mg/kg	08.30.19 18.43	U	1
Diesel Range Organics	C10C28DRO	**167**	25.0	mg/kg	08.30.19 18.43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.0	25.0	mg/kg	08.30.19 18.43	U	1
Total TPH	PHC635	**167**	25.0	mg/kg	08.30.19 18.43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	08.30.19 18.43	
o-Terphenyl	84-15-1	120	%	70-135	08.30.19 18.43	

Certificate of Analytical Results 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**BTTM-6**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635676-006	Date Collected:	08.30.19 10.10		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 13.08	Basis:	Wet Weight
Seq Number:	3100260				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.30.19 19.53	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.30.19 19.53	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.30.19 19.53	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	08.30.19 19.53	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.30.19 19.53	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.30.19 19.53	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.30.19 19.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	111	%	70-130	08.30.19 19.53	
1,4-Difluorobenzene	540-36-3	109	%	70-130	08.30.19 19.53	

Certificate of Analytical Results 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**BTTM-7**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635676-007	Date Collected:	08.30.19 10.12		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.30.19 14.08	Basis:	Wet Weight
Seq Number:	3100258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2900**	200	mg/kg	08.30.19 17.39		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 14.00	Basis:	Wet Weight
Seq Number:	3100262				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.2	25.2	mg/kg	08.30.19 19.03	U	1
Diesel Range Organics	C10C28DRO	**157**	25.2	mg/kg	08.30.19 19.03		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.2	25.2	mg/kg	08.30.19 19.03	U	1
Total TPH	PHC635	**157**	25.2	mg/kg	08.30.19 19.03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	121	%	70-135	08.30.19 19.03	
o-Terphenyl	84-15-1	119	%	70-135	08.30.19 19.03	

Certificate of Analytical Results 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**BTTM-7**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635676-007	Date Collected:	08.30.19 10.12		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 13.08	Basis:	Wet Weight
Seq Number:	3100260				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	08.30.19 20.12	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	08.30.19 20.12	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	08.30.19 20.12	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	08.30.19 20.12	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	08.30.19 20.12	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	08.30.19 20.12	U	1
Total BTEX		<0.00101	0.00101	mg/kg	08.30.19 20.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	70-130	08.30.19 20.12	
1,4-Difluorobenzene	540-36-3	107	%	70-130	08.30.19 20.12	

Certificate of Analytical Results 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**BTTM-8**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635676-008	Date Collected:	08.30.19 10.14		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.30.19 14.08	Basis:	Wet Weight
Seq Number:	3100258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3740**	200	mg/kg	08.30.19 17.45		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 14.00	Basis:	Wet Weight
Seq Number:	3100262				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<24.9	24.9	mg/kg	08.30.19 19.23	U	1
Diesel Range Organics	C10C28DRO	**141**	24.9	mg/kg	08.30.19 19.23		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<24.9	24.9	mg/kg	08.30.19 19.23	U	1
Total TPH	PHC635	**141**	24.9	mg/kg	08.30.19 19.23		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	08.30.19 19.23	
o-Terphenyl	84-15-1	122	%	70-135	08.30.19 19.23	

Certificate of Analytical Results 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**BTTM-8**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635676-008	Date Collected:	08.30.19 10.14		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 13.08	Basis:	Wet Weight
Seq Number:	3100260				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.30.19 20.32	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.30.19 20.32	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.30.19 20.32	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	08.30.19 20.32	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.30.19 20.32	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.30.19 20.32	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.30.19 20.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	112	%	70-130	08.30.19 20.32	
4-Bromofluorobenzene	460-00-4	122	%	70-130	08.30.19 20.32	

Certificate of Analytical Results 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**BTTM-9**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635676-009	Date Collected:	08.30.19 10.16		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.30.19 14.08	Basis:	Wet Weight
Seq Number:	3100258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3370**	200	mg/kg	08.30.19 17.51		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 14.00	Basis:	Wet Weight
Seq Number:	3100262				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.30.19 19.44	U	1
Diesel Range Organics	C10C28DRO	**89.8**	25.1	mg/kg	08.30.19 19.44		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.30.19 19.44	U	1
Total TPH	PHC635	**89.8**	25.1	mg/kg	08.30.19 19.44		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	128	%	70-135	08.30.19 19.44	
o-Terphenyl	84-15-1	122	%	70-135	08.30.19 19.44	

Certificate of Analytical Results 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**BTTM-9**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635676-009	Date Collected:	08.30.19 10.16		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 13.08	Basis:	Wet Weight
Seq Number:	3100260				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	08.30.19 20.52	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	08.30.19 20.52	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	08.30.19 20.52	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	08.30.19 20.52	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	08.30.19 20.52	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	08.30.19 20.52	U	1
Total BTEX		<0.00100	0.00100	mg/kg	08.30.19 20.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	08.30.19 20.52	
4-Bromofluorobenzene	460-00-4	117	%	70-130	08.30.19 20.52	

Certificate of Analytical Results 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**BTTM-10**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635676-010	Date Collected:	08.30.19 10.18		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	08.30.19 14.08	Basis:	Wet Weight
Seq Number:	3100258				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3300**	200	mg/kg	08.30.19 17.57		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 14.00	Basis:	Wet Weight
Seq Number:	3100262				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<25.1	25.1	mg/kg	08.30.19 20.04	U	1
Diesel Range Organics	C10C28DRO	**166**	25.1	mg/kg	08.30.19 20.04		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<25.1	25.1	mg/kg	08.30.19 20.04	U	1
Total TPH	PHC635	**166**	25.1	mg/kg	08.30.19 20.04		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	08.30.19 20.04	
o-Terphenyl	84-15-1	119	%	70-135	08.30.19 20.04	

Certificate of Analytical Results 635676

COG Operating LLC, Artesia, NM

Jazz Bass 34 Fed #3H

Sample Id:	**BTTM-10**	Matrix:	Soil	Date Received:	08.30.19 13.05
Lab Sample Id:	635676-010	Date Collected:	08.30.19 10.18		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	08.30.19 13.08	Basis:	Wet Weight
Seq Number:	3100260				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	08.30.19 21.12	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	08.30.19 21.12	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	08.30.19 21.12	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	08.30.19 21.12	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	08.30.19 21.12	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	08.30.19 21.12	U	1
Total BTEX		<0.00101	0.00101	mg/kg	08.30.19 21.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	08.30.19 21.12	
4-Bromofluorobenzene	460-00-4	115	%	70-130	08.30.19 21.12	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 635676

COG Operating LLC

Jazz Bass 34 Fed #3H

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3100258 Matrix: Solid Date Prep: 08.30.19
MB Sample Id: 7685390-1-BLK LCS Sample Id: 7685390-1-BKS LCSD Sample Id: 7685390-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3.32	250	254	102	253	101	80-120	0	20	mg/kg	08.30.19 14:29	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3100258 Matrix: Soil Date Prep: 08.30.19
Parent Sample Id: 635671-001 MS Sample Id: 635671-001 S MSD Sample Id: 635671-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	370	249	687	127	688	128	80-120	0	20	mg/kg	08.30.19 16:11	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3100258 Matrix: Soil Date Prep: 08.30.19
Parent Sample Id: 635676-010 MS Sample Id: 635676-010 S MSD Sample Id: 635676-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3300	4990	8060	95	8120	97	80-120	1	20	mg/kg	08.30.19 18:16	

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3100262 Matrix: Solid Date Prep: 08.30.19
MB Sample Id: 7685426-1-BLK LCS Sample Id: 7685426-1-BKS LCSD Sample Id: 7685426-1-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	<9.88	1000	1020	102	1010	101	70-135	1	35	mg/kg	08.30.19 11:06	
Diesel Range Organics	<9.88	1000	1010	101	1010	101	70-135	0	35	mg/kg	08.30.19 11:06	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		117		118		70-135	%	08.30.19 11:06
o-Terphenyl	96		109		110		70-135	%	08.30.19 11:06

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 635676

COG Operating LLC

Jazz Bass 34 Fed #3H

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3100262 Matrix: Soil Date Prep: 08.30.19
Parent Sample Id: 635671-001 MS Sample Id: 635671-001 S MSD Sample Id: 635671-001 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	<9.84	996	1130	113	1100	110	70-135	3	35	mg/kg	08.30.19 14:42	
Diesel Range Organics	<9.84	996	1150	115	1120	112	70-135	3	35	mg/kg	08.30.19 14:42	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	128		128		70-135	%	08.30.19 14:42
o-Terphenyl	118		125		70-135	%	08.30.19 14:42

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3100260 Matrix: Solid Date Prep: 08.30.19
MB Sample Id: 7685424-1-BLK LCS Sample Id: 7685424-1-BKS LCSD Sample Id: 7685424-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0880	88	0.0929	93	70-130	5	35	mg/kg	08.30.19 11:31	
Toluene	<0.00100	0.100	0.0970	97	0.101	101	70-130	4	35	mg/kg	08.30.19 11:31	
Ethylbenzene	<0.00100	0.100	0.108	108	0.116	116	71-129	7	35	mg/kg	08.30.19 11:31	
m,p-Xylenes	<0.00100	0.200	0.224	112	0.239	120	70-135	6	35	mg/kg	08.30.19 11:31	
o-Xylene	<0.000500	0.100	0.110	110	0.118	118	71-133	7	35	mg/kg	08.30.19 11:31	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	112		109		104		70-130	%	08.30.19 11:31
4-Bromofluorobenzene	118		126		121		70-130	%	08.30.19 11:31

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3100260 Matrix: Soil Date Prep: 08.30.19
Parent Sample Id: 635671-001 MS Sample Id: 635671-001 S MSD Sample Id: 635671-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00101	0.101	0.0930	92	0.0879	88	70-130	6	35	mg/kg	08.30.19 14:52	
Toluene	<0.000505	0.101	0.0968	96	0.0914	91	70-130	6	35	mg/kg	08.30.19 14:52	
Ethylbenzene	<0.000505	0.101	0.108	107	0.101	101	71-129	7	35	mg/kg	08.30.19 14:52	
m,p-Xylenes	<0.00101	0.202	0.227	112	0.210	105	70-135	8	35	mg/kg	08.30.19 14:52	
o-Xylene	<0.000505	0.101	0.115	114	0.105	105	71-133	9	35	mg/kg	08.30.19 14:52	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		112		70-130	%	08.30.19 14:52
4-Bromofluorobenzene	120		125		70-130	%	08.30.19 14:52

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

Page 1 of 1

CONCHO

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

635676.

Client Name: COG-Artesia

Site Manager: Sheldon Hitchcock

Project Name: Jazz Bass 34 Fed #3H

Project Location: (county, state) Lea, NM

Project #:

Invoice to: Sheldon Hitchcock

Receiving Laboratory: Xenco

Sampler Name: Sheldon Hitchcock

Comments: Rush

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	(C)omposite/(G)rab	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold
	Bttm-1	8/30	10:00		X			X	1	C	X	X	X	
	Bttm-2		10:02											
	Bttm-3		10:04											
	Bttm-4		10:06											
	Bttm-5		10:08											
	Bttm-6		10:10											
	Bttm-7		10:12											
	Bttm-8		10:14											
	Bttm-9		10:16											
	Bttm-10		10:18											

ANALYSIS REQUEST (Circle or Specify Method No.)

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[signature]	8/30/19	13:05	[signature]	8/30/19	13:05
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature: 2.3

REMARKS:

☒ 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

1.001

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 08/30/2019 01:05:00 PM

Work Order #: 635676

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

Temperature Measuring device used : T-NM 007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.3
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**Yes**
#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: Martha Castro Date: 08/30/2019

Checklist reviewed by: Jessica Kramer Date: 08/30/2019

Jessica Kramer

APPENDIX D

CONCHO COG Production LLC

JAZZBASS 34 FEDERAL TANK BATTERY

SEC. 34-T25S-R35E

LEA COUNTY, NEW MEXICO

S SW W NW
180 210 240 270 300

248°W (T) 32°4.843', -103°21.324' ±16.4ft ▲ 3169ft

30 Aug 2019, 10:58:17

NW N NE

300 330 0 30 60

7°N (T) 32°4.838', -103°21.331' ±16.4ft ▲ 3168ft

30 Aug 2019, 10:58:38