Table 1
COG Operating LLC.
MAS Federal 34A CTB
Lea County, New Mexico

Sample ID	Sample Date	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
		In-Situ	Removed	GRO	DRO	MRO	*Total*			
AH-1 (0-1')	9/25/2018	X		<15.0	27.3	<15.0	27.3	<0.002	<0.002	38.3

(-) Not Analyzed

Certificate of Analysis Summary 603772

COG Operating LLC, Artesia, NM

Project Name: Mas Federal 34A CTB

Project Id:
Contact: Ike Tavarez
Project Location: Lea County, NM

Date Received in Lab: Mon Oct-29-18 09:45 am
Report Date: 02-NOV-18
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	603772-001					
	Field Id:	SP-1 (0-0.5')					
	Depth:						
	Matrix:	SOIL					
	Sampled:	Oct-23-18 00:00					
BTEX by EPA 8021B	***Extracted:***	Oct-30-18 15:00					
	Analyzed:	Oct-30-18 20:25					
	Units/RL:	mg/kg	RL				
Benzene		<0.00200	0.00200				
Toluene		<0.00200	0.00200				
Ethylbenzene		<0.00200	0.00200				
m,p-Xylenes		<0.00399	0.00399				
o-Xylene		<0.00200	0.00200				
Total Xylenes		<0.00200	0.00200				
Total BTEX		<0.00200	0.00200				
Chloride by EPA 300	***Extracted:***	Oct-29-18 11:30					
	Analyzed:	Oct-29-18 14:50					
	Units/RL:	mg/kg	RL				
Chloride		38.3	5.00				
TPH By SW8015 Mod	***Extracted:***	Oct-29-18 16:00					
	Analyzed:	Oct-29-18 20:09					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons		<15.0	15.0				
Diesel Range Organics		27.3	15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0				
Total TPH		27.3	15.0				

Kelsey Brooks
Project Manager

Analytical Report 603772

for

COG Operating LLC

Project Manager: Ike Tavarez

Mas Federal 34A CTB

02-NOV-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

02-NOV-18

Project Manager: **Ike Tavarez**
COG Operating LLC
2407 Pecos Avenue
Artesia, NM 88210

Reference: XENCO Report No(s): **603772**
Mas Federal 34A CTB
Project Address: Lea County, NM

Ike Tavarez:

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) 603772. 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. 603772 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 603772

COG Operating LLC, Artesia, NM

Mas Federal 34A CTB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-1 (0-0.5')	S	10-23-18 00:00		603772-001

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3068160 BTEX by EPA 8021B

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

Certificate of Analytical Results 603772

COG Operating LLC, Artesia, NM

Mas Federal 34A CTB

Sample Id:	**SP-1 (0-0.5')**	Matrix:	Soil	Date Received:	10.29.18 09.45
Lab Sample Id:	603772-001	Date Collected:	10.23.18 00.00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.29.18 11.30	Basis:	Wet Weight
Seq Number:	3067996				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**38.3**	5.00	mg/kg	10.29.18 14.50		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	10.29.18 16.00	Basis:	Wet Weight
Seq Number:	3067929				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	10.29.18 20.09	U	1
Diesel Range Organics	C10C28DRO	**27.3**	15.0	mg/kg	10.29.18 20.09		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	10.29.18 20.09	U	1
Total TPH	PHC635	**27.3**	15.0	mg/kg	10.29.18 20.09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	10.29.18 20.09	
o-Terphenyl	84-15-1	99	%	70-135	10.29.18 20.09	

Certificate of Analytical Results 603772

COG Operating LLC, Artesia, NM

Mas Federal 34A CTB

Sample Id:	**SP-1 (0-0.5')**	Matrix:	Soil	Date Received:	10.29.18 09.45
Lab Sample Id:	603772-001	Date Collected:	10.23.18 00.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	10.30.18 15.00	Basis:	Wet Weight
Seq Number:	3068160				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.30.18 20.25	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.30.18 20.25	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.30.18 20.25	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.30.18 20.25	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.30.18 20.25	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.30.18 20.25	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.30.18 20.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	88	%	70-130	10.30.18 20.25	
4-Bromofluorobenzene	460-00-4	130	%	70-130	10.30.18 20.25	

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 603772

COG Operating LLC

Mas Federal 34A CTB

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3067996 Matrix: Solid Date Prep: 10.29.18
MB Sample Id: 7665051-1-BLK LCS Sample Id: 7665051-1-BKS LCSD Sample Id: 7665051-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	246	98	246	98	90-110	0	20	mg/kg	10.29.18 13:25	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3067996 Matrix: Soil Date Prep: 10.29.18
Parent Sample Id: 603758-002 MS Sample Id: 603758-002 S MSD Sample Id: 603758-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	146	250	403	103	402	102	90-110	0	20	mg/kg	10.29.18 15:06	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3067996 Matrix: Soil Date Prep: 10.29.18
Parent Sample Id: 603767-001 MS Sample Id: 603767-001 S MSD Sample Id: 603767-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	163	248	414	101	421	104	90-110	2	20	mg/kg	10.29.18 13:46	

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3067929 Matrix: Solid Date Prep: 10.29.18
MB Sample Id: 7665087-1-BLK LCS Sample Id: 7665087-1-BKS LCSD Sample Id: 7665087-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons	<8.00	1000	962	96	957	96	70-135	1	20	mg/kg	10.29.18 17:18	
Diesel Range Organics	<8.13	1000	1010	101	1000	100	70-135	1	20	mg/kg	10.29.18 17:18	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		123		121		70-135	%	10.29.18 17:18
o-Terphenyl	114		111		107		70-135	%	10.29.18 17:18

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 603772

COG Operating LLC

Mas Federal 34A CTB

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3067929 Matrix: Soil Date Prep: 10.29.18
Parent Sample Id: 603770-001 MS Sample Id: 603770-001 S MSD Sample Id: 603770-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons	<7.99	998	890	89	932	93	70-135	5	20	mg/kg	10.29.18 18:15	
Diesel Range Organics	<8.11	998	934	94	974	98	70-135	4	20	mg/kg	10.29.18 18:15	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		114		70-135	%	10.29.18 18:15
o-Terphenyl	100		103		70-135	%	10.29.18 18:15

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3068160 Matrix: Solid Date Prep: 10.30.18
MB Sample Id: 7665234-1-BLK LCS Sample Id: 7665234-1-BKS LCSD Sample Id: 7665234-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.108	107	0.121	121	70-130	11	35	mg/kg	10.30.18 16:11	
Toluene	<0.00201	0.101	0.0909	90	0.104	104	70-130	13	35	mg/kg	10.30.18 16:11	
Ethylbenzene	<0.00201	0.101	0.102	101	0.112	112	70-130	9	35	mg/kg	10.30.18 16:11	
m,p-Xylenes	<0.00402	0.201	0.223	111	0.245	123	70-130	9	35	mg/kg	10.30.18 16:11	
o-Xylene	<0.00201	0.101	0.105	104	0.112	112	70-130	6	35	mg/kg	10.30.18 16:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		86		92		70-130	%	10.30.18 16:11
4-Bromofluorobenzene	127		124		120		70-130	%	10.30.18 16:11

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3068160 Matrix: Soil Date Prep: 10.30.18
Parent Sample Id: 603770-001 MS Sample Id: 603770-001 S MSD Sample Id: 603770-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.103	104	0.0986	99	70-130	4	35	mg/kg	10.30.18 16:55	
Toluene	<0.00199	0.0994	0.0893	90	0.0815	82	70-130	9	35	mg/kg	10.30.18 16:55	
Ethylbenzene	<0.00199	0.0994	0.0911	92	0.0856	86	70-130	6	35	mg/kg	10.30.18 16:55	
m,p-Xylenes	<0.00101	0.199	0.198	99	0.186	93	70-130	6	35	mg/kg	10.30.18 16:55	
o-Xylene	<0.00199	0.0994	0.0934	94	0.0881	88	70-130	6	35	mg/kg	10.30.18 16:55	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		79		70-130	%	10.30.18 16:55
4-Bromofluorobenzene	130		124		70-130	%	10.30.18 16:55

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

603792

CONCHO

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

Client Name: COG	**Site Manager:** Ike Tavarez
Project Name: MAS Federal 34A CTB	
Project Location: (county, state) Lea County, NM.	**Project #:**
Invoice to: COG - Ike Tavarez	
Receiving Laboratory: Xenco	**Sampler Signature:** Ike Tavarez
Comments:	

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	FILTERED (Y/N)	BTEX 8021B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Sulfate	TDS	General Water Chemistry (see attached list)	Anion/Cation Balance	Hold
	SP 1 (0-0.5')	10-23-18		✓				✓			X		X												X				

Relinquished by:	Date: 10/23/18	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Received by: Date: 10/24/18 Time: 0945

LAB USE ONLY

Sample Temperature: C.3/0.0 KB

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 10/29/2018 09:45:00 AM

Work Order #: 603772

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

Temperature Measuring device used : R8

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 10/29/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 10/29/2018
Jessica Kramer