Site Description				
Site Name:	COG Operating LLC			
Company:	Burch Keely Unit Satellite B			
Legal Description:	U/L F, Section 19, T17S, R30E			
County:	Eddy County, NM			
GPS Coordinates:	N 32.82039° W-104.02491°			

Release Data

Date of Release:	10/11/2017
Type of Release:	Oil and produced water
Source of Release:	Flowline/pipeline
Volume of Release:	3 bbls oil, 7 bbls produced water
Volume Recovered:	0.5 bbls oil, 1 bbl produced water

Remediation Specifications							
Remediation Parameters:	In the process of initially delineating the site, chloride impact was substantial so approximately 14 ft of impacted soil in the area of T-2 was excavated and disposed of. The area around T-1 was excavated 1 ft. The site was backfilled with clean soil. After discussions with Mike Bratcher of the NMOCD on June 8, 2018, OCD granted closure of this site.						
Remediation Activities:	01/24/2018 to 01/31//2018						
Plan Sent to OCD:	06/08/2018	*See above remark concerning OCD					
OCD Approval of Plan:	06/08/2018 *See above remark concerning OCD						
Plan Sent to BLM:	n/a	n/a					
BLM Approval of Plan:	n/a	n/a					

Supporting Documentation					
Initial C-141	Signed 10/13/2017				
Final C-141	Signed 07/11/2018				
Site Diagram	January 2018				
Groundwater Plot	200'				
TOPO Maps	January 2018				
Lab Summary	11/16/2017, 01/24/2018, 03/28/2018				
Lab Analysis	11/16/2017, 01/24/2018, 03/28/2018				
Correspondence	Request and approval of remediation plan via email				

Request for Closure

Based on the completion of the remediation plan, BBC International requests closure approval from NMOCD.

Cliff Brunson, President, BBC International, Inc.

07/13/2018

NM OIL CONSERVATION

ARTESIA DISTRICT

Page 2 of 100

625 N. French Dr., Hobbs, NM 88240 Energy Miner District II Oil Cor 000 Rio Brazos Road, Aztec, NM 87410 1220 Sc District IV 1220 Sc 220 S. St. Francis Dr., Santa Fe, NM 87505 Santa FAB [72893248] Release Notificat Name of Company: COG Operating LLC [OGRID] 229137 Address: 600 West Illinois Avenue, Midland TX 79701 Facility Name: Burch Keely Unit Satellite B Surface Owner: Federal Mineral Own LOCCAT Unit Letter Section Township Range Feet from the N F 19 175 30E Latitude 32.82032 NATU Type of Release: Produced Water & Oil District IV NATU	nservation D outh St. Fran a Fe, NM 87 tion and C OPERA Contact: F Telephone Facility T ner: Federal TON OF RI North/South Line	ral Resources ivision acis Dr. 2505 Corrective A ATOR obert McNeill No. 432-230-007 pe: Battery CLEASE Feet from the	ction	Revised April 3, 2017 to appropriate District Office in cordance with 19.15.29 NMAC.		
000 Rio Brazos Road, Aztec, NM 87410 1220 Sc 220 S. St. Francis Dr., Santa Fe, NM 87505 Santa PAB 72893248 Release Notificat Name of Company: COG Operating LLC [OGRID] 229137 Address: 600 West Illinois Avenue, Midland TX 79701 Facility Name: Burch Keely Unit Satellite B Surface Owner: Federal Unit Letter Section F 19 17S 30E Surfue of Release: Produced Water & Oil	outh St. Fran a Fe, NM 87 tion and C OPERA Contact: F Telephone Facility T ner: Federal TION OF RI North/South Line	CLEASE Feet from the	ction ∑ Initia 77 API No.	Il Report 🔲 Final Repor		
District IV 1220 Sc 220 S. St. Francis Dr., Santa Fe, NM 87505 Santa FAB [72893248] Release Notificat AB 172893270] Name of Company: COG Operating LLC [OGRID] 229137 Address: 600 West Illinois Avenue, Midland TX 79701 Facility Name: Burch Keely Unit Satellite B Surface Owner: Federal Mineral Owr Unit Letter Section Township Range Feet from the N Latitude 32.82032 NATU Type of Release: Produced Water & Oil	a Fe, NM 87 tion and C OPERA Contact: F Telephone Facility T ner: Federal ION OF RI North/South Line	Corrective A TOR obert McNeill No. 432-230-007 pe: Battery CLEASE Feet from the	ction ∑ Initia 77 API No.	Il Report		
HAB [12893248] Release Notificat AB [12893248] Release Notificat AB [12893270] Release Notificat Name of Company: COG Operating LLC [OGRID] 229137 Address: 600 West Illinois Avenue, Midland TX 79701 Facility Name: Burch Keely Unit Satellite B Surface Owner: Federal Mineral Own LOCAT Unit Letter Section Township Range Feet from the N F 19 17S 30E Latitude 32.82032 NATU Type of Release: Produced Water & Oil	tion and C OPER/ Contact: F Telephone Facility Ty ner: Federal TON OF RI North/South Line	Corrective A ATOR obert McNeill No. 432-230-007 ype: Battery CLEASE Feet from the	Initia			
ABIT28932 TO Name of Company: COG Operating LLC [OGRID] 229137 Address: 600 West Illinois Avenue, Midland TX 79701 Facility Name: Burch Keely Unit Satellite B Surface Owner: Federal Mineral Owr LOCAT Unit Letter Section F 19 17S 30E Latitude 32.82032 NATU Type of Release: Produced Water & Oil	OPERA Contact: F Telephone Facility T ner: Federal ION OF RI North/South Line	ATOR obert McNeill No. 432-230-007 /pe: Battery CLEASE Feet from the	Initia			
Name of Company: COG Operating LLC [OGRID] 229137 Address: 600 West Illinois Avenue, Midland TX 79701 Facility Name: Burch Keely Unit Satellite B Surface Owner: Federal Mineral Own LOCAT Unit Letter Section F 19 17S 30E Latitude 32.82032 NATU Type of Release: Produced Water & Oil	Contact: F Telephone Facility T ner: Federal TION OF RI North/South Line	obert McNeill No. 432-230-007 pe: Battery CLEASE Feet from the	77 API No.			
Name of Company: COG Operating LLC [OGRID] 229137 Address: 600 West Illinois Avenue, Midland TX 79701 Facility Name: Burch Keely Unit Satellite B Surface Owner: Federal Mineral Own LOCAT Unit Letter Section F 19 17S 30E Latitude 32.82032 NATU Type of Release: Produced Water & Oil	Telephone Facility T ner: Federal ION OF RI North/South Line	No. 432-230-007 ype: Battery CLEASE Feet from the	API No.			
Facility Name: Burch Keely Unit Satellite B Surface Owner: Federal Mineral Own LOCAT Unit Letter Section F 19 17S 30E Latitude 32.82032 NATU Type of Release: Produced Water & Oil	Facility Ty ner: Federal TON OF RI North/South Line 29 Longitude -	CLEASE Feet from the	API No.			
Surface Owner: Federal Mineral Owr LOCAT Unit Letter Section Township Range Feet from the N F 19 17S 30E Latitude 32.82032 NATU Type of Release: Produced Water & Oil	ner: Federal ION OF RI North/South Line 29 Longitude -	ELEASE Feet from the				
LOCAT Unit Letter Section Township Range Feet from the N F 19 17S 30E Latitude 32.82032 NATU Type of Release: Produced Water & Oil	YION OF RI North/South Line	Feet from the				
Unit Letter Section Township Range Feet from the N F 19 17S 30E Latitude 32.82032 NATU Type of Release: Produced Water & Oil	North/South Line	Feet from the	East/West Line	County		
F 19 17S 30E Latitude 32.82032 NATU Type of Release: Produced Water & Oil	29 Longitude -		East/West Line	County		
Type of Release: Produced Water & Oil	-	104 024918 NADS		Eddy		
Type of Release: Produced Water & Oil			3			
Produced Water & Oil	RE OF RE	JEASE	Volume R	ecovered:		
Jauras of Dalagas		w; 3 bbls oil	1 bbls pv	v; 0.5 bbls oil		
Source of Release: Flowline/Pipeline		Hour of Occurrenc		Hour of Discovery:		
Was Immediate Notice Given?		17 4:00 pm To Whom?	10-11-201	7 4:00 pm		
🗋 Yes 🛛 No 🖾 Not Requ	ired					
By Whom? Was a Watercourse Reached?	Date and		1 117.	· · · · ·		
was a watercourse Reached?	IT YES,	If YES, Volume Impacting the Watercourse.				
f a Watercourse was Impacted, Describe Fully.*		· · · · · ·				
The release occurred when the flow line ruptured. The damaged port Describe Area Affected and Cleanup Action Taken.* The release occurred in the pasture. The line was isolated until repair the spill area evaluated for any possible impact from the release and we significant remediation activities. Thereby certify that the information given above is true and complete regulations all operators are required to report and/or file certain release public health or the environment. The acceptance of a C-141 report to	red. Vacuum true we will present a e to the best of n ase notifications by the NMOCD	ks were dispatched remediation work y knowledge and u and perform correc marked as "Final R	to recover all stand plan to the NMOCI nderstand that purs tive actions for rele eport" does not reli	D for approval prior to any uant to NMOCD rules and cases which may endanger eve the operator of liability		
should their operations have failed to adequately investigate and remo or the environment. In addition, NMOCD acceptance of a C-141 rep ederal, state, or local laws and/or regulations.						
		OIL CON	SERVATION	DIVISION		
Signature:	Approved 1	y Environmental S Signed E	pecialist:			
Printed Name: Dakota Neel		Signed F	NY PULLY D			
Fitle: HSE Coordinator	Approval I	Date: 1011101	17 Expiration I	Date: NIA		
E-mail Address: <u>dneel2@concho.com</u>	Conditions	of Approval: See At	tachen	Attached Attached		
Date: October 13, 2017 Phone: 575-746-2010 Attach Additional Sheets If Necessary		Ja mi	ninan			
ased to Imaging: 5/5/2023 10:03:07 AM						

Operator/Responsible Party,

The OCD has received the form C-141 you provided on <u>10/13/2017</u> regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number <u>30244444</u> has been assigned. Please refer to this case number in all future correspondence.

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete <u>division-approved corrective action</u> for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 2 office in <u>ARTESIA</u> on or before 11/13/201. The methant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

• Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

• Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.

• Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

•Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

• If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

• Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold OCD Environmental Bureau Chief 1220 South St. Francis Drive Santa Fe, New Mexico 87505 505-476-3465 jim.griswold@state.nm.us

Bratcher, Mike, EMNRD

From:	Dakota Neel <dneel2@concho.com></dneel2@concho.com>
Sent:	Friday, October 13, 2017 2:37 PM
То:	Weaver, Crystal, EMNRD; stucker@blm.gov
Cc:	James_Amos@blm.gov; Bratcher, Mike, EMNRD; Sheldon Hitchcock; Aaron Lieb;
	Rebecca Haskell; Robert McNeill
Subject:	(C-141 Initial) Burch Keely Unit Satellite B 10-11-2017
Attachments:	C-141 Initial BKU SATELLITE B 10-11-2017.pdf

Ms. Weaver/Ms. Tucker,

Attached is a C-141 for your consideration. If you have any additional questions please feel free to contact me.

Thank You,

Dakota Neel HSE Coordinator COG Operating LLC Cell: <u>432-215-2783</u> dneel2@concho.com

2407 Pecos Ave. Artesia , NM 88210



CONFIDENTIALITY NOTICE: The information in this email may be confidential and/or privileged. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination or copying of this email and its attachments, if any, or the information herein, is prohibited. If you received this email in error, please immediately notify the sender by return email and delete this email from your system. Thank you.

NOTICE: The information in this email may be confidential and/or privileged. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination or copying of this email and its attachments, if any, or the information contained herein, is prohibited. If you have received this email in error, please immediately notify the sender by return email and delete this email from your system. Further, any contract terms proposed or purportedly accepted in this email are not binding and are subject to management's final approval as memorialized in a separate written instrument, excluding electronic correspondence, executed by an authorized representative of COG Operating LLC or its affiliates.

State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised April 3, 2017

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

Release Notification and Corrective Action

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

OPERATOR Initial Report \boxtimes **Final Report** COG Operating LLC Name of Company Contact Robert McNeill Address 600 West Illinois Avenue, Midland, TX Telephone No. 432-230-0077 Facility Name Burch Keely Unit Satellite B Facility Type Battery Surface Owner Mineral Owner Federal API No. Federal LOCATION OF RELEASE Unit Letter Feet from the North/South Line Feet from the Section Township Range East/West Line County F 19 17S 30E Eddy County, NM Longitude W-104.024918 NAD83 Latitude N 32.820329 NATURE OF RELEASE Oil and Produced water Volume of Release 3 bbls oil, Volume Recovered 0.5 bbls oil, Type of Release 7 bbls produced water 1 bbl produced water Source of Release Compromised flowline/pipeline Date and Hour of Occurrence Date and Hour of Discovery 10/11/2017 @ 4:00 pm 10/11/2017 @ 4:00 pm If YES, To Whom? Was Immediate Notice Given? Yes No Not Required n/a By Whom? Date and Hour n/a n/a Was a Watercourse Reached? If YES, Volume Impacting the Watercourse. ☐ Yes ⊠ No n/a If a Watercourse was Impacted, Describe Fully.* n/a Describe Cause of Problem and Remedial Action Taken.* The release occurred when the flowline ruptured. The damaged portion of the flowline was removed and replaced. A vacuum truck recovered 0.5 bbls oil and 1 bbl produced water. Describe Area Affected and Cleanup Action Taken.* The release occurred in the pasture. The line was isolated until repaired. Vacuum trucks were dispatched and recovered all free-standing fluids. The site was delineated to establish appropriate remediation depths. Remediation was completed by removing 14 feet of impacted soil from the area of T1/SB1 and by removing 1 foot of impacted soil from the remaining area. I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. **OIL CONSERVATION DIVISION** Relecca Haskell Approved by Environmental Specialist: Ashley Maxwell Signature Printed Name: Rebecca Haskell Approval Date: 05/05/2023 Title: Senior HSE Coordinator Expiration Date: E-mail Address: rhaskell@concho.com Conditions of Approval:

Date:July 11, 2018Phone:* Attach Additional Sheets If Necessary

432-683-7443

.

Attached



COG, BKU Satellite B

Sample points

T1, N 32.82031 W-104.02493

T2, N 32.82031 W-104.02506

Drilling sample point SB1, N 32.82030 W-104.02506

COG, BKU Satellite B U/L F, Section 19, T17S, R30E Groundwater: 200'





New Mexico Office of the State Engineer Water Column/Average Depth to Water

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 592338

Northing (Y): 3631965

Radius: 1700

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

Public Land Survey System (PLSS)									
۲	Q64: 🗸	Q16: SE 🗸	Q4: NW 🗸	Sec: 19 🗸 Tws	: 17S 🗸	Rng: 30E 🗸			
	State Plane Coordinate System - NAD27								
0	X: 0 f	t Y: 0	ft	Zone:		\checkmark			
	State Plane Coordinate System - NAD83								
0	X: 0 f	t Y: 0	ft	Zone:		\checkmark			
	Degrees/Minutes/Seconds								
0	Longitude (X):	Deg	rees: 0 •	Minutes: 0	T	Seconds: 0 "			
	Latitude (Y):	Deg	rees: 0 °	Minutes: 0	•	Seconds: 0 "			
	UTM - NAD27								
0	Easting (X	(): 0 V	mtrs	Northing (Y):	0	mtrs Zone:			
	SUBMIT								
	All Con	version Res	ults are disp	layed as <u>NAD 1</u>	<u>983 UTM :</u>	Zone 13			
	Easting (X):	592338.0	mtrs	Northing (Y):	3631965.0	mtrs			
	~~ Please keep screen open to copy UTM values for Reports. ~~								

.

COG, BKU Satellite B BREAST AND TA RED LAKE SE QUADRÂNGLE NEW MEXICO-EDDY CO. 75 MINUTE SERIES (JOPOGRAPHIC) UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY lecu cu FEET 104* 32°53 Tania P 31 () 31 32 3645 C-SR MIR bares to T H TO H Bea γð 3639. drass. 77.78 1977 || with *328 ~K (111/114) 2670 and a 2.00 3670 F ; ; 12 11 :140 Ci Ma Draw 1. ø 3658 -18 14 2657 nets/ 16 N Berg 11.00 0112-14 24 700 3872 132 1 6149/ 3W leasting) No. 2875° apoleonita Ê 0 010 01 deatie 365 -Salasi Salasi 3555 100 - an 1955 wi.gul¹ 3 0.00 35 la. vite . P-sp 10 L L ٨ м D and a wi alter T. 18 te see 1 he Deams Mary 25.00 ចារផ្តែ denting 3524 hati w 12 01 Ve 23.52 11 have Min a 125 <u>)</u>... ČĘ T 640 00 ECE 201 md 3609 Teals 13 18 15-1 Tank or the second 193834-L STATE NE d, edited, and published by the Genlogical Survey 1.24 000 ROAD CLASSIFICATION Control by USGS and USC&GS Light-duty_____ Unimproved dirt Culture and drainage in part compiled from wellat photester 1946. Topography by planetable surveys 1955 3000 4033 SOCC Heavy-d Mediam U. S. Route 0 C State Route e projection. 1927 North American Datum foot grid based on New Maxico coordinate system CONTOUR INTERVAL 10 FEET NATIONAL GEODETIC VERTICAL DATUM OF 1929 90iya 10,0 12%* 232 H LS 01801 9 H L tabeled inactive are dry, capped, or ab RED LAKE SE, N. MEX. 32104-01-TF-024 ator gird, zone 13 UTH CALE AND 1995 MARIETIC NOR P DECLIVATION AT CENTER OF SHEET THIS MAP DOMPLES WITH INTOKIAL MAP ADCURACY STANDARDS FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGI A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVALABLE ON REQUEST To place on the p move the project 47 meters east a icted North American Datu lines 8 meters south and own tw dathed corner tick 1955 DNA 5149 I SE-SERIES V88

Released to Imaging: 5/5/2023 10:03:07 AM

COG, BKU Satellite B



Laboratory Analytical Results Summary
BKU Satellite B

73	4.1		0 4	0	0
Page	14	n	t I	11	11
1 "50	1.1	· • ,		v	~

			T1 @						
		Sample ID	SURFACE	T1 @ 1'	T1 @ 2'	T1 @ 3'	T1 @ 4'	T1 @ 6'	T1 @ 9'
Analyte	Method	Date	11/16/17	11/16/17	11/16/17	11/16/17	11/16/17	11/16/17	11/16/17
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	EPA 8021B		< 0.00328	< 0.00332	< 0.00334	< 0.00331	< 0.00329	n/a	< 0.00346
Toluene	EPA 8021B		0.0671	< 0.00332	< 0.00334	< 0.00331	< 0.00329	n/a	< 0.00346
Ethylbenzene	EPA 8021B		0.325	< 0.00332	< 0.00334	< 0.00331	< 0.00329	n/a	< 0.00346
m,p,-Xylenes	EPA 8021B		0.469	0.0342	< 0.00669	< 0.00662	<0.00658	n/a	< 0.00692
o-Xylene	EPA 8021B		0.249	0.0213	< 0.00334	< 0.00331	< 0.00329	n/a	< 0.00346
Total Xylenes	EPA 8021B		0.718	0.0555	< 0.00334	< 0.00331	< 0.00329	n/a	< 0.00346
Total BTEX	EPA 8021B		1.11	0.0555	< 0.00334	<0.00331	<0.00329	n/a	< 0.00346
Chloride	EPA 300		329	29.9	16.6	85.6	312	111	157
GRO	SW2015 Mod		413	85.9	<15.0	<15.0	<15.0	n/a	<15.0
DRO	SW2015 Mod		16100	1180	<15.0	<15.0	<15.0	n/a	<15.0
ORO	SW2015 Mod		3540	213	<15.0	<15.0	<15.0	n/a	<15.0
Total TPH	SW2015 Mod		20100	1480	<15.0	<15.0	<15.0	n/a	<15.0

			EAST @	
		Sample ID	SURFACE	EAST @ 1'
Analyte	Method	Date	11/16/17	11/16/17
			mg/kg	mg/kg
Benzene	EPA 8021B		< 0.00351	<0.00348
Toluene	EPA 8021B		<0.00351	<0.00348
Ethylbenzene	EPA 8021B		< 0.00351	<0.00348
m,p,-Xylenes	EPA 8021B		< 0.00702	< 0.00697
o-Xylene	EPA 8021B		< 0.00351	< 0.00348
Total Xylenes	EPA 8021B		< 0.00351	<0.00348
Total BTEX	EPA 8021B		<0.00351	<0.00348
Chloride	EPA 300		31.5	11.3
GRO	SW2015 Mod		<15.0	<15.0
DRO	SW2015 Mod		<15.0	<15.0
ORO	SW2015 Mod		<15.0	<15.0
Total TPH	SW2015 Mod		<15.0	<15.0

			NORTH @	NORTH @
		Sample ID	SURFACE	1'
Analyte	Method	Date	11/16/17	11/16/17
			mg/kg	mg/kg
Benzene	EPA 8021B		< 0.00201	< 0.00332
Toluene	EPA 8021B		< 0.00201	< 0.00332
Ethylbenzene	EPA 8021B		< 0.00201	< 0.00332
m,p,-Xylenes	EPA 8021B		< 0.00402	< 0.00664
o-Xylene	EPA 8021B		< 0.00201	< 0.00332
Total Xylenes	EPA 8021B		< 0.00201	< 0.00332
Total BTEX	EPA 8021B		< 0.00201	< 0.00332
Chloride	EPA 300		40	11.5
GRO	SW2015 Mod		<15.0	<15.0
DRO	SW2015 Mod		<15.0	<15.0
ORO	SW2015 Mod		<15.0	<15.0
Total TPH	SW2015 Mod		<15.0	<15.0

		Sample ID	SOUTH @ SURFACE	SOUTH @ 1'
Analyte	Method	Date	11/16/17	11/16/17
			mg/kg	mg/kg
Benzene	EPA 8021B		< 0.00330	< 0.00346
Toluene	EPA 8021B		< 0.00330	< 0.00346
Ethylbenzene	EPA 8021B		< 0.00330	< 0.00346
m,p,-Xylenes	EPA 8021B		<0.00660	< 0.00692
o-Xylene	EPA 8021B		< 0.00330	< 0.00346
Total Xylenes	EPA 8021B		< 0.00330	< 0.00346
Total BTEX	EPA 8021B		< 0.00330	< 0.00346
Chloride	EPA 300		68.2	47.9
GRO	SW2015 Mod		<15.0	<15.0
DRO	SW2015 Mod		121	136
ORO	SW2015 Mod		53.5	70.2
Total TPH	SW2015 Mod		175	400

			WEST @	
		Sample ID	SURFACE	WEST @ 1'
Analyte	Method	Date	11/16/17	11/16/17
			mg/kg	mg/kg
Benzene	EPA 8021B		< 0.00350	<0.00331
Toluene	EPA 8021B		< 0.00350	<0.00331
Ethylbenzene	EPA 8021B		< 0.00350	<0.00331
m,p,-Xylenes	EPA 8021B		< 0.00699	< 0.00662
o-Xylene	EPA 8021B		< 0.00350	< 0.00331
Total Xylenes	EPA 8021B		< 0.00350	<0.00331
Total BTEX	EPA 8021B		< 0.00350	< 0.00331
Chloride	EPA 300		5.11	<4.96
GRO	SW2015 Mod		<15.0	<15.0
DRO	SW2015 Mod		619	70.3
ORO	SW2015 Mod		356	19.6
Total TPH	SW2015 Mod		975	89.9

		Sample ID	T2 @ 16'
Analyte	Method	Date	1/24/18
			mg/kg
Benzene	EPA 8021B		0.225
Toluene	EPA 8021B		9.01
Ethylbenzene	EPA 8021B		14.2
m,p,-Xylenes	EPA 8021B		15.3
o-Xylene	EPA 8021B		6.93
Total Xylenes	EPA 8021B		22.2
Total BTEX	EPA 8021B		45.7
Chloride	EPA 300		5070
GRO	SW2015 Mod		867
DRO	SW2015 Mod		1800
ORO	SW2015 Mod		253
Total TPH	SW2015 Mod		2920

		Sample ID	SB1 @ 14	SB1 @ 20	SB1 @ 25	SB1 @ 30	SB1 @ 35	SB1 @ 40	SB1 @ 45
Analyte	Method	Date	3/19/18	3/19/18	3/19/18	3/19/18	3/19/18	3/19/18	3/19/18
			mg/kg						
Benzene	EPA 8021B		0.438	4.44	<0.0193	<0.0189	<0.0190	<0.0189	<0.0190
Toluene	EPA 8021B		4.5	25.4	<0.0193	<0.0189	<0.0190	<0.0189	<0.0190
Ethylbenzene	EPA 8021B		8.21	30.8	0.0425	<0.0189	<0.0190	<0.0189	<0.0190
m,p,-Xylenes	EPA 8021B		11.4	37.6	0.0792	<0.0378	<0.0381	<0.0377	<0.0380
o-Xylene	EPA 8021B		4.34	22.2	0.0483	<0.0189	<0.0190	<0.0189	<0.0190
Total Xylenes	EPA 8021B		15.7	59.8	0.128	<0.0189	<0.0190	<0.0189	<0.0190
Total BTEX	EPA 8021B		28.9	120	0.17	<0.0189	<0.0190	<0.0189	<0.0190
Chloride	EPA 300		6280	5890	2440	1390	409	207	<25.0
GRO	SW2015 Mod		714	1920	22.9	<15.0	<15.0	<15.0	<15.0
DRO	SW2015 Mod		2590	5170	214	17.1	<15.0	<15.0	<15.0
ORO	SW2015 Mod		117	234	<15.0	<15.0	<15.0	<15.0	<15.0
Total TPH	SW2015 Mod		3420	7320	237	17.1	<15.0	<15.0	<15.0



Project Id:Contact:Aaron LiebProject Location:BKU Satellite B

Certificate of Analysis Summary 568955

COG Operating LLC, Artesia, NM Project Name: BKU Satellite B



Date Received in Lab:Fri Nov-17-17 12:00 pmReport Date:29-NOV-17Project Manager:Kelsey Brooks

	Lab Id:	568955-	001	568955-(002	568955-0	003	568955-	004	568955-	005	568955-0	006
An alusia Doguostad	Field Id:	North - Su	ırface	North -	1'	South - Surface		South -	1'	East - Su	rface	East -	1'
Analysis Requested	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-16-17	11:00	Nov-16-17	11:00	Nov-16-17	11:15	Nov-16-17	11:15	Nov-16-17	11:30	Nov-16-17	11:30
BTEX by EPA 8021B	Extracted:	Nov-21-17	09:30	Nov-27-17	08:00	Nov-27-17	08:00	Nov-27-17	08:00	Nov-27-17	08:00	Nov-27-17	08:00
	Analyzed:	Nov-21-17	20:54	Nov-27-17	15:26	Nov-27-17	11:17	Nov-27-17	10:39	Nov-27-17	10:58	Nov-27-17	11:36
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		< 0.00201	0.00201	< 0.00332	0.00332	< 0.00330	0.00330	< 0.00346	0.00346	< 0.00351	0.00351	< 0.00348	0.00348
Toluene		< 0.00201	0.00201	< 0.00332	0.00332	< 0.00330	0.00330	< 0.00346	0.00346	<0.00351	0.00351	< 0.00348	0.00348
Ethylbenzene		< 0.00201	0.00201	< 0.00332	0.00332	< 0.00330	0.00330	< 0.00346	0.00346	< 0.00351	0.00351	< 0.00348	0.00348
m,p-Xylenes		< 0.00402	0.00402	< 0.00664	0.00664	< 0.00660	0.00660	< 0.00692	0.00692	< 0.00702	0.00702	< 0.00697	0.00697
o-Xylene		< 0.00201	0.00201	< 0.00332	0.00332	< 0.00330	0.00330	< 0.00346	0.00346	< 0.00351	0.00351	< 0.00348	0.00348
Total Xylenes		< 0.00201	0.00201	< 0.00332	0.00332	< 0.00330	0.00330	< 0.00346	0.00346	< 0.00351	0.00351	< 0.00348	0.00348
Total BTEX		< 0.00201	0.00201	< 0.00332	0.00332	< 0.00330	0.00330	< 0.00346	0.00346	< 0.00351	0.00351	< 0.00348	0.00348
Chloride by EPA 300	Extracted:	Nov-28-17	09:30	Nov-28-17 11:00		Nov-28-17 11:00 Nov-28-17 11:00		Nov-28-17 11:00		Nov-28-17 11:00			
	Analyzed:	Nov-28-17	13:08	Nov-28-17	14:01	Nov-28-17	14:18	Nov-28-17	14:24	Nov-28-17	14:30	Nov-28-17	14:36
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		40.0	4.95	11.5	4.94	68.2	4.93	47.9	4.98	31.5	4.96	11.3	4.97
TPH By SW8015 Mod	Extracted:	Nov-20-17	15:00	Nov-20-17	15:00	Nov-20-17	15:00	Nov-20-17	15:00	Nov-20-17	15:00	Nov-20-17	15:00
	Analyzed:	Nov-21-17	05:55	Nov-21-17	06:59	Nov-21-17	07:19	Nov-21-17	07:40	Nov-21-17	08:01	Nov-21-17	08:21
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	121	15.0	136	15.0	<15.0	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	53.5	15.0	70.2	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	175	15.0	400	15.0	<15.0	15.0	<15.0	15.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Mike Kimmel Client Services Manager

Page 1 of 28



Project Id:Contact:Aaron LiebProject Location:BKU Satellite B

Certificate of Analysis Summary 568955

COG Operating LLC, Artesia, NM Project Name: BKU Satellite B



Date Received in Lab:Fri Nov-17-17 12:00 pmReport Date:29-NOV-17Project Manager:Kelsey Brooks

	Lab Id:	568955-007		568955-008		
An abusia Dogwootod	Field Id:	West - Surface		West - 1'		
Analysis Requested	Depth:					
	Matrix:	SOIL		SOIL		
	Sampled:	Nov-16-17 11:40)	Nov-16-17 11:40		
BTEX by EPA 8021B	Extracted:	Nov-27-17 08:00	D C	Nov-27-17 08:00		
	Analyzed:	Nov-27-17 11:55	5	Nov-27-17 12:14		
	Units/RL:	mg/kg I	RL	mg/kg RL		
Benzene		<0.00350 0.00	350	<0.00331 0.00331		
Toluene		<0.00350 0.00	350	<0.00331 0.00331		
Ethylbenzene		<0.00350 0.00	350	<0.00331 0.00331		
m,p-Xylenes		<0.00699 0.00	699	< 0.00662 0.00662		
o-Xylene		<0.00350 0.00	350	<0.00331 0.00331		
Total Xylenes		<0.00350 0.00	350	<0.00331 0.00331		
Total BTEX		<0.00350 0.00	350	<0.00331 0.00331		
Chloride by EPA 300	Extracted:	Nov-28-17 11:00	0	Nov-28-17 11:00		
	Analyzed:	Nov-28-17 14:54	4	Nov-28-17 15:00		
	Units/RL:	mg/kg I	RL	mg/kg RL		
Chloride		5.11 4	.97	<4.96 4.96		
TPH By SW8015 Mod	Extracted:	Nov-20-17 15:00	0	Nov-20-17 15:00		
	Analyzed:	Nov-21-17 08:42	2	Nov-21-17 09:03		
	Units/RL:	mg/kg I	RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<15.0 1	5.0	<15.0 15.0		
Diesel Range Organics (DRO)		619 1	5.0	70.3 15.0		
Oil Range Hydrocarbons (ORO)		356 1	5.0	19.6 15.0		
Total TPH		975 1	5.0	89.9 15.0		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Mike Kimmel Client Services Manager

Page 2 of 28

Analytical Report 568955

for COG Operating LLC

Project Manager: Aaron Lieb

BKU Satellite B

29-NOV-17

Collected By: Client





1211 W. Florida Ave, Midland TX 79701

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

> Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12) Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13) Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



29-NOV-17

Project Manager: Aaron Lieb **COG Operating LLC** 2407 Pecos Avenue Artesia, NM 88210

Reference: XENCO Report No(s): 568955 **BKU Satellite B** Project Address: BKU Satellite B

Aaron Lieb:

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) 568955. 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. 568955 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,

Mile K.

Mike Kimmel **Client Services Manager**

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994. Certified and approved by numerous States and Agencies. A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



Page 4 of 28





Sample Cross Reference 568955



COG Operating LLC, Artesia, NM

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
North - Surface	S	11-16-17 11:00		568955-001
North - 1'	S	11-16-17 11:00		568955-002
South - Surface	S	11-16-17 11:15		568955-003
South - 1'	S	11-16-17 11:15		568955-004
East - Surface	S	11-16-17 11:30		568955-005
East - 1'	S	11-16-17 11:30		568955-006
West - Surface	S	11-16-17 11:40		568955-007
West - 1'	S	11-16-17 11:40		568955-008



CASE NARRATIVE

Client Name: COG Operating LLC Project Name: BKU Satellite B

Project ID: Work Order Number(s): 568955
 Report Date:
 29-NOV-17

 Date Received:
 11/17/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-3034040 BTEX by EPA 8021B Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3034261 BTEX by EPA 8021B Soil samples were not received in Terracore kits and therefore were prepared by method 5030.





COG Operating LLC, Artesia, NM

Sample Id:	North - Surface		Matrix:	Soil]	Date Received:11.17.17 12.00			
Lab Sample I	d: 568955-001		Date Colle	cted: 11.16.17 11.00					
Analytical M	ethod: Chloride by EF	PA 300]	Prep Method: E30	00P		
Tech:	MNV					% Moisture:			
Analyst:	MNV		Date Prep:	11.28.17 09.30]	Basis: We	t Weight		
Seq Number:	3034324								
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil	
Chloride		16887-00-6	40.0	4.95	mg/kg	11.28.17 13.08		1	

Analytical Method: TPH By SW801	5 Mod				Р	rep Method: TX	1005P	
Tech: JUM					%	6 Moisture:		
Analyst: JUM		Date Pre	p: 11.20	.17 15.00	В	asis: We	t Weight	
Seq Number: 3033962								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	11.21.17 05.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	11.21.17 05.55	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	11.21.17 05.55	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	11.21.17 05.55	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	95	%	70-135	11.21.17 05.55		
o-Terphenyl		84-15-1	97	%	70-135	11.21.17 05.55		





COG Operating LLC, Artesia, NM

Sample Id:North - SurfaceLab Sample Id:568955-001	Matrix: Soil Date Collected: 11.16.17 11.00	Date Received:11.17.17 12.00
Analytical Method:BTEX by EPA 8021BTech:ALJAnalyst:ALJ	Date Prep: 11.21.17 09.30	Prep Method: SW5030B % Moisture: Basis: Wet Weight
Seq Number: 3034040		

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00201	0.00201		mg/kg	11.21.17 20.54	U	1
Toluene	108-88-3	< 0.00201	0.00201		mg/kg	11.21.17 20.54	U	1
Ethylbenzene	100-41-4	< 0.00201	0.00201		mg/kg	11.21.17 20.54	U	1
m,p-Xylenes	179601-23-1	< 0.00402	0.00402		mg/kg	11.21.17 20.54	U	1
o-Xylene	95-47-6	< 0.00201	0.00201		mg/kg	11.21.17 20.54	U	1
Total Xylenes	1330-20-7	< 0.00201	0.00201		mg/kg	11.21.17 20.54	U	1
Total BTEX		< 0.00201	0.00201		mg/kg	11.21.17 20.54	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	97	%	80-120	11.21.17 20.54		
4-Bromofluorobenzene		460-00-4	93	%	80-120	11.21.17 20.54		





COG Operating LLC, Artesia, NM

Sample Id:	North - 1'		Matrix:	Soil		Date Received:11.	17.17 12.00)
Lab Sample I	Lab Sample Id: 568955-002			cted: 11.16.17 11.00				
Analytical Me	ethod: Chloride by EPA	300				Prep Method: E30)0P	
Tech:	MNV					% Moisture:		
Analyst:	MNV		Date Prep:	11.28.17 11.00		Basis: We	t Weight	
Seq Number:	3034338							
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	11.5	4.94	mg/kg	11.28.17 14.01		1

Analytical Method: TPH By SW80 Tech: JUM					rep Method: TX 6 Moisture:	1005P		
Analyst: JUM		Date Pre	p: 11.20	17 15.00			et Weight	
Seq Number: 3033962								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	11.21.17 06.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	11.21.17 06.59	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	11.21.17 06.59	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	11.21.17 06.59	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	88	%	70-135	11.21.17 06.59		
o-Terphenyl		84-15-1	92	%	70-135	11.21.17 06.59		



Seq Number: 3034261

Certificate of Analytical Results 568955



COG Operating LLC, Artesia, NM

Sample Id:	North - 1'	Matrix:	Soil	Date Receive	d:11.17.17 12.00				
Lab Sample Id: 568955-002 Date Collected: 11.16.17 11.00									
Analytical M	ethod: BTEX by EPA 8021B		Prep Method:	: SW5030B					
Tech:	ALJ			% Moisture:					
Analyst:	ALJ	Date Prep:	11.27.17 08.00	Basis:	Wet Weight				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00332	0.00332		mg/kg	11.27.17 15.26	U	1
Toluene	108-88-3	< 0.00332	0.00332		mg/kg	11.27.17 15.26	U	1
Ethylbenzene	100-41-4	< 0.00332	0.00332		mg/kg	11.27.17 15.26	U	1
m,p-Xylenes	179601-23-1	< 0.00664	0.00664		mg/kg	11.27.17 15.26	U	1
o-Xylene	95-47-6	< 0.00332	0.00332		mg/kg	11.27.17 15.26	U	1
Total Xylenes	1330-20-7	< 0.00332	0.00332		mg/kg	11.27.17 15.26	U	1
Total BTEX		< 0.00332	0.00332		mg/kg	11.27.17 15.26	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	88	%	80-120	11.27.17 15.26		
1,4-Difluorobenzene		540-36-3	95	%	80-120	11.27.17 15.26		



JUM

Analyst:

Certificate of Analytical Results 568955



Wet Weight

Basis:

COG Operating LLC, Artesia, NM

BKU Satellite B

11.20.17 15.00

Sample Id:South - SurfaceLab Sample Id:568955-003		Matrix: Date Collec	Soil eted: 11.16.17 11.15	Date Received:11.17.17 12.00			
Analytical Method:Chloride by ETech:MNVAnalyst:MNVSeq Number:3034338	PA 300	Date Prep:	11.28.17 11.00		Prep Method: E300P % Moisture: Basis: Wet We	sight	
Parameter	Cas Number	Result	RL	Units	Analysis Date F	lag Dil	
Chloride	16887-00-6	68.2	4.93	mg/kg	11.28.17 14.18	1	
Analytical Method: TPH By SW8	015 Mod]	Prep Method: TX1005	5P	
Tech: JUM				(% Moisture:		

Seq Number: 3033962		2	1				-	
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	11.21.17 07.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	121	15.0		mg/kg	11.21.17 07.19		1
Oil Range Hydrocarbons (ORO)	PHCG2835	53.5	15.0		mg/kg	11.21.17 07.19		1
Total TPH	PHC635	175	15.0		mg/kg	11.21.17 07.19		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	99	%	70-135	11.21.17 07.19		
o-Terphenyl		84-15-1	101	%	70-135	11.21.17 07.19		

Date Prep:

.





COG Operating LLC, Artesia, NM

Sample Id: South - Surface	Matrix: Soil	Date Received:11.17.17 12.00
Lab Sample Id: 568955-003	Date Collected: 11.16.17 11.15	
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 11.27.17 08.00	Basis: Wet Weight
Seq Number: 3034261		

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00330	0.00330		mg/kg	11.27.17 11.17	U	1
Toluene	108-88-3	< 0.00330	0.00330		mg/kg	11.27.17 11.17	U	1
Ethylbenzene	100-41-4	< 0.00330	0.00330		mg/kg	11.27.17 11.17	U	1
m,p-Xylenes	179601-23-1	< 0.00660	0.00660		mg/kg	11.27.17 11.17	U	1
o-Xylene	95-47-6	< 0.00330	0.00330		mg/kg	11.27.17 11.17	U	1
Total Xylenes	1330-20-7	< 0.00330	0.00330		mg/kg	11.27.17 11.17	U	1
Total BTEX		< 0.00330	0.00330		mg/kg	11.27.17 11.17	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	97	%	80-120	11.27.17 11.17		
1,4-Difluorobenzene		540-36-3	101	%	80-120	11.27.17 11.17		





COG Operating LLC, Artesia, NM

Sample Id:South - 1'Lab Sample Id:568955-004		Matrix: Date Collec	Soil ted: 11.16.17 11.15	Date Received:11.17.17 12.00			0
Analytical Method: Chloride byTech:MNVAnalyst:MNVSeq Number:3034338	EPA 300	Date Prep:	11.28.17 11.00		Prep Method: % Moisture: Basis:	E300P Wet Weight	
Parameter	Cas Number	Result	RL	Units	Analysis Da	ate Flag	Dil
Chloride	16887-00-6	47.9	4.98	mg/kg	11.28.17 14	.24	1
Analytical Method: TPH By SW Tech: JUM	8015 Mod				Prep Method: % Moisture:	TX1005P	

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	11.21.17 07.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	136	15.0		mg/kg	11.21.17 07.40		1
Oil Range Hydrocarbons (ORO)	PHCG2835	70.2	15.0		mg/kg	11.21.17 07.40		1
Total TPH	PHC635	400	15.0		mg/kg	11.21.17 07.40		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	89	%	70-135	11.21.17 07.40		
o-Terphenyl		84-15-1	88	%	70-135	11.21.17 07.40		





COG Operating LLC, Artesia, NM

Sample Id:South - 1'Lab Sample Id:568955-004	Matrix: Soil Date Collected: 11.16.17 11.15	Date Received:11.17.17 12.00
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B

Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	11.27.17 08.00	Basis:	Wet Weight
Seq Number:	3034261				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00346	0.00346		mg/kg	11.27.17 10.39	U	1
Toluene	108-88-3	< 0.00346	0.00346		mg/kg	11.27.17 10.39	U	1
Ethylbenzene	100-41-4	< 0.00346	0.00346		mg/kg	11.27.17 10.39	U	1
m,p-Xylenes	179601-23-1	< 0.00692	0.00692		mg/kg	11.27.17 10.39	U	1
o-Xylene	95-47-6	< 0.00346	0.00346		mg/kg	11.27.17 10.39	U	1
Total Xylenes	1330-20-7	< 0.00346	0.00346		mg/kg	11.27.17 10.39	U	1
Total BTEX		< 0.00346	0.00346		mg/kg	11.27.17 10.39	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	97	%	80-120	11.27.17 10.39		
4-Bromofluorobenzene		460-00-4	96	%	80-120	11.27.17 10.39		





COG Operating LLC, Artesia, NM

Sample Id: East - Surface Lab Sample Id: 568955-005		Matrix: Date Collec	Soil ted: 11.16.17 11.30		Date Received:11.	17.17 12.0	0
Analytical Method: Chloride by EPA Tech: MNV Analyst: MNV Seq Number: 3034338	A 300	Date Prep:	11.28.17 11.00		Prep Method: E30 % Moisture: Basis: Wet	00P t Weight	
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	31.5	4.96	mg/kg	11.28.17 14.30		1

Analytical Method: TPH By SW801	5 Mod				P	rep Method: TX	1005P	
Tech: JUM					9	6 Moisture:		
Analyst: JUM		Date Pre	p: 11.20	17 15.00	E	Basis: We	t Weight	
Seq Number: 3033962								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	11.21.17 08.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	11.21.17 08.01	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	11.21.17 08.01	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	11.21.17 08.01	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	91	%	70-135	11.21.17 08.01		
o-Terphenyl		84-15-1	94	%	70-135	11.21.17 08.01		





COG Operating LLC, Artesia, NM

Sample Id: East - Surface	Matrix: Soil	Date Received:11.17.17 12.00
Lab Sample Id: 568955-005	Date Collected: 11.16.17 11.30	
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 11.27.17 08.00	Basis: Wet Weight
Seq Number: 3034261		

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00351	0.00351		mg/kg	11.27.17 10.58	U	1
Toluene	108-88-3	< 0.00351	0.00351		mg/kg	11.27.17 10.58	U	1
Ethylbenzene	100-41-4	< 0.00351	0.00351		mg/kg	11.27.17 10.58	U	1
m,p-Xylenes	179601-23-1	< 0.00702	0.00702		mg/kg	11.27.17 10.58	U	1
o-Xylene	95-47-6	< 0.00351	0.00351		mg/kg	11.27.17 10.58	U	1
Total Xylenes	1330-20-7	< 0.00351	0.00351		mg/kg	11.27.17 10.58	U	1
Total BTEX		< 0.00351	0.00351		mg/kg	11.27.17 10.58	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	101	%	80-120	11.27.17 10.58		
1,4-Difluorobenzene		540-36-3	100	%	80-120	11.27.17 10.58		





COG Operating LLC, Artesia, NM

Sample Id:	East - 1'		Matrix:	Soil]	Date Received:11.	17.17 12.00)
Lab Sample Id:	568955-006		Date Collec	cted: 11.16.17 11.30				
Analytical Met	hod: Chloride by EPA	300]	Prep Method: E30	00P	
Tech:	MNV					% Moisture:		
Analyst:	MNV		Date Prep:	11.28.17 11.00]	Basis: We	t Weight	
Seq Number:	3034338							
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	11.3	4.97	mg/kg	11.28.17 14.36		1

Analytical Method: TPH By SW801	5 Mod				P	Prep Method: TX	1005P	
Tech: JUM					9	6 Moisture:		
Analyst: JUM		Date Pre	p: 11.20.	17 15.00	E	Basis: We	t Weight	
Seq Number: 3033962								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	11.21.17 08.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	11.21.17 08.21	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	11.21.17 08.21	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	11.21.17 08.21	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	94	%	70-135	11.21.17 08.21		
o-Terphenyl		84-15-1	94	%	70-135	11.21.17 08.21		





COG Operating LLC, Artesia, NM

BKU Satellite B

11.27.17 08.00

Sample Id: East - 1'	Matrix: Soil	Date Received:11.17.17 12.00
Lab Sample Id: 568955-006	Date Collected: 11.16.17 11.30	
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:

Tech:ALJAnalyst:ALJDate Prep:Seq Number:3034261

% Moisture: Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00348	0.00348		mg/kg	11.27.17 11.36	U	1
Toluene	108-88-3	< 0.00348	0.00348		mg/kg	11.27.17 11.36	U	1
Ethylbenzene	100-41-4	< 0.00348	0.00348		mg/kg	11.27.17 11.36	U	1
m,p-Xylenes	179601-23-1	< 0.00697	0.00697		mg/kg	11.27.17 11.36	U	1
o-Xylene	95-47-6	< 0.00348	0.00348		mg/kg	11.27.17 11.36	U	1
Total Xylenes	1330-20-7	< 0.00348	0.00348		mg/kg	11.27.17 11.36	U	1
Total BTEX		< 0.00348	0.00348		mg/kg	11.27.17 11.36	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	103	%	80-120	11.27.17 11.36		
4-Bromofluorobenzene		460-00-4	99	%	80-120	11.27.17 11.36		





COG Operating LLC, Artesia, NM

Sample Id:	West - Surface		Matrix:	Soil		Date Received:11.	17.17 12.0	0
Lab Sample I	d: 568955-007		Date Coll	ected: 11.16.17 11.40				
Analytical Mo	ethod: Chloride by EP.	A 300				Prep Method: E30	00P	
Tech:	MNV					% Moisture:		
Analyst:	MNV		Date Prep	b: 11.28.17 11.00		Basis: We	t Weight	
Seq Number:	3034338							
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	5.11	4.97	mg/kg	11.28.17 14.54		1

5 Mod				Р	rep Method: TX	1005P	
				%	6 Moisture:		
	Date Pre	p: 11.20.	17 15.00	В	asis: We	et Weight	
Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
PHC610	<15.0	15.0		mg/kg	11.21.17 08.42	U	1
C10C28DRO	619	15.0		mg/kg	11.21.17 08.42		1
PHCG2835	356	15.0		mg/kg	11.21.17 08.42		1
PHC635	975	15.0		mg/kg	11.21.17 08.42		1
	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
	111-85-3	103	%	70-135	11.21.17 08.42		
	84-15-1	102	%	70-135	11.21.17 08.42		
	PHC610 C10C28DRO PHCG2835	Cas Number Result PHC610 <15.0	Cas Number Result RL PHC610 <15.0	Date Prep: 11.20.17 15.00 Cas Number Result RL PHC610 <15.0	Cas Number Result RL Units PHC610 <15.0	Cas Number Result RL Units Analysis Date PHC610 <15.0	Noisture: Date Prep: 11.20.17 15.00 Basis: Wet Weight Cas Number Result RL Units Analysis Date Flag PHC610 <15.0





COG Operating LLC, Artesia, NM

Sample Id:West - SurfaceLab Sample Id:568955-007	Matrix: Soil Date Collected: 11.16.17 11.40	Date Received:11.17.17 12.00
Analytical Method: BTEX by EPA 8021B Tech: ALJ		Prep Method: SW5030B % Moisture:
Analyst: ALJ Seq Number: 3034261	Date Prep: 11.27.17 08.00	Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00350	0.00350		mg/kg	11.27.17 11.55	U	1
Toluene	108-88-3	< 0.00350	0.00350		mg/kg	11.27.17 11.55	U	1
Ethylbenzene	100-41-4	< 0.00350	0.00350		mg/kg	11.27.17 11.55	U	1
m,p-Xylenes	179601-23-1	< 0.00699	0.00699		mg/kg	11.27.17 11.55	U	1
o-Xylene	95-47-6	< 0.00350	0.00350		mg/kg	11.27.17 11.55	U	1
Total Xylenes	1330-20-7	< 0.00350	0.00350		mg/kg	11.27.17 11.55	U	1
Total BTEX		< 0.00350	0.00350		mg/kg	11.27.17 11.55	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	103	%	80-120	11.27.17 11.55		
4-Bromofluorobenzene		460-00-4	95	%	80-120	11.27.17 11.55		





COG Operating LLC, Artesia, NM

Sample Id: West - 1'	Matrix:	Soil	Date Received:11.17.17 12.00				
Lab Sample Id: 568955-008		Date Colle	cted: 11.16.17 11.40				
Analytical Method: Chloride by EF	PA 300				Prep Method: E30)0P	
Tech: MNV					% Moisture:		
Analyst: MNV		Date Prep:	11.28.17 11.00		Basis: We	t Weight	
Seq Number: 3034338		Ĩ					
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	11.28.17 15.00	U	1
Analytical Method: TPH By SW80	15 Mod				Prep Method: TX	1005P	
Tech: JUM					% Moisture:		
Analyst: JUM		Date Prep:	11.20.17 15.00		Basis: We	t Weight	
Seq Number: 3033962							
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	11.21.17 09.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	70.3	15.0	mg/kg	11.21.17 09.03		1

Tech: JUM	% Moisture:							
Analyst: JUM	lyst: JUM		11.20.17 15.00		Basis: We		et Weight	
Seq Number: 3033962								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	11.21.17 09.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	70.3	15.0		mg/kg	11.21.17 09.03		1
Oil Range Hydrocarbons (ORO)	PHCG2835	19.6	15.0		mg/kg	11.21.17 09.03		1
Total TPH	PHC635	89.9	15.0		mg/kg	11.21.17 09.03		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	78	%	70-135	11.21.17 09.03		
o-Terphenyl	5	84-15-1	82	%	70-135	11.21.17 09.03		




Wet Weight

COG Operating LLC, Artesia, NM

Sample Id: West - 1'	Matrix: Soil	Date Received:11.17.17 12.00
Lab Sample Id: 568955-008	Date Collected: 11.16.17 11.40	
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:

Tech:	ALJ			% Mois
Analyst:	ALJ	Date Prep:	11.27.17 08.00	Basis:
Seq Number:	3034261			

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00331	0.00331		mg/kg	11.27.17 12.14	U	1
Toluene	108-88-3	< 0.00331	0.00331		mg/kg	11.27.17 12.14	U	1
Ethylbenzene	100-41-4	< 0.00331	0.00331		mg/kg	11.27.17 12.14	U	1
m,p-Xylenes	179601-23-1	< 0.00662	0.00662		mg/kg	11.27.17 12.14	U	1
o-Xylene	95-47-6	< 0.00331	0.00331		mg/kg	11.27.17 12.14	U	1
Total Xylenes	1330-20-7	< 0.00331	0.00331		mg/kg	11.27.17 12.14	U	1
Total BTEX		< 0.00331	0.00331		mg/kg	11.27.17 12.14	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	102	%	80-120	11.27.17 12.14		
4-Bromofluorobenzene		460-00-4	100	%	80-120	11.27.17 12.14		



Flagging Criteria



Page 38 of 100

- 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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ Limit of Quantitation
- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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

	Phone	Fax
4147 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd, Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr Suite 102, Tempe AZ 85282	(602) 437-0330	

Final 1.000



BORATORIES



COG Operating LLC BKU Satellite B

Analytical Method: Seq Number: MB Sample Id:	Chloride by EPA 3 3034324 7634996-1-BLK	00	Matrix: Solid LCS Sample Id: 7634996-1-BKS			1-BKS	Prep Method: E300P Date Prep: 11.28.17 LCSD Sample Id: 7634996-1-BSI				8.17	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	239	96	237	95	90-110	1	20	mg/kg	11.28.17 10:11	
Analytical Method:	•	00						Pr	ep Metho			
Seq Number: MB Sample Id:	3034338 7635005-1-BLK			Matrix:	Solid 7635005-	1-BKS		LCSI	Date Pre	-	8.17 5005-1-BSD	
Parameter	MB Result	Spike	LCS LCS Result	LCS %Rec	LCSD	LCSD	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	Amount 250	251	7 6 Kec 100	Result 266	%Rec 106	90-110	6	20	mg/kg	11.28.17 13:38	
Analytical Method: Seq Number:	Chloride by EPA 3 3034324	00		Matrix:	Soil			Pr	ep Metho Date Pre			
Parent Sample Id:	568803-003		MS Sar	nple Id:	568803-0	03 S		MSI	O Sample	Id: 5688	303-003 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	416	248	657	97	652	95	90-110	1	20	mg/kg	11.28.17 10:29	
Analytical Method: Seq Number:	Chloride by EPA 3 3034324	00		Matrix:	Soil			Pr	ep Metho Date Pre			
Parent Sample Id:	568803-012				568803-0	12 S		MSI		-	303-012 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	53.5	246	306	103	300	100	90-110	2	20	mg/kg	11.28.17 12:03	
Analytical Method:	•	00						Pr	ep Metho			
Seq Number: Parent Sample Id:	3034338 568955-002			Matrix:	Soil 568955-0	02 S		MSI	Date Pre	-	8.17 955-002 SD	
Parameter	Parent	Spike	MS	MS	MSD	MSD	Limits	%RPD	RPD	Units	Analysis	Flag
Chloride	Result 11.5	Amount	Result	%Rec	Result	%Rec			Limit		Date	

Seq Number:	Chloride by EPA 3 (3034338 568956-004)0		Matrix:	Soil 568956-00	04 S	Prep Method: E300P Date Prep: 11.28.17 MSD Sample Id: 568956-004 SD					
Parent Sample Id:	308930-004		IVIS Sal	npie iu.	506950-00	04 5		WI SI	Jampie	iu. 3065	50-004 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	85.6	245	345	106	341	104	90-110	1	20	mg/kg	11.28.17 15:29	



COG Operating LLC BKU Satellite B

Analytical Method:	TPH By S	SW8015 M						Prep Method: TX1005P					
Seq Number:	3033962				Date Prep: 11.20.17								
MB Sample Id:	7634803-1	I-BLK		LCS Sar	nple Id:	7634803-	1-BKS	LCSD Sample Id: 7634803-1-BSD					
Parameter		MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocart	oons (GRO)	<15.0	1000	998	100	1030	103	70-135	3	35	mg/kg	11.21.17 05:15	
Diesel Range Organics	(DRO)	<15.0	1000	1070	107	1140	114	70-135	6	35	mg/kg	11.21.17 05:15	
Surrogate		MB %Rec	MB Flag		CS Rec	LCS Flag	LCSI %Ree			mits	Units	Analysis Date	
1-Chlorooctane		96		1	07		109		70	-135	%	11.21.17 05:15	
o-Terphenyl		118 102			2 70-135 % 11.21.17 05:15								

Analytical Method: Seq Number: Parent Sample Id:	lod	MS Sar	Matrix: nple Id:		01 S		Prep Method: TX1005P Date Prep: 11.20.17 MSD Sample Id: 568955-001 SD						
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarb	ons (GRO)	<15.0	1000	900	90	838	84	70-135	7	35	mg/kg	11.21.17 06:17	
Diesel Range Organics	(DRO)	<15.0	1000	944	94	904	90	70-135	4	35	mg/kg	11.21.17 06:17	
Surrogate					1S Rec	MS Flag	MSD %Re			mits	Units	Analysis Date	
1-Chlorooctane				1	07		100		70	-135	%	11.21.17 06:17	
o-Terphenyl				103 99			70-135 % 11.21.17 06:17						

Analytical Method: Seq Number: MB Sample Id:	BTEX by EPA 802 3034040 7634836-1-BLK	1B	LCS San	Matrix: nple Id:	Solid					p Method: SW5030B Date Prep: 11.21.17 Sample Id: 7634836-1-BSD		
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.00198	0.0992	0.122	123	0.104	104	70-130	16	35	mg/kg	11.21.17 11:51	
Toluene	< 0.00198	0.0992	0.114	115	0.0967	97	70-130	16	35	mg/kg	11.21.17 11:51	
Ethylbenzene	< 0.00198	0.0992	0.117	118	0.0994	100	71-129	16	35	mg/kg	11.21.17 11:51	
m,p-Xylenes	< 0.00397	0.198	0.226	114	0.193	97	70-135	16	35	mg/kg	11.21.17 11:51	
o-Xylene	< 0.00198	0.0992	0.112	113	0.0973	98	71-133	14	35	mg/kg	11.21.17 11:51	
Surrogate	MB %Rec	MB Flag		CS Rec	LCS Flag	LCSI %Ree			imits	Units	Analysis Date	
1,4-Difluorobenzene	101		ç	96		85		80)-120	%	11.21.17 11:51	
4-Bromofluorobenzene	97		9	9 9		88		80	0-120	%	11.21.17 11:51	

ABORATORIES



COG Operating LLC BKU Satellite B

Analytical Method: Seq Number: MB Sample Id:	BTEX by EPA 802 3034261 7634983-1-BLK	lB	Matrix: Solid LCS Sample Id: 7634983-1-BKS					Prep Method: SW5030B Date Prep: 11.27.17 LCSD Sample Id: 7634983-1-BSD				
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.00200	0.0998	0.108	108	0.111	111	70-130	3	35	mg/kg	11.27.17 08:19	
Toluene	< 0.00200	0.0998	0.105	105	0.108	108	70-130	3	35	mg/kg	11.27.17 08:19	
Ethylbenzene	< 0.00200	0.0998	0.110	110	0.112	112	71-129	2	35	mg/kg	11.27.17 08:19	
m,p-Xylenes	< 0.00399	0.200	0.209	105	0.214	107	70-135	2	35	mg/kg	11.27.17 08:19	
o-Xylene	< 0.00200	0.0998	0.102	102	0.104	104	71-133	2	35	mg/kg	11.27.17 08:19	
Surrogate	MB %Rec	MB Flag			LCS Flag	LCSI %Re			imits	Units	Analysis Date	
1,4-Difluorobenzene	96		1	04		103		80	-120	%	11.27.17 08:19	
4-Bromofluorobenzene	84		1	02		101		80	-120	%	11.27.17 08:19	

Analytical Method:	BTEX by EPA 802	1B			Prep Method: SW5030B							
Seq Number:	3034040			Matrix:	Soil				Date Pr	ep: 11.2	1.17	
Parent Sample Id:	568546-001		MS Sample Id: 568546-001 S				MSD Sample Id: 568546-001 SD					
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.00200	0.100	0.0942	94	0.0959	96	70-130	2	35	mg/kg	11.21.17 12:29	
Toluene	< 0.00200	0.100	0.0852	85	0.0883	89	70-130	4	35	mg/kg	11.21.17 12:29	
Ethylbenzene	< 0.00200	0.100	0.0860	86	0.0823	83	71-129	4	35	mg/kg	11.21.17 12:29	
m,p-Xylenes	0.00654	0.200	0.169	81	0.162	78	70-135	4	35	mg/kg	11.21.17 12:29	
o-Xylene	< 0.00200	0.100	0.0870	87	0.0821	82	71-133	6	35	mg/kg	11.21.17 12:29	
Surrogate				1S Rec	MS Flag	MSD %Rec			mits	Units	Analysis Date	
1,4-Difluorobenzene			ç	94		107		80	-120	%	11.21.17 12:29	
4-Bromofluorobenzene			ç	92		109		80	-120	%	11.21.17 12:29	

Analytical Method: Seq Number: Parent Sample Id:	BTEX by EPA 802 3034261 568956-007	1B		Matrix: nple Id:	Soil 568956-00	07 S			ep Meth Date Pr D Sample	ep: 11.2	5030B 7.17 956-007 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.00353	0.177	0.178	101	0.180	103	70-130	1	35	mg/kg	11.27.17 08:55	
Toluene	< 0.00353	0.177	0.173	98	0.175	100	70-130	1	35	mg/kg	11.27.17 08:55	
Ethylbenzene	< 0.00353	0.177	0.181	102	0.181	103	71-129	0	35	mg/kg	11.27.17 08:55	
m,p-Xylenes	< 0.00707	0.353	0.346	98	0.346	99	70-135	0	35	mg/kg	11.27.17 08:55	
o-Xylene	< 0.00353	0.177	0.170	96	0.169	97	71-133	1	35	mg/kg	11.27.17 08:55	
Surrogate				AS Rec	MS Flag	MSD %Re			imits	Units	Analysis Date	
1,4-Difluorobenzene			1	03		102		80	-120	%	11.27.17 08:55	
4-Bromofluorobenzene			1	10		104		80	-120	%	11.27.17 08:55	

Released to Imaging: 5/5/2023 10:03:07 AM

XENCO	CHAIN OF CU	CUSTODY	
Setting the Standard since 1990 Stafford,Texas (281-240-4200)	San Antonio. Texas (210-509-3334)	Phoenix Arizona (480-355-0900)	0006
Dallas Texas (214-902-0300)	Midland, Texas (432-704-5251)		
	www.xenco.com	Xenco Quote #	xenco Job # 508955
Strand Discondence Instrumenting		Analytical Information	rmation Matrix Codes
Company Name / Branch: Company Name / Branch: COG Oberating I I C	Project Name/Number: BK/ I Schellite B		S = SallSallSall
	Project Location:		GW = Ground Water
2407 PECOS Avenue Artesia NM 88210	BKU Satellite B		DW = Drinking Water P = Product
Email: Phone No: 575-748-1553 <u>alieb@concho.com</u> dneel2@concho.com rhaskell@concho.com slhitchcock@concho.com	Involce To: COG Operating LLC Attn: Robert Mcneill 600 W Illinois		SW = Surface water SL = Sludge OW =Ocean/Sea Water
Project Contact: Aaron Lieb	Midland TX 79701 PO Number:)ED	VI = Wipe
Samplers's Name- Aaron Lieb			WW= Waste Water
	Collection Number of p		A = Air
No. Field ID / Point of Collection Sample Depth	Date Time Matrix bottles HCI NaOH/Zn Accetate HNO3	H2SO4 NaOH NaHSO4 MEOH NONE TPH/ E BTEX Chlorid	Field Comments
1 North - Surfrace -	11/14/17 11:00An S 1		
2 North - 1' 1'		XXX	
3 South - Supface -	11:15000 1		
4 South - 1' 1'		XXX	
5 EAST - SURFACE -	1/230 1911 1		
6 EAST - 1'			
7 West . Suptrace -	1 11:42000	XXX	
8 West ~ 1'		XXX	
σ			
10			
Turnaround Time (Business days)	Data Deliverable Information		Notes:
Same Day TAT 5 Day TAT	Level II Std QC	Level IV (Full Data Pkg /raw data)	
Next Day EMERGENCY	Level III Std QC+ Forms	TRRP Level IV	
2 Day EMERGENCY	Level 3 (CLP Forms)	UST / RG -411	
3 Day EMERGENCY	TRRP Checklist		Corrected Temp: 34 19
TAT Starts Day received by Lab, if received by 5:00 pm		SION INCLIDING COLIDED DELIVEDY	
Relinquished by Sampler: Date Time:	In the second By 11-17-17 1	Date Time:	2 N Repétived By:
Relinquished by: Date Time:	Received By:		eceived By:
Relinquished by: Date Time:	ime: Received By:	4 Preserved where applicable	4 On Ice Cooler Temp. Thermo. Corr. Factor d to
b Notice: Notice: Signature of this document and relinquishment of samples constitutes a va losses or expenses incurred by the Client if such loses are due to circumstances beyond the vall be enforced unless previously negotiated under a fully executed client contract.	5 Id purchase order from client company to Xenco, its affiliates and subcon e control of Xenco. A minimum charge of \$75 will be applied to each proj	tractors. It assigns standard terms and conditions of service. Xenc ect. Xenco's liability will be limited to the cost of samples. Any san	b IS Induces Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility or losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.
will be enforced unless previously negotiated under a fully executed client contract.			Re

Final 1.000

Page 27 of 28



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Comments

Client: COG Operating LLC Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 11/17/2017 12:00:00 PM Temperature Measuring device used : R8 Work Order #: 568955 Sample Receipt Checklist #1 *Temperature of cooler(s)? 1.9 #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)?	No
#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:

Checklist reviewed by: Hely Taylor Holly Taylor

Date: 11/20/2017

Date: 11/22/2017



Project Id:Contact:Aaron LiebProject Location:BKU Satellite B

Certificate of Analysis Summary 568956

COG Operating LLC, Artesia, NM Project Name: BKU Satellite B



Date Received in Lab:Fri Nov-17-17 12:00 pmReport Date:30-NOV-17Project Manager:Kelsey Brooks

	Lab Id:	568956-	001	568956-	002	568956-0	003	568956-	004	568956-	005	568956-0)06
Analysis Bogyostod	Field Id:	T1-Surf	ace	T1- 1		T1-2'		T1-3		T1-4		T1-6'	
Analysis Requested	Depth:			1'-		2'-		3'-		4'-		6'-	
	Matrix:	SOIL		SOIL		SOIL		SOIL	,	SOIL	,	SOIL	
	Sampled:	Nov-16-17	10:00	Nov-16-17	10:10	Nov-16-17	10:15	Nov-16-17	10:17	Nov-16-17	10:20	Nov-16-17	10:25
BTEX by EPA 8021B	Extracted:	Nov-27-17	08:00	Nov-27-17	08:00	Nov-27-17	08:00	Nov-27-17	08:00	Nov-27-17	08:00		
	Analyzed:	Nov-27-17	13:27	Nov-27-17	13:10	Nov-27-17	12:33	Nov-27-17	12:51	Nov-27-17	14:27		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene		< 0.00328	0.00328	< 0.00332	0.00332	< 0.00334	0.00334	< 0.00331	0.00331	< 0.00329	0.00329		
Toluene		0.0671	0.00328	< 0.00332	0.00332	< 0.00334	0.00334	< 0.00331	0.00331	< 0.00329	0.00329		
Ethylbenzene		0.325	0.00328	< 0.00332	0.00332	< 0.00334	0.00334	< 0.00331	0.00331	< 0.00329	0.00329		
m,p-Xylenes		0.469	0.00656	0.0342	0.00664	< 0.00669	0.00669	< 0.00662	0.00662	< 0.00658	0.00658		
o-Xylene		0.249	0.00328	0.0213	0.00332	< 0.00334	0.00334	< 0.00331	0.00331	< 0.00329	0.00329		
Total Xylenes		0.718	0.00328	0.0555	0.00332	< 0.00334	0.00334	< 0.00331	0.00331	< 0.00329	0.00329		
Total BTEX		1.11	0.00328	0.0555	0.00332	< 0.00334	0.00334	< 0.00331	0.00331	< 0.00329	0.00329		
Chloride by EPA 300	Extracted:	Nov-28-17	11:00	Nov-28-17 11:00		Nov-28-17 11:00 Nov-28-17 11:00		11:00	Nov-28-17 11:00		Nov-28-17 11:00		
	Analyzed:	Nov-28-17	15:06	Nov-28-17	15:12	Nov-28-17 15:18		Nov-28-17 15:23		Nov-28-17 15:41		Nov-28-17 15:47	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		329	4.92	29.9	4.99	16.6	4.96	85.6	4.90	312	4.91	111	4.92
TPH By SW8015 Mod	Extracted:	Nov-22-17	08:00	Nov-22-17	08:00	Nov-22-17	08:00	Nov-22-17	08:00	Nov-22-17	08:00		
	Analyzed:	Nov-22-17	15:53	Nov-22-17	16:53	Nov-22-17	14:13	Nov-22-17	14:33	Nov-22-17	14:54		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)	·	413	150	85.9	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0		
Diesel Range Organics (DRO)		16100	150	1180	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0		
Oil Range Hydrocarbons (ORO)		3540	150	213	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0		
Total TPH		20100	150	1480	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Mike Kimmel Client Services Manager



Project Id:Contact:Aaron LiebProject Location:BKU Satellite B

Certificate of Analysis Summary 568956

COG Operating LLC, Artesia, NM Project Name: BKU Satellite B



Date Received in Lab:Fri Nov-17-17 12:00 pmReport Date:30-NOV-17Project Manager:Kelsey Brooks

	Lab Id:	568956-007				
	Field Id:	T1-9'				
Analysis Requested	Depth:	9'-				
	Matrix:	SOIL				
	Sampled:	Nov-16-17 10:30				
BTEX by EPA 8021B	Extracted:	Nov-27-17 08:00	Î		1	
	Analyzed:	Nov-27-17 15:05				
	Units/RL:	mg/kg RL				
Benzene		<0.00346 0.00346				
Toluene		<0.00346 0.00346				
Ethylbenzene		<0.00346 0.00346				
m,p-Xylenes		<0.00692 0.00692				
o-Xylene		<0.00346 0.00346				
Total Xylenes		<0.00346 0.00346				
Total BTEX		<0.00346 0.00346				
Chloride by EPA 300	Extracted:	Nov-28-17 11:00				
	Analyzed:	Nov-28-17 16:05				
	Units/RL:	mg/kg RL				
Chloride		157 4.97				
TPH By SW8015 Mod	Extracted:	Nov-22-17 08:00				
	Analyzed:	Nov-22-17 15:33				
	Units/RL:	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0				
Diesel Range Organics (DRO)		<15.0 15.0				
Oil Range Hydrocarbons (ORO)		<15.0 15.0				
Total TPH		<15.0 15.0				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Mike Kimmel Client Services Manager

Page 2 of 24

Analytical Report 568956

for COG Operating LLC

Project Manager: Aaron Lieb

BKU Satellite B

30-NOV-17

Collected By: Client





1211 W. Florida Ave, Midland TX 79701

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

> Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12) Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13) Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



30-NOV-17

Project Manager: Aaron Lieb **COG Operating LLC** 2407 Pecos Avenue Artesia, NM 88210

Reference: XENCO Report No(s): 568956 **BKU Satellite B** Project Address: BKU Satellite B

Aaron Lieb:

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) 568956. 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. 568956 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,

Mile K.

Mike Kimmel **Client Services Manager**

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994. Certified and approved by numerous States and Agencies. A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America







Sample Cross Reference 568956



COG Operating LLC, Artesia, NM

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T1-Surface	S	11-16-17 10:00		568956-001
T1- 1'	S	11-16-17 10:10	1'	568956-002
T1-2'	S	11-16-17 10:15	2'	568956-003
T1-3'	S	11-16-17 10:17	3'	568956-004
T1-4'	S	11-16-17 10:20	4'	568956-005
T1-6'	S	11-16-17 10:25	6'	568956-006
T1-9'	S	11-16-17 10:30	9'	568956-007



CASE NARRATIVE

Client Name: COG Operating LLC Project Name: BKU Satellite B

Project ID: Work Order Number(s): 568956

BORATORIES

 Report Date:
 30-NOV-17

 Date Received:
 11/17/2017

Sample receipt non conformances and comments:

Per Aaron on 11/20/17 sample #6 should be labeled TI-6ft.

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-3034261 BTEX by EPA 8021B Soil samples were not received in Terracore kits and therefore were prepared by method 5030.





COG Operating LLC, Artesia, NM

Sample Id: T1-Surface Lab Sample Id:568956-001		Matrix: Date Collec	Soil eted: 11.16.17 10.00		Date Received:11.17.17 12.00	0
Analytical Method: Chloride by EP Tech: MNV Analyst: MNV Seq Number: 3034338	A 300	Date Prep:	11.28.17 11.00		Prep Method: E300P % Moisture: Basis: Wet Weight	
Parameter	Cas Number	Result	RL	Units	Analysis Date Flag	Dil
Chloride	16887-00-6	329	4.92	mg/kg	11.28.17 15.06	1
Analytical Method: TPH By SW80 Tech: ALJ Analyst: ALJ Seq Number: 3034077	15 Mod	Date Prep:	11.22.17 08.00		Prep Method: TX1005P % Moisture: Basis: Wet Weight	
Parameter	Cas Number	Result	RL	Units	Analysis Date Flag	Dil

	Cas Number	Result	KL		Units	Analysis Date	riag	DII	
Gasoline Range Hydrocarbons (GRO)	PHC610	413	150		mg/kg	11.22.17 15.53		10	
Diesel Range Organics (DRO)	C10C28DRO	16100	150		mg/kg	11.22.17 15.53		10	
Oil Range Hydrocarbons (ORO)	PHCG2835	3540	150		mg/kg	11.22.17 15.53		10	
Total TPH	PHC635	20100	150		mg/kg	11.22.17 15.53		10	
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag		
1-Chlorooctane		111-85-3	102	%	70-135	11.22.17 15.53			
o-Terphenyl		84-15-1	96	%	70-135	11.22.17 15.53			



Seq Number: 3034261

Certificate of Analytical Results 568956



COG Operating LLC, Artesia, NM

Sample Id: T1-Surface	Matrix: Soil	Date Received:11.17.17 12.00
Lab Sample Id: 568956-001	Date Collected: 11.16.17 10.00	
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 11.27.17 08.00	Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00328	0.00328		mg/kg	11.27.17 13.27	U	1
Toluene	108-88-3	0.0671	0.00328		mg/kg	11.27.17 13.27		1
Ethylbenzene	100-41-4	0.325	0.00328		mg/kg	11.27.17 13.27		1
m,p-Xylenes	179601-23-1	0.469	0.00656		mg/kg	11.27.17 13.27		1
o-Xylene	95-47-6	0.249	0.00328		mg/kg	11.27.17 13.27		1
Total Xylenes	1330-20-7	0.718	0.00328		mg/kg	11.27.17 13.27		1
Total BTEX		1.11	0.00328		mg/kg	11.27.17 13.27		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	91	%	80-120	11.27.17 13.27		
1,4-Difluorobenzene		540-36-3	90	%	80-120	11.27.17 13.27		





COG Operating LLC, Artesia, NM

Sample Id: T1-1'		Matrix:	Soil		Date Received:11.1	17.17 12.0	0
Lab Sample Id: 568956-002		Date Collect	ted: 11.16.17 10.10		Sample Depth: 1'		
Analytical Method: Chloride	oy EPA 300				Prep Method: E30	00P	
Tech: MNV					% Moisture:		
Analyst: MNV		Date Prep:	11.28.17 11.00		Basis: Wet	t Weight	
Seq Number: 3034338							
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	29.9	4.99	mg/kg	11.28.17 15.12		1

Analytical Method: TPH By SW801 Tech: ALJ					Prep Method: TX1005P % Moisture:			
Analyst: ALJ		Date Pre	p: 11.22	17 08.00	E	Basis: Wet	Weight	
Seq Number: 3034077								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	85.9	15.0		mg/kg	11.22.17 16.53		1
Diesel Range Organics (DRO)	C10C28DRO	1180	15.0		mg/kg	11.22.17 16.53		1
Oil Range Hydrocarbons (ORO)	PHCG2835	213	15.0		mg/kg	11.22.17 16.53		1
Total TPH	PHC635	1480	15.0		mg/kg	11.22.17 16.53		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	94	%	70-135	11.22.17 16.53		
o-Terphenyl		84-15-1	86	%	70-135	11.22.17 16.53		





COG Operating LLC, Artesia, NM

Sample Id:	T1- 1'		Matrix:	Soil	Da	ate Received:11	.17.17 12.00)
Lab Sample Id: 568956-002			Date Collecte	d: 11.16.17 10.10	Sa	mple Depth: 1'		
Analytical Met	hod: BTEX by EPA 802	1B			Pr	ep Method: SV	V5030B	
Tech:	ALJ				%	Moisture:		
Analyst:	ALJ		Date Prep:	11.27.17 08.00	Ba	asis: We	et Weight	
Seq Number:	3034261							
Parameter		Cas Number	Result R	т	Unite	Analysis Data	Flog	Б

Parameter	Cas Number	- Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00332	0.00332		mg/kg	11.27.17 13.10	U	1
Toluene	108-88-3	< 0.00332	0.00332		mg/kg	11.27.17 13.10	U	1
Ethylbenzene	100-41-4	< 0.00332	0.00332		mg/kg	11.27.17 13.10	U	1
m,p-Xylenes	179601-23-1	0.0342	0.00664		mg/kg	11.27.17 13.10		1
o-Xylene	95-47-6	0.0213	0.00332		mg/kg	11.27.17 13.10		1
Total Xylenes	1330-20-7	0.0555	0.00332		mg/kg	11.27.17 13.10		1
Total BTEX		0.0555	0.00332		mg/kg	11.27.17 13.10		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	104	%	80-120	11.27.17 13.10		
4-Bromofluorobenzene		460-00-4	114	%	80-120	11.27.17 13.10		





COG Operating LLC, Artesia, NM

BKU Satellite B

Sample Id: T1-2'		Matrix:	Soil		Date Received:11	.17.17 12.0	0
Lab Sample Id: 568956-003		Date Collec	ted: 11.16.17 10.15		Sample Depth: 2'		
Analytical Method: Chloride by E	CPA 300				Prep Method: E3	00P	
Tech: MNV					% Moisture:		
Analyst: MNV		Date Prep:	11.28.17 11.00		Basis: We	et Weight	
Seq Number: 3034338							
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.6	4.96	mg/kg	11.28.17 15.18		1

Analytical Method: TPH By SW80	15 Mod				P	Prep Method: TX	1005P	
Tech: ALJ					9	6 Moisture:		
Analyst: ALJ		Date Pre	p: 11.22	17 08.00	E	Basis: We	et Weight	
Seq Number: 3034077								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	11.22.17 14.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	11.22.17 14.13	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	11.22.17 14.13	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	11.22.17 14.13	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	97	%	70-135	11.22.17 14.13		

100

%

70-135

11.22.17 14.13

84-15-1

o-Terphenyl





COG Operating LLC, Artesia, NM

Sample Id: T1-2'	Matrix: Soil	Date Received:11.17.17 12.00
Lab Sample Id: 568956-003	Date Collected: 11.16.17 10.15	Sample Depth: 2'
Analytical Method:BTEX by EPA 8021BTech:ALJAnalyst:ALJSeq Number:3034261	Date Prep: 11.27.17 08.00	Prep Method: SW5030B % Moisture: Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00334	0.00334		mg/kg	11.27.17 12.33	U	1
Toluene	108-88-3	< 0.00334	0.00334		mg/kg	11.27.17 12.33	U	1
Ethylbenzene	100-41-4	< 0.00334	0.00334		mg/kg	11.27.17 12.33	U	1
m,p-Xylenes	179601-23-1	< 0.00669	0.00669		mg/kg	11.27.17 12.33	U	1
o-Xylene	95-47-6	< 0.00334	0.00334		mg/kg	11.27.17 12.33	U	1
Total Xylenes	1330-20-7	< 0.00334	0.00334		mg/kg	11.27.17 12.33	U	1
Total BTEX		< 0.00334	0.00334		mg/kg	11.27.17 12.33	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	103	%	80-120	11.27.17 12.33		
4-Bromofluorobenzene		460-00-4	98	%	80-120	11.27.17 12.33		





COG Operating LLC, Artesia, NM

Sample Id: T1-3' Lab Sample Id: 568956-004		Matrix: Date Collecte	Soil d: 11.16.17 10.17		Date Received Sample Depth	1:11.17.17 12.00 : 3')
Analytical Method: Chloride by EPA	300				Prep Method: % Moisture:		
Analyst: MNV Seq Number: 3034338		Date Prep:	11.28.17 11.00		Basis:	Wet Weight	
Parameter	Cas Number	Result R	RL	Units	Analysis Da	ate Flag	Dil

					-	-	
Chloride	16887-00-6	85.6	4.90	mg/kg	11.28.17 15.23		1

Analytical Method: TPH By SW8015 Mod						Prep Method: TX1005P				
Tech: ALJ					%	6 Moisture:				
Analyst: ALJ		Date Pre	p: 11.22	17 08.00	В	Basis: We	et Weight			
Seq Number: 3034077										
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil		
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	11.22.17 14.33	U	1		
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	11.22.17 14.33	U	1		
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	11.22.17 14.33	U	1		
Total TPH	PHC635	<15.0	15.0		mg/kg	11.22.17 14.33	U	1		
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag			
1-Chlorooctane		111-85-3	95	%	70-135	11.22.17 14.33				
o-Terphenyl		84-15-1	98	%	70-135	11.22.17 14.33				





COG Operating LLC, Artesia, NM

Sample Id: T1-3'	Matrix: Soil	Date Received:11.17.17 12.00
Lab Sample Id: 568956-004	Date Collected: 11.16.17 10.17	Sample Depth: 3'
Analytical Method:BTEX by EPA 8021BTech:ALJAnalyst:ALJSeq Number:3034261	Date Prep: 11.27.17 08.00	Prep Method: SW5030B % Moisture: Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00331	0.00331		mg/kg	11.27.17 12.51	U	1
Toluene	108-88-3	< 0.00331	0.00331		mg/kg	11.27.17 12.51	U	1
Ethylbenzene	100-41-4	< 0.00331	0.00331		mg/kg	11.27.17 12.51	U	1
m,p-Xylenes	179601-23-1	< 0.00662	0.00662		mg/kg	11.27.17 12.51	U	1
o-Xylene	95-47-6	< 0.00331	0.00331		mg/kg	11.27.17 12.51	U	1
Total Xylenes	1330-20-7	< 0.00331	0.00331		mg/kg	11.27.17 12.51	U	1
Total BTEX		< 0.00331	0.00331		mg/kg	11.27.17 12.51	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	102	%	80-120	11.27.17 12.51		
1,4-Difluorobenzene		540-36-3	99	%	80-120	11.27.17 12.51		





COG Operating LLC, Artesia, NM

Sample Id: T1-4' Lab Sample Id: 568956-005		Matrix: Date Collecte	Soil ed: 11.16.17 10.20		Date Received Sample Depth	d:11.17.17 12.00 n:4'	
Analytical Method: Chloride by EPA 3 Tech: MNV Analyst: MNV Seq Number: 3034338	300	Date Prep:	11.28.17 11.00		Prep Method: % Moisture: Basis:	E300P Wet Weight	
Parameter	Cas Number	Result I	RL	Units	Analysis D	ate Flag	Dil

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	312	4.91	mg/kg	11.28.17 15.41		1

Analytical Method: TPH By SW801	5 Mod				Р	rep Method: TX	1005P	
Tech: ALJ					%	6 Moisture:		
Analyst: ALJ		Date Pre	p: 11.22.	17 08.00	В	Basis: We	t Weight	
Seq Number: 3034077								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	11.22.17 14.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	11.22.17 14.54	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	11.22.17 14.54	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	11.22.17 14.54	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	87	%	70-135	11.22.17 14.54		
o-Terphenyl		84-15-1	92	%	70-135	11.22.17 14.54		





COG Operating LLC, Artesia, NM

Sample Id: T1-4'	Matrix: Soil	Date Received:11.17.17 12.00
Lab Sample Id: 568956-005	Date Collected: 11.16.17 10.20	Sample Depth: 4'
Analytical Method:BTEX by EPA 8021BTech:ALJAnalyst:ALJSeq Number:3034261	Date Prep: 11.27.17 08.00	Prep Method: SW5030B % Moisture: Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00329	0.00329		mg/kg	11.27.17 14.27	U	1
Toluene	108-88-3	< 0.00329	0.00329		mg/kg	11.27.17 14.27	U	1
Ethylbenzene	100-41-4	< 0.00329	0.00329		mg/kg	11.27.17 14.27	U	1
m,p-Xylenes	179601-23-1	< 0.00658	0.00658		mg/kg	11.27.17 14.27	U	1
o-Xylene	95-47-6	< 0.00329	0.00329		mg/kg	11.27.17 14.27	U	1
Total Xylenes	1330-20-7	< 0.00329	0.00329		mg/kg	11.27.17 14.27	U	1
Total BTEX		< 0.00329	0.00329		mg/kg	11.27.17 14.27	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	102	%	80-120	11.27.17 14.27		
1,4-Difluorobenzene		540-36-3	98	%	80-120	11.27.17 14.27		





1

COG Operating LLC, Artesia, NM

BKU Satellite B

Sample Id: Lab Sample Id	T1-6' 1: 568956-006		Matrix: Date Collect	Soil ed: 11.16.17 10.25	Date Received:11.17.17 12.00 Sample Depth: 6'				
Analytical Me Tech:	thod: Chloride by EPA 3 MNV	00				Prep Method: % Moisture:	E300	Р	
Analyst:	MNV		Date Prep:	11.28.17 11.00		Basis:	Wet V	Weight	
Seq Number:	3034338								
Parameter		Cas Number	Result	RL	Units	Analysis D	ate	Flag	Dil

Chloride

111

16887-00-6

4.92

11.28.17 15.47

mg/kg

Released to Imaging: 5/5/2023 10:03:07 AM





COG Operating LLC, Artesia, NM

Sample Id: 1 Lab Sample Id: 5	Г1-9' 568956-007	Date Received:11.17.17 12.00 Sample Depth: 9'						
2	od: Chloride by EPA 30	00				Prep Method: % Moisture:	E300P	
Analyst: M	INV		Date Prep:	11.28.17 11.00		Basis:	Wet Weight	
Seq Number: 30	034338							
Parameter		Cas Number	Result H	RL	Units	Analysis Da	ate Flag	Dil

				Childs	111111301012400	8	211	
Chloride	16887-00-6	157	4.97	mg/kg	11.28.17 16.05		1	

Analytical Method: TPH By SW801	5 Mod				Р	rep Method: TX	1005P	
Tech: ALJ					%	6 Moisture:		
Analyst: ALJ		Date Pre	p: 11.22.	17 08.00	В	Basis: We	t Weight	
Seq Number: 3034077								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	11.22.17 15.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	11.22.17 15.33	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	11.22.17 15.33	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	11.22.17 15.33	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	90	%	70-135	11.22.17 15.33		
o-Terphenyl		84-15-1	94	%	70-135	11.22.17 15.33		





COG Operating LLC, Artesia, NM

Sample Id: T1-9'	Matrix: Soil	Date Received:11.17.17 12.00			
Lab Sample Id: 568956-007	Date Collected: 11.16.17 10.30	Sample Depth:9'			
Analytical Method:BTEX by EPA 8021BTech:ALJAnalyst:ALJSeq Number:3034261	Date Prep: 11.27.17 08.00	Prep Method: SW5030B % Moisture: Basis: Wet Weight			

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00346	0.00346		mg/kg	11.27.17 15.05	U	1
Toluene	108-88-3	< 0.00346	0.00346		mg/kg	11.27.17 15.05	U	1
Ethylbenzene	100-41-4	< 0.00346	0.00346		mg/kg	11.27.17 15.05	U	1
m,p-Xylenes	179601-23-1	< 0.00692	0.00692		mg/kg	11.27.17 15.05	U	1
o-Xylene	95-47-6	< 0.00346	0.00346		mg/kg	11.27.17 15.05	U	1
Total Xylenes	1330-20-7	< 0.00346	0.00346		mg/kg	11.27.17 15.05	U	1
Total BTEX		< 0.00346	0.00346		mg/kg	11.27.17 15.05	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	100	%	80-120	11.27.17 15.05		
4-Bromofluorobenzene		460-00-4	100	%	80-120	11.27.17 15.05		



Flagging Criteria



Page 63 of 100

- 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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ Limit of Quantitation
- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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

	Phone	Fax
4147 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr Suite 102, Tempe AZ 85282	(602) 437-0330	

Final 1.000





QC Summary 568956

COG Operating LLC BKU Satellite B

Analytical Method:	Chloride by EPA 3	00						Pr	ep Metho	od: E300)P	
Seq Number:				Matrix:	Solid		Date Prep: 11.28.17					
MB Sample Id:	7635005-1-BLK LCS Sample Id:				7635005-	1-BKS		LCSI	O Sample	Id: 7635	5005-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag

Analytical Method:	Chloride by EPA 30	00						Pr	ep Metho	od: E30)P	
Seq Number:	3034338 Matrix:			Soil				Date Pre	ep: 11.2	8.17		
Parent Sample Id:	568955-002 MS			Sample Id: 568955-002 S				MSD Sample Id: 568955-002 SD				
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	11.5	247	266	103	267	103	90-110	0	20	mg/kg	11.28.17 14:06	

Analytical Method:	Chloride by EPA 30)0						Pr	ep Metho	od: E30	E300P			
Seq Number:	3034338			Matrix:	Soil				8.17					
Parent Sample Id:	568956-004		MS Sar	nple Id:	568956-00	04 S		MSI	O Sample	e Id: 5689	568956-004 SD			
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag		
Chloride	85.6	245	345	106	341	104	90-110	1	20	mg/kg	11.28.17 15:29			

Analytical Method:	tical Method: TPH By SW8015 Mod Prep Method: TX1005P															
Seq Number:	3034077				Solid			Date Prep: 11.22.17								
MB Sample Id:	7634875-1-BLK LCS Sample Id: 7634875-1-BKS LCSD Sample Id: 7634875-1-BSD															
Parameter		MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag			
Gasoline Range Hydrocarb	oons (GRO)	<15.0	1000	999	100	979	98	70-135	2	35	mg/kg	11.22.17 11:27				
Diesel Range Organics	(DRO)	<15.0	1000	1030	103	1010	101	70-135	2	35	mg/kg	11.22.17 11:27				
Surrogate		MB %Rec	MB Flag		CS Rec	LCS Flag	LCSI %Re			imits	Units	Analysis Date				
1-Chlorooctane		86		5	89		99		70	-135	%	11.22.17 11:27				
o-Terphenyl		91		1	14		109	109 70-135 % 11.22.17 11:								





COG Operating LLC BKU Satellite B

Analytical Method:	TPH By S	W8015 N	lod						Prep Method: TX1005P								
Seq Number:	3034077				Matrix:	Soil			Date Prep: 11.22.17								
Parent Sample Id:	568179-05	7		MS Sar	nple Id:	568179-05	57 S		MS	MSD Sample Id: 568179-057 SD							
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag				
Gasoline Range Hydrocarb	ons (GRO)	235	998	949	72	1030	80	70-135	8	35	mg/kg	11.22.17 12:52					
Diesel Range Organics	(DRO)	1440	998	1860	42	2000	56	70-135	7	35	mg/kg	11.22.17 12:52	Х				
Surrogate					1S Rec	MS Flag	MSD %Ree			mits	Units	Analysis Date					
1-Chlorooctane				1	04		111		70	-135	%	11.22.17 12:52					
o-Terphenyl				1	02		107		70	-135	%	11.22.17 12:52					

Analytical Method: Seq Number: MB Sample Id:	BTEX by EPA 802 3034261 7634983-1-BLK	lB	LCS San	Matrix: nple Id:	Solid 7634983-	1-BKS			rep Methe Date Pr D Sample	ep: 11.2	5030B 7.17 4983-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.00200	0.0998	0.108	108	0.111	111	70-130	3	35	mg/kg	11.27.17 08:19	
Toluene	< 0.00200	0.0998	0.105	105	0.108	108	70-130	3	35	mg/kg	11.27.17 08:19	
Ethylbenzene	< 0.00200	0.0998	0.110	110	0.112	112	71-129	2	35	mg/kg	11.27.17 08:19	
m,p-Xylenes	< 0.00399	0.200	0.209	105	0.214	107	70-135	2	35	mg/kg	11.27.17 08:19	
o-Xylene	< 0.00200	0.0998	0.102	102	0.104	104	71-133	2	35	mg/kg	11.27.17 08:19	
Surrogate	MB %Rec	MB Flag		CS Rec	LCS Flag	LCSE %Rec			imits	Units	Analysis Date	
1,4-Difluorobenzene	96		1	04		103		80	0-120	%	11.27.17 08:19	
4-Bromofluorobenzene	84		1	02		101		80	0-120	%	11.27.17 08:19	

Analytical Method: Seq Number: Parent Sample Id:	BTEX by EPA 802 3034261 568956-007	1B		Matrix: nple Id:		07 S			rep Metho Date Pro D Sample	ep: 11.2	5030B 7.17 956-007 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.00353	0.177	0.178	101	0.180	103	70-130	1	35	mg/kg	11.27.17 08:55	
Toluene	< 0.00353	0.177	0.173	98	0.175	100	70-130	1	35	mg/kg	11.27.17 08:55	
Ethylbenzene	< 0.00353	0.177	0.181	102	0.181	103	71-129	0	35	mg/kg	11.27.17 08:55	
m,p-Xylenes	< 0.00707	0.353	0.346	98	0.346	99	70-135	0	35	mg/kg	11.27.17 08:55	
o-Xylene	< 0.00353	0.177	0.170	96	0.169	97	71-133	1	35	mg/kg	11.27.17 08:55	
Surrogate				AS Rec	MS Flag	MSE %Re			imits	Units	Analysis Date	
1,4-Difluorobenzene			1	03		102		80)-120	%	11.27.17 08:55	
4-Bromofluorobenzene			1	10		104		80	0-120	%	11.27.17 08:55	

Released to Imaging: 5/5/2023 10:03:07 AM

Relinquished by: 5 Notice: Notice: Signature of this document and relin	۵	Relinquished by:	Relinquished by Sampler:		TAT Starts Day received by Lab, if received by 5:00 pm	3 Day EMERGENCY	2 Day EMERGENCY	Next Day EMERGENCY	Same Day TAT	Turnaround Time (Business days)	10	9	8	771-9.	0 1 1	5 T / - H	4 71 - 3	3 7/ - 2'	27/~/1	1 TI- SURFACE	No. Field ID / Point of Collection		Samplers's Name- Aaron Lieb	Project Contact: Aaron Lieb	lö là	Email:	2407 PECOS Avenue Aresia NM 88210		Company Name / Brancn: COG Operating LLC	Client / Reporting Information			Dallas Texas (214-902-0300)	Stafford,Texas (281-240-4200)	Setting the Standard since 1990	XENCO	
quishment of samples constitut			×,	SAMPLE CUSTODY	b, if received by 5:00		Contract TAT	7 Day TAT	5 Day TAT												ollection				от глазкен@солспо.com	Phone No: 575-748-1553											
Date Time: tes a valid pur		Date Time:	Date Time:	MUST BE D) pm									9'	N	4	3	2-	1	SURF	Sample Depth			-						_			-	(0			
Relinquished by: Date Time: Received By: Custody Seal # 5 5 5 5 Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard	ω	Received By:	G:SS Received By: 11-17-17 Ann 1 Led Switch 6: Sur	SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURI		TRRP Checklist	Level 3 (CLP Forms)	Level III Std QC+ Forms	Level II Std QC	Data Deliverable Information				1 1 0:30	1 10:25 1 1	1 04:20		10:15	1 10:10	1/16/17 10:00 AM S 1	Date Time Matrix bottles HCI NaOH/Zn Accetate HNO3	Collection Number		Midland TX 79701 PO Number:	600 W. Illinois	Invoice To: COG Operating LLC	BKU Satellite B	Project Location:	Project Name/Number: BKU Satellite B	Project Information		www.xenco.com	Midland, Texas (432-704-5251)	San Antonio, Texas (210-509-3334)	Page + Of -	OF	
Custody Seal # Prese	4	Relinquished By:	A relinquished By: 1/-17-17	SSESSION, INCLUDING COURIER DELIVERY			UST / RG -411	TRRP Level IV	Level IV (Full Data Pkg /raw data)	on .				XX		XX	XX		XX	XX	HINO3 H2SO4 NaOH NaHSO4 MEOH NONE TPH/ E. BTEX	Number of preserved bottles	ND	DED								Xenco Quote #		Phoenix, Ar	<u>_</u>	CUSTODY	
srved where applications of service. Xenco		Date Time:	Date Time:		_	Cor	(CF.		Notes:				×	×	×	×	× ⁄	X	×	Chlorid	e									Analytical Information			Phoenix, Arizona (480-355-0900)			
Je On Ice	4	Received By:	Received By:	>		Corrected Temp: 7	(6-23: +0.2°C)			es:																					Ition	Xenco Job # 568		0)			
Preserved where applicable On Ice Cooler Temp. Thermo. Corr. Factor defined and the service of terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for and			Acc .			5/20		IR ID:R-8													Field Comments	A = Air	WW= Waste Water	MI = Wipe	OW =Ocean/Sea Water	SW = Surface water	DW = Drinking Water P = Product	GW =Ground Water	W = Water S = Soil/Sed/Solid		Matrix Codes	956					

Page 23 of 24

Final 1.000

Page 66 of 100



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 11/17/2017 12:00:00 PM Temperature Measuring device used : R8 Work Order #: 568956 Sample Receipt Checklist #1 *Temperature of cooler(s)? 1.9 #2 *Shipping container in good condition? Yes #3 *Samples received on ice? Yes . . . *ща **с. tadu. Caala intaat an ahii

#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)?	No
#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:

Date: 11/20/2017

Comments

Checklist reviewed by: Hely Taylor Holly Taylor

Date: 11/22/2017



Project Id:Contact:Dakota NeelProject Location:Eddy County,NM

Certificate of Analysis Summary 574883

COG Operating LLC, Artesia, NM Project Name: Burch Keely Unit .Sat B



Date Received in Lab:Mon Jan-29-18 03:00 pmReport Date:05-FEB-18Project Manager:Kelsey Brooks

	Lab Id:	574883-0	01				
An aluaia Do an orto d	Field Id:	T2					
Analysis Requested	Depth:	16- ft					
	Matrix:	SOIL					
	Sampled:	Jan-24-18 1	0:00				
BTEX by EPA 8021B	Extracted:	Feb-01-18 (07:00	1	1	1	
	Analyzed:	Feb-01-18 1	5:00				
	Units/RL:	mg/kg	RL				
Benzene		0.225	0.201				
Toluene		9.01	0.201				
Ethylbenzene		14.2	0.201				
m,p-Xylenes		15.3	0.402				
o-Xylene		6.93	0.201				
Total Xylenes		22.2	0.201				
Total BTEX		45.7	0.201				
Chloride by EPA 300	Extracted:	Feb-01-18 (09:00				
	Analyzed:	Feb-01-18 1	2:35				
	Units/RL:	mg/kg	RL				
Chloride		5070	24.9				
TPH By SW8015 Mod	Extracted:	Jan-30-18 1	6:00				
	Analyzed:	Jan-31-18 0	6:56				
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		867	74.8				
Diesel Range Organics (DRO)		1800	74.8				
Oil Range Hydrocarbons (ORO)		253	74.8				
Total TPH		2920	74.8				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Huns Boah

Kelsey Brooks Project Manager

Analytical Report 574883

for COG Operating LLC

Project Manager: Dakota Neel

Burch Keely Unit .Sat B

05-FEB-18

Collected By: Client





1211 W. Florida Ave, Midland TX 79701

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

> Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12) Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13) Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



05-FEB-18

Project Manager: **Dakota Neel COG Operating LLC** 2407 Pecos Avenue Artesia, NM 88210

Reference: XENCO Report No(s): **574883 Burch Keely Unit .Sat B** Project Address: Eddy County,NM

Dakota Neel:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 574883. 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. 574883 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,

Huns hoah

Kelsey Brooks Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994. Certified and approved by numerous States and Agencies. A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Page 3 of 12



Sample Cross Reference 574883



COG Operating LLC, Artesia, NM

Burch Keely Unit .Sat B

ľ	Matrix	Date Collected	Sample Depth	Lab Sample Id
	S	01-24-18 10:00	16 ft	574883-001

Sample Id

T2



Page 72 of 100

Client Name: COG Operating LLC Project Name: Burch Keely Unit .Sat B

Project ID: Work Order Number(s): 574883 Report Date: 05-FEB-18 Date Received: 01/29/2018

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-3039856 BTEX by EPA 8021B Soil samples were not received in Terracore kits and therefore were prepared by method 5030.


Certificate of Analytical Results 574883



COG Operating LLC, Artesia, NM

Burch Keely Unit .Sat B

Sample Id:T2Lab Sample Id:574883-001		Matrix: Date Collec	Soil cted: 01.24.18 10.00	-	Date Received:01.2 Sample Depth: 16 f		0
Analytical Method: Chloride by EP	A 300				Prep Method: E30	0P	
Tech: OJS Analyst: OJS		Date Prep:	02.01.18 09.00		% Moisture: Basis: Wet	t Weight	
Seq Number: 3039878		Date Trep.	02.01.10 09.00	-		e in englite	
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5070	24.9	mg/kg	02.01.18 12.35		5

Analytical Method: TPH By SW801:	5 Mod				P	Prep Method: TX1005P			
Tech: ARM					9	6 Moisture:			
Analyst: ARM		Date Pre	p: 01.30.	18 16.00	E	Basis: Wet	Weight		
Seq Number: 3039742									
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil	
Gasoline Range Hydrocarbons (GRO)	PHC610	867	74.8		mg/kg	01.31.18 06.56		5	
Diesel Range Organics (DRO)	C10C28DRO	1800	74.8		mg/kg	01.31.18 06.56		5	
Oil Range Hydrocarbons (ORO)	PHCG2835	253	74.8		mg/kg	01.31.18 06.56		5	
Total TPH	PHC635	2920	74.8		mg/kg	01.31.18 06.56		5	
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag		
1-Chlorooctane		111-85-3	108	%	70-135	01.31.18 06.56			
o-Terphenyl		84-15-1	96	%	70-135	01.31.18 06.56			

.



Certificate of Analytical Results 574883



COG Operating LLC, Artesia, NM

Burch Keely Unit .Sat B

Sample Id:T2Lab Sample Id:574883-001	Matrix: Soil Date Collected: 01.24.18 10.00	Date Received:01.29.18 15.00 Sample Depth: 16 ft
Analytical Method:BTEX by EPA 8021BTech:ALJAnalyst:ALJSeq Number:3039856	Date Prep: 02.01.18 07.00	Prep Method: SW5030B % Moisture: Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.225	0.201		mg/kg	02.01.18 15.00		100
Toluene	108-88-3	9.01	0.201		mg/kg	02.01.18 15.00		100
Ethylbenzene	100-41-4	14.2	0.201		mg/kg	02.01.18 15.00		100
m,p-Xylenes	179601-23-1	15.3	0.402		mg/kg	02.01.18 15.00		100
o-Xylene	95-47-6	6.93	0.201		mg/kg	02.01.18 15.00		100
Total Xylenes	1330-20-7	22.2	0.201		mg/kg	02.01.18 15.00		100
Total BTEX		45.7	0.201		mg/kg	02.01.18 15.00		100
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	100	%	80-120	02.01.18 15.00		
4-Bromofluorobenzene		460-00-4	98	%	80-120	02.01.18 15.00		



Flagging Criteria



Page 75 of 100

- 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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ Limit of Quantitation
- **DL** Method Detection Limit
- NC Non-Calculable
- + NELAC certification not offered for this compound.
- * (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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

	Phone	гах
4147 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd, Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr Suite 102, Tempe AZ 85282	(602) 437-0330	
		(432) 563-1713



ABORATORIES



COG Operating LLC

Burch Keely Unit .Sat B

Analytical Method:	Chloride by EPA 30	00						Pr	ep Metho	od: E30	0P	
Seq Number:	3039878	Matrix:	Solid				Date Pro	ep: 02.0	1.18			
MB Sample Id:	7638393-1-BLK		LCS Sar	nple Id:	7638393-	1-BKS		LCSI	O Sample	e Id: 7638	8393-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
Chloride	<5.00	250	274	110	275	110	90-110	0	20	mg/kg	02.01.18 09:41	

Analytical Method:	Chloride by EPA 30	00						Pr	ep Metho	d: E30	0P	
Seq Number:	3039878	Matrix:	Soil				Date Prep: 02.01.18					
Parent Sample Id:	574882-009		MS Sar	nple Id:	574882-00	09 S		MSI	O Sample	Id: 574	882-009 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limi	t Units	Analysis Date	Flag
Chloride	38.6	250	301	105	311	109	90-110	3	20	mg/kg	02.01.18 11:39	

Analytical Method:	Chloride by EPA 30	00						P	rep Metho	od: E30	0P	
Seq Number:	3039878 Matrix				Soil				Date Pr	ep: 02.0	1.18	
Parent Sample Id:	575054-001		MS Sar	nple Id:	575054-00	01 S		MS	D Sample	e Id: 575	054-001 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
Chloride	< 5.00	250	232	93	239	96	90-110	3	20	mg/kg	02.01.18 10:02	

Analytical Method:	TPH By S	W8015 M	od					Prep Method: TX1005P						
Seq Number:	3039742				Matrix:	Solid				Date Prep	p: 01.3	0.18		
MB Sample Id:	7638359-1	-BLK		LCS Sar	nple Id:	7638359-	1-BKS		LCSD Sample Id: 7638359-1-BSD					
Parameter		MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag	
Gasoline Range Hydrocarb	ons (GRO)	<15.0	1000	868	87	857	86	70-135	1	35	mg/kg	01.31.18 00:08		
Diesel Range Organics	(DRO)	<15.0	1000	933	93	916	92	70-135	2	35	mg/kg	01.31.18 00:08		
Surrogate		MB %Rec	MB Flag		CS Rec	LCS Flag	LCSI %Ree			Limits	Units	Analysis Date		
1-Chlorooctane		107		1	10		108		7	0-135	%	01.31.18 00:08		
o-Terphenyl		111		1	00		99		7	0-135	%	01.31.18 00:08		

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

.





COG Operating LLC

Burch Keely Unit .Sat B

Analytical Method: TPH	By SW8015 Mo	bd						Prep Me	thod: TX	1005P	
Seq Number: 3039	42		Matrix:	Soil			Date	Prep: 01.3	30.18		
Parent Sample Id: 5748	32-002		MS Sample Id: 574882-002 S			MSD Sample Id: 574882-002 SD					
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD RPD L	imit Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GR	0) <15.0	997	887	89	919	92	70-135	4 35	mg/kg	01.31.18 01:34	
Diesel Range Organics (DRO)	62.6	997	896	84	1020	96	70-135	13 35	mg/kg	01.31.18 01:34	
Surrogate				1S Rec	MS Flag	MSD %Ree			Units	Analysis Date	
1-Chlorooctane			1	06		116		70-135	%	01.31.18 01:34	
o-Terphenyl			9	90		103		70-135	%	01.31.18 01:34	

Analytical Method: Seq Number: MB Sample Id:	BTEX by EPA 802 3039856 7638412-1-BLK	1B	Matrix: nple Id:							02.01.18		
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RP	D RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.00200	0.100	0.0856	86	0.0860	86	70-130	0	35	mg/kg	02.01.18 04:27	
Toluene	< 0.00200	0.100	0.0890	89	0.0901	90	70-130	1	35	mg/kg	02.01.18 04:27	
Ethylbenzene	< 0.00200	0.100	0.0947	95	0.0950	95	71-129	0	35	mg/kg	02.01.18 04:27	
m,p-Xylenes	< 0.00401	0.200	0.186	93	0.187	94	70-135	1	35	mg/kg	02.01.18 04:27	
o-Xylene	< 0.00200	0.100	0.0933	93	0.0935	94	71-133	0	35	mg/kg	02.01.18 04:27	
Surrogate	MB %Rec	MB Flag			LCS Flag	LCSE %Rec			Limits	Units	Analysis Date	
1,4-Difluorobenzene	84		8	39		89			80-120	%	02.01.18 04:27	
4-Bromofluorobenzene	83		9	95		98			80-120	%	02.01.18 04:27	

Analytical Method: Seq Number: Parent Sample Id:	BTEX by EPA 802 3039856 574885-007	1B		Matrix: nple Id:	Soil 574885-00	07 S		Prep Method: SW5030B Date Prep: 02.01.18 MSD Sample Id: 574885-007 SD				
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RP	D RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.00201	0.100	0.0739	74	0.0754	75	70-130	2	35	mg/kg	02.01.18 05:05	
Toluene	< 0.00201	0.100	0.0770	77	0.0781	77	70-130	1	35	mg/kg	02.01.18 05:05	
Ethylbenzene	< 0.00201	0.100	0.0785	79	0.0799	79	71-129	2	35	mg/kg	02.01.18 05:05	
m,p-Xylenes	< 0.00402	0.201	0.153	76	0.156	77	70-135	2	35	mg/kg	02.01.18 05:05	
o-Xylene	< 0.00201	0.100	0.0777	78	0.0783	78	71-133	1	35	mg/kg	02.01.18 05:05	
Surrogate				1S Rec	MS Flag	MSD %Re			Limits	Units	Analysis Date	
1,4-Difluorobenzene			ç	92		89			80-120	%	02.01.18 05:05	
4-Bromofluorobenzene			1	08		93			80-120	%	02.01.18 05:05	

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

.

Received by OCD: 4/11/2023 2:17:12 PM

Notice: N losses or will be en	5 Relir	ω	Relin	Relin		_				s		10	9	8	7	6	5	4	ω	2	-		No.	Samplers's Name:	Project Contact:	cgray@conc	Email: dnee	Company Address:		Company Na			Dallas	Stafford	Setting		
Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Aerico, is animate or to support a construction in a light will be it losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be it losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be it losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be it losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be it losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be it losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be it loses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be it loses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be an other to the tot of Xenco's lose are due	Relinquished by:		Relinquished by:	Relinquished by Sampler:		TAT Starts Day received by Lab,	3 Day EMERGENCY	2 Day EMERGENCY	Next Day EMERGENCY	Same Day TAT	Turnaround Time (Business days)										11	ł	Field ID / Point of Collection	Name:	LAKOTA NE	cgray@concho.com; rhaskell@concho.com	Email: dneel2@concho.com shirchcock@concho.com			Company Name / Branch: COG Operating LLC	t Deposition Information		Dallas Texas (214-902-0300)	Stafford,Texas (281-240-4200)	Setting the Standard since 1990	LABORATORIES	
I relinquishment of samples constituing the loses are due to circumstances under a fully executed client contraction				2	SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLE CUSTODY AND THE BELOW EACH TIME SAMPLE CUSTODY	if re		Contract TAT	7 Day TAT	5 Day TAT	ays)														733	-	Phone No: 575-746-2010	2407 Pecos Ave. Artesia NM 88210		TC						ωŲ	
utes a valid pu beyond the co ct.	Date Time:	Data Time	Date Time:	1-29.	Y MUST BE D	0 pm															16 1	1		0	8		Inve		Pro	Proj			Mid	San			
ntrol of Xenco				B LOC	OCUMENTEL																1-24-10-10	Date		Collection	PO Number:	M 60	Invoice To: C(Project Location:	Project Name/Number:			Midland, Texas (432-704-5251) www	San Antonio, Texas (210-509-3334)	-	~	
rom client cor . A minimum c	5 7000	3 Received Bv:	Received By:	1 Sid Bulle	Beceived F		TRR	Leve	Leve	Leve											10-10-1.M	_				600 W. Illinois Ave Midland TX 79701	Attn: Robert Mcneill	LUUZ		mber: Burch	Project Ir		s (432-704	lexas (ziu		AIIA	
harge of \$75		3v:	sy:	Sulte	ALL LIME SAM	TIME CAN	TRRP Checklist	Level 3 (CLP Forms)	Level III Sta QC+ Forms	Level II Std QC	Data D	Data De			-						V	"×	# of			s Ave. 79701	Icneill	Y COUNTY		CH KE	Project Information		www.xenco.com	50541	E00 222/1	Page Of	
will be applied	the affiliate			e 1:00	IFLES OIM	DI ES CHAN		(sm	Forms			Data Deliverable Information	+		+			+	_			H ⁰ Ni	CI	Nun				-		KEELY UN			co.com			of	
d to each proj	e and subcon				-26-15 F	GF POSSES][-	ormation			+				-			н	NO3 2SO4	Number of pre				NM		UNTET. SA							
ect. Xenco's	tractors. It as	- Custody Seal #	1 volinidation	2 Sid Bull	Relinquished By:	SION, INCLU		UST / RG -411		TRRP Level IV		-					+						aOH IaHSO4	preserved bottles						TB							CE
liability will be	signs standa	al #		Butter	d By:	JDING COUR		11		TRRP Level IV		-											IEOH IONE	tles									Xer		P		INV
) limited to the	rd terms and o	Pr		3.000	1-29-1	IER DELIVER					irow data)		_							_		-	TPH Ex BTEX	den	ded								nco Quote #		1oenix, Ari		
e cost of sam	conditions of	eserved wh		Date Time:	29-18 Date Time:	RA																×	CHLOF	RIDE	S							Analytica		,	zona (480		
ples. Any san	service. Xenc	Preserved where applicable		ne:	ne:		FED-E					No																				Analytical Information			Phoenix, Arizona (480-355-0900)		
nples receive	o will be liabl	able		2 Recei	Receiv		Corr	(CF:(Temp:		Notes:																				I I I I I I I I I I I I I I I I I I I	Xenco Job #		-		
d by Xenco p	e only for the	Onlge		2 Received By:	Received By:		Corrected Temp:	(6-23: +0.2°C)	CF:(0-6: -0.2°C)	2)																					-					
1t flot anaiy∠o	cost of samp	e Coo		MM/	1 11		emp:	0.2°C)	2°C)	٩												ţ												5			
	les and shall i	Cooler Temp.	4	XXX			2	$\langle \rangle$		IR IC													Fiel						-	2 00	<		X	20			
	not assume a		Thormo	AN	t					IR ID:R-8													Field Comments		WW= Waste Water	0 = 0il	OW =Ocean/	P = Product SW = Surface water	DW = Drinking Water	S = Soil/Sed/Solid	W = Water	Matrix Codes	V	Ŭ			
limited to the cost of samples. Any samples received by Aenco but fluir anaryzev with common or an or received by Aenco but fluir anaryzev with common or received and received by Aenco but fluir anaryzev with common or received and received by Aenco but fluir anaryzev with common or received and received by Aenco but fluir anaryzev with common or receive by Aenco but fluir anaryzev with common or receive by Aenco but fluir anaryzev with common or receive by Aenco but fluir anaryzev with common or receive by Aenco but fluir anaryzev with common or receive by Aenco but fluir anaryzev w	ny responsibili sample. Thes		Corr Fact	01	101-																		S		te Water		SL = Sludge OW =Ocean/Sea Water	t ce water	ing Water	d/Solid d Water		des					
Rele	e teres	<u>9</u> to	i In	10:Sagi	2000	5	/5/2	023	10	:03:	07	AN	1					Pa	ge 1	1 of	12						er	Final	1.(000							

Page 78 of 100

Received by OCD: 4/11/2023 2:17:12 PM



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Comments

Client: COG Operating LLC Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 01/29/2018 03:00:00 PM Temperature Measuring device used : R8 Work Order #: 574883 Sample Receipt Checklist 27 #1 *Temperature of cooler(s)?

#1 Temperature of cooler(s)?	2.7
#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)?	No
#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#:

Date: 01/30/2018

Checklist completed by: June Math Shawnee Smith Checklist reviewed by: Mark Moak Kelsey Brooks

Date: 01/30/2018

Analytical Report 580037

for COG Operating, LLC

Project Manager: Becky Haskell

BKU Satellite B

28-MAR-18

Collected By: Client



6701 Aberdeen, Suite 9 Lubbock, TX 79424

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

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

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



28-MAR-18

Project Manager: Becky Haskell **COG Operating, LLC** 600 W Illinois Midland, TX 79701

Reference: XENCO Report No(s): 580037 **BKU Satellite B** Project Address: BKU Satellite B

Becky Haskell:

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) 580037. 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. 580037 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,

Jession Vramer

Jessica Kramer **Project Assistant**

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994. Certified and approved by numerous States and Agencies. A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America



Sample Cross Reference 580037

COG Operating, LLC, Midland, TX

BKU Satellite B

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB1 @ 14	S	03-19-18 14:15		580037-001
SB1 @ 20	S	03-19-18 14:30		580037-002
SB1 @ 25	S	03-19-18 14:45		580037-003
SB1 @ 30	S	03-19-18 14:50		580037-004
SB1 @ 35	S	03-19-18 15:00		580037-005
SB1 @ 40	S	03-19-18 15:08		580037-006
SB1 @ 45	S	03-19-18 15:17		580037-007

Version: 1.%

.



CASE NARRATIVE

Client Name: COG Operating, LLC Project Name: BKU Satellite B

Project ID: Work Order Number(s): 580037

BORATORIES

Report Date: 28-MAR-18 Date Received: 03/22/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3044730 BTEX by EPA 8021B

Surrogate a,a,a-Trifluorotoluene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 580037-002.

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

Batch: LBA-3044820 Inorganic Anions by EPA 300

Lab Sample ID 580038-001 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: 580037-001, -002, -003, -004, -005, -006, -007.

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



Becky Haskell

BKU Satellite B

Project Id:

Project Location:

Contact:

Certificate of Analysis Summary 580037

COG Operating, LLC, Midland, TX Project Name: BKU Satellite B

Date Received in Lab:Thu Mar-22-18 09:10 amReport Date:28-MAR-18Project Manager:Jessica Kramer

	Lab Id:	580037-	001	580037-0	002	580037-0	03	580037-0	004	580037-0	005	580037-0	06
Analysis Requested	Field Id:	SB1 @	14	SB1 @	20	SB1@2	25	SB1@3	30	SB1@3	35	SB1 @ 4	40
Analysis Kequestea	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-19-18	14:15	Mar-19-18	14:30	Mar-19-18	14:45	Mar-19-18	14:50	Mar-19-18	15:00	Mar-19-18	15:08
BTEX by EPA 8021B	Extracted:	Mar-23-18	12:30	Mar-23-18	12:30	Mar-23-18	12:30	Mar-23-18	12:30	Mar-23-18	12:30	Mar-23-18	12:30
	Analyzed:	Mar-23-18	22:32	Mar-23-18	22:04	Mar-23-18	21:37	Mar-23-18	21:10	Mar-23-18	20:43	Mar-23-18 2	20:16
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		0.438	0.0952	4.44	0.0896	< 0.0193	0.0193	< 0.0189	0.0189	<0.0190	0.0190	< 0.0189	0.0189
Toluene		4.50	0.0952	25.4	0.0896	< 0.0193	0.0193	< 0.0189	0.0189	< 0.0190	0.0190	< 0.0189	0.0189
Ethylbenzene		8.21	0.0952	30.8	0.0896	0.0425	0.0193	< 0.0189	0.0189	< 0.0190	0.0190	< 0.0189	0.0189
m,p-Xylenes		11.4	0.190	37.6	0.179	0.0792	0.0386	< 0.0378	0.0378	< 0.0381	0.0381	< 0.0377	0.0377
o-Xylene		4.34	0.0952	22.2	0.0896	0.0483	0.0193	< 0.0189	0.0189	< 0.0190	0.0190	< 0.0189	0.0189
Total Xylenes		15.7	0.0952	59.8	0.0896	0.128	0.0193	< 0.0189	0.0189	< 0.0190	0.0190	< 0.0189	0.0189
Total BTEX		28.9	0.0952	120	0.0896	0.170	0.0193	< 0.0189	0.0189	< 0.0190	0.0190	< 0.0189	0.0189
Chloride by EPA 300	Extracted:	Mar-26-18	09:30	Mar-26-18	09:30	Mar-26-18)9:30	Mar-26-18	09:30	Mar-26-18	09:30	Mar-26-18 (09:30
	Analyzed:	Mar-26-18	15:30	Mar-26-18 16:20		Mar-26-18 16:33		Mar-26-18 16:45		Mar-26-18	16:57	Mar-26-18	17:10
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		6280 D	1250	5890	1250	2440	250	1390	125	409	125	207	125
TPH by SW8015 Mod	Extracted:	Mar-23-18	12:00	Mar-23-18	12:00	Mar-23-18	12:00	Mar-23-18	12:00	Mar-23-18	12:00	Mar-23-18	12:00
SUB: T104704400-18-14	Analyzed:	Mar-24-18	02:04	Mar-24-18	02:32	Mar-24-18	02:58	Mar-24-18	03:25	Mar-24-18	03:52	Mar-24-18 (04:19
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		714	74.8	1920	74.9	22.9	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		2590	74.8	5170	74.9	214	15.0	17.1	15.0	<15.0	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)		117	74.8	234	74.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		3420	74.8	7320	74.9	237	15.0	17.1	15.0	<15.0	15.0	<15.0	15.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Version: 1.%

fession kramer

Jessica Kramer Project Assistant

Released to Imaging: 5/5/2023 10:03:07 AM

Page 5 of 20

Final 1.000



Becky Haskell

BKU Satellite B

Project Id:

Project Location:

Contact:

Certificate of Analysis Summary 580037

COG Operating, LLC, Midland, TX Project Name: BKU Satellite B Page 85 of 100

Date Received in Lab:Thu Mar-22-18 09:10 amReport Date:28-MAR-18Project Manager:Jessica Kramer

	Lab Id:	580037-007			
Analysis Progressed	Field Id:	SB1 @ 45			
Analysis Requested	Depth:				
	Matrix:	SOIL			
	Sampled:	Mar-19-18 15:17			
BTEX by EPA 8021B	Extracted:	Mar-23-18 12:30			
	Analyzed:	Mar-23-18 18:26			
	Units/RL:	mg/kg RL			
Benzene		<0.0190 0.019			
Toluene		<0.0190 0.019			
Ethylbenzene		<0.0190 0.019	0		
m,p-Xylenes		<0.0380 0.038			
o-Xylene		<0.0190 0.019			
Total Xylenes		<0.0190 0.019	0		
Total BTEX		<0.0190 0.019	0		
Chloride by EPA 300	Extracted:	Mar-26-18 09:30			
	Analyzed:	Mar-26-18 17:22			
	Units/RL:	mg/kg RL	r l		
Chloride		<25.0 25.0)		
TPH by SW8015 Mod	Extracted:	Mar-23-18 12:00			
SUB: T104704400-18-14	Analyzed:	Mar-24-18 04:46			
	Units/RL:	mg/kg RL	,		
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0)		
Diesel Range Organics (DRO)		<15.0 15.0)		
Oil Range Hydrocarbons (ORO)		<15.0 15.0)		
Total TPH		<15.0 15.0)		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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

Version: 1.%

fession kramer

Jessica Kramer Project Assistant

Released to Imaging: 5/5/2023 10:03:07 AM

Page 6 of 20

Final 1.000



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 LimitSDLSample Detection LimitLOD Limit of Detection
- PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation
- DL Method Detection Limit
- NC Non-Calculable

SMPClient SampleBKS/LCSBlank Spike/Laboratory Control SampleMD/SDMethod Duplicate/Sample Duplicate		BLK	Method Blank	
BKS/LCS	S Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Labo	ratory 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



Project Name: BKU Satellite B

Lab Batch	#: 3044730	Sample: 580037-007 / SMP	Batcl	h: 1 Matrix	: Soil		
U nits:	mg/kg	Date Analyzed: 03/23/18 18:26	SU	RROGATE R	ECOVERY S	STUDY	
	BTEX	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flag
		Analytes			[D]		
4-Bromoflu	orobenzene		0.0999	0.100	100	68-120	
a,a,a-Trifluc	orotoluene		1.78	1.90	94	71-121	
Lab Batch	#: 3044730	Sample: 580037-006 / SMP	Batcl	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 03/23/18 20:16	SU	RROGATE R	ECOVERY S	STUDY	
		X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
		Analytes					
4-Bromoflu			0.0982	0.100	98	68-120	
a,a,a-Trifluc		Sec. 1. 500027.005 / SP	1.83	1.89	97	71-121	
	#: 3044730	Sample: 580037-005 / SMP	Batcl				
Units:	mg/kg	Date Analyzed: 03/23/18 20:43	SU	RROGATE R	ECOVERY S	STUDY	
		X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flage
		Analytes			[D]		
4-Bromoflu	orobenzene		0.0969	0.100	97	68-120	
a,a,a-Trifluo			1.76	1.90	93	71-121	
Lab Batch	#: 3044730	Sample: 580037-004 / SMP	Batcl	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 03/23/18 21:10	SU	RROGATE R	ECOVERY S	STUDY	
		X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flage
4-Bromoflu			0.0085	0.100	99	68-120	
a,a,a-Trifluc			0.0985	0.100	99	71-121	
	#: 3044730	Sample: 580037-003 / SMP	Batcl			/1-121	
Units:	mg/kg	Date Analyzed: 03/23/18 21:37		RROGATE R		STUDY	
•				1		1	
		X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flag
		Analytes					
4-Bromoflu			0.0988	0.100	99	68-120	
a,a,a-Trifluc	orotoluene		1.82	1.93	94	71-121	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



500027

**7

101

Form 2 - Surrogate Recoveries

.

.

Project Name: BKU Satellite B

Work Ord Lab Batch #	lers : 58003' : 3044730	7, Sample: 580037-002 / SMP	Batch:	Project ID 1 Matrix			
Units:	mg/kg	Date Analyzed: 03/23/18 22:04	SUR	ROGATE R	RECOVERY	STUDY	
	втех	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluo		Analytes	0.110	0.100		60.100	
4-Bromofluor a.a.a-Trifluor			0.119	0.100	119	68-120	**
Lab Batch #		Sample: 580037-001 / SMP	19.2 B ataba	8.96	214	71-121	**
Lab Batch # Units:	mg/kg	Date Analyzed: 03/23/18 22:32	Batch:	1 Matrix			
Units.	iiig/kg	Date Analyzeu. 03/23/10/22.32	SUR	ROGATE R	RECOVERY	STUDY	
	BTEX	X by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluo	robenzene		0.0882	0.100	88	68-120	
a.a.a-Trifluor			7.10	9.52	75	71-121	
Lab Batch #	: 3044787	Sample: 580037-001 / SMP	Batch:	1 Matrix		/1 121	
Units:	mg/kg	Date Analyzed: 03/24/18 02:04	SUR	ROGATE R	RECOVERY	STUDY	
	TPH	oy SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes	[13]	[0]	[D]	/01	
1-Chloroocta	ne		124	99.7	124	70-135	
o-Terphenyl			64.0	49.9	128	70-135	
Lab Batch #	: 3044787	Sample: 580037-002 / SMP	Batch:	1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 03/24/18 02:32	SUR	ROGATE R	RECOVERY	STUDY	
	TPH	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chloroocta	ne		122	99.9	122	70-135	
o-Terphenyl	• 2011707	Sample: 520027.002 / SMD	41.0 Patch	50.0 1 Matrix	82 82	70-135	
Lab Batch #		Sample: 580037-003 / SMP	Batch:				
Units:	mg/kg	Date Analyzed: 03/24/18 02:58	SUR	ROGATE R	RECOVERY	STUDY	
	TPH	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1.011		Analytes					
1-Chloroocta	ne		96.7	99.7	97	70-135	
o-Terphenyl			49.5	49.9	99	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Project Name: BKU Satellite B

	rders : 58003' #: 3044787	7, Sample: 580037-004 / SMP	Batcl	Project ID h: 1 Matrix			
Units:	mg/kg	Date Analyzed: 03/24/18 03:25	SU	RROGATE R	ECOVERY	STUDY	
	TPH I	oy SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooct	tane		102	100	102	70-135	
o-Terpheny	1		50.9	50.0	102	70-135	
Lab Batch	#: 3044787	Sample: 580037-005 / SMP	Batcl	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 03/24/18 03:52	SU	RROGATE R	ECOVERY	STUDY	
	TPH	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4 611		Analytes					
1-Chlorooct			97.5	99.8	98	70-135	
o-Terpheny			48.0	49.9	96	70-135	
	#: 3044787	Sample: 580037-006 / SMP	Batcl	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 03/24/18 04:19	SU	RROGATE R	ECOVERY	STUDY	
	TPH I	oy SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooct	tane		106	99.8	106	70-135	
o-Terpheny	1		52.0	49.9	104	70-135	
Lab Batch	#: 3044787	Sample: 580037-007 / SMP	Batcl	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 03/24/18 04:46	SU	RROGATE R	ECOVERY	STUDY	
	TPH b	oy SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1 Chloroost	tana	Analytes	05.5	00.0		70.125	
1-Chlorooct			95.5	99.9 50.0	96	70-135	
	#: 3044787	Sample: 7641465-1-BLK / BI	46.8 .K Batcl		94	70-135	
Units:	mg/kg	Date Analyzed: 03/23/18 15:06					
Units:	mg/Kg	Date Analyzeu. 05/25/10 15.00	SU	RROGATE R	LCOVERY	STUDY	
		oy SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
		Anarytto					
1-Chlorooct	tane		100	100	100	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Version: 1.%



Project Name: BKU Satellite B

Inita	maller	Data Analyzad. 02/22/19 17.59	~		E GOLIERE -		
Units:	mg/kg	Date Analyzed: 03/23/18 17:58	st	RROGATE R	ECOVERY S	STUDY	
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
4-Bromofluc	orobenzene		0.0877	0.100	88	68-120	
a,a,a-Trifluo	rotoluene		1.76	2.00	88	71-121	
Lab Batch	#: 3044787	Sample: 7641465-1-BKS / 1	BKS Bate	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 03/23/18 15:34	SU	RROGATE R	ECOVERY S	STUDY	
		oy SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta		Analytes	107	100	107	70-135	
o-Terphenyl			51.9	50.0	107	70-135	
	#: 3044730	Sample: 7641359-1-BKS / 1			_	70-133	
Units:	mg/kg	Date Analyzed: 03/23/18 16:36					
omts.	mg/kg	Date Analyzet. 03/23/10 10.30	SU	RROGATE R	ECOVERYS	STUDY	
	BTEX	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
4-Bromofluc	orobenzene		0.0885	0.100	89	68-120	
a,a,a-Trifluo	rotoluene		1.54	2.00	77	71-121	
Lab Batch	#: 3044787	Sample: 7641465-1-BSD / 1	BSD Bate	h: 1 Matrix	: Solid		
Units:	mg/kg	Date Analyzed: 03/23/18 15:59	SU	RROGATE R	ECOVERY S	STUDY	
		by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chloroocta		Analytes	107	100		70.125	
o-Terphenyl			107	100	107	70-135	
	#: 3044730	Sample: 7641359-1-BSD / I	51.2 BSD Bate	50.0 h: 1 Matrix	102	70-135	
Units:	mg/kg	Date Analyzed: 03/23/18 17:04					
UIIII3.	m _g /κg	Datt Analyzeu. 05/25/10 17.04	SU	RROGATE R	ECOVERYS	STUDY	
		X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
4-Bromofluc			0.0875	0.100	88	68-120	
m .u	rotoluene		1.60	2.00	80	71-121	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



	r ders : 58003 #: 3044730	7, Sample: 580037-007 S / MS	Batc	Project ID h: 1 Matrix			
Units:	mg/kg	Date Analyzed: 03/23/18 18:53	SU	RROGATE R	ECOVERY	STUDY	
	втех	X by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
4-Bromoflu	orobenzene		0.0951	0.100	95	68-120	
a,a,a-Triflu			1.68	1.98	85	71-121	
Lab Batch	#: 3044787	Sample: 579817-001 S / MS	Batc	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 03/23/18 19:16	SU	RROGATE R	ECOVERY	STUDY	
	TPH	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooc	tane		111	100	111	70-135	
o-Terpheny			50.1	50.0	100	70-135	
Lab Batch	#: 3044730	Sample: 580037-007 SD / N	ISD Bate	h: 1 Matrix	: Soil		
Units:	mg/kg	Date Analyzed: 03/23/18 19:21	SU	RROGATE R	ECOVERY	STUDY	
	втех	K by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes	[**]	[2]	[D]	/011	
4-Bromoflu	orobenzene	-	0.0945	0.100	95	68-120	
a,a,a-Triflu	orotoluene		1.81	2.00	91	71-121	
Lab Batch	#: 3044787	Sample: 579817-001 SD / N	ISD Bate	h: 1 Matrix	: Soil	1	
Units:	mg/kg	Date Analyzed: 03/23/18 19:44	SU	RROGATE R	ECOVERY	STUDY	
	TPH	by SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R	Control Limits %R	Flags
		Analytes			[D]		
1-Chlorooc	tane		113	99.9	113	70-135	
o-Terpheny	1		50.4	50.0	101	70-135	

* Surrogate outside of Laboratory QC limits

- ** Surrogates outside limits; data and surrogates confirmed by reanalysis
- *** Poor recoveries due to dilution
- Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



•

Project Name: BKU Satellite B

#: 580037							Pro	ject ID:			
MIT	D	ate Prepai	red: 03/23/20	18			Date A	nalyzed:	03/23/2018		
Sample: 7641359	-1-BKS	Batc	h #: 1					Matrix:	Solid		
mg/kg		BLAN	K /BLANK	SPIKE /	BLANK	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag
tes		[B]	[C]	[D]	[E]	Result [F]	[G]				
	<0.0200	2.00	1.86	93	2.00	1.87	94	1	55-120	20	
	< 0.0200	2.00	1.90	95	2.00	1.86	93	2	77-120	20	
ene	< 0.0200	2.00	1.93	97	2.00	1.87	94	3	77-120	20	
es	< 0.0400	4.00	3.88	97	4.00	3.79	95	2	78-120	20	
	<0.0200	2.00	1.93	97	2.00	1.89	95	2	78-120	20	
RNL	D	ate Prepai	red: 03/26/20	18	-		Date A	nalyzed:	03/26/2018	+	
Sample: 7641494	-1-BKS	Batc	h #: 1					Matrix:	Solid		
mg/kg		BLAN	K /BLANK	SPIKE /	BLANK	SPIKE DUP	LICATE	RECOV	ERY STUI	DY	
Chloride by EPA 300	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
	<25.0	250	269	108	250	267	107	1	00.110	20	
	MIT 3044730 Sample: 7641359 mg/kg BTEX by EPA 8021B tes es RNL 3044820 Sample: 7641494 mg/kg	MIT D 3044730 Sample: 7641359-1-BKS mg/kg BTEX by EPA 8021B Blank sample Result [A] tes Output BTEX by EPA 8021B Blank sample Result [A] tes <0.0200	MIT Date Prepare 3044730 Sample: 7641359-1-BKS Bata mg/kg BLAN BLAN BTEX by EPA 8021B Blank sample Result [A] Spike Added tes <0.0200	MIT Date Prepared: 03/23/20 3044730 Sample: 7641359-1-BKS Batch #: 1 mg/kg BLANK /BLANK BTEX by EPA 8021B Blank Sample Result [A] Spike Added Blank Spike Result [B] Blank Spike Result tes <0.0200	MIT Date Prepared: 03/23/2018 3044730 Sample: 7641359-1-BKS Bate H: 1 mg/kg BLANK /BLANK SPIKE / BTEX by EPA 8021B Blank Sample Result [A] Spike Added Blank Spike Result [B] Blank Spike Result [D] Blank Spike Result [D] Blank Spike Result Blank Spike Blank Spike Blank Spike Blank Spike Blank Spike Blank Spike Blank Spike Blank	MIT Date Prepared: 03/23/2018 3044730 Sample: 7641359-1-BKS Batch #: 1 mg/kg BLANK /BLANK SPIKE / BLANK S BTEX by EPA 8021B Blank Sample Result [A] Spike (B] Blank Spike (C] Blank Spike (B] Blank Spike (D) Spike Added Added tes <0.0200	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{tabular}{ c c c c c c c } \begin{tabular}{ c c c c c c c } \begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	MTDet Prepare:03/23/2018Date Anized:03/23/20183044730Sampi:7641359-15K $Bt + 1$ Matrix:Solidmg/kgELANK / ELANK SPIKE / SUNCATEVEVEVICATEVEVEVICATEBETX by EPA worksSpike Spike Spike Spike Spike SolidSpike Spike Spike SolidSpike Spike SolidSpike Spike Spike SolidSpike Spike SolidSpike Spike Spike SolidSpike Spike SolidSpike Spike SolidSpike SolidSpike Spike SolidSpike SolidSpike Spike SolidSpike SolidSpike Spike SolidSpike Spike SolidSpike Spike SolidSpike SolidSpike Spike SolidSpike Spike SolidSpike Spike SolidSpike Spike SolidSpike Spike SolidSpike Spike Spike Spike Spike Spike Spike Spike SpikeSpike Spike S

Relative Percent Difference RPD = $200^{*}|(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100^{*}(C)/[B]$ Blank Spike Duplicate Recovery [G] = $100^{*}(F)/[E]$ All results are based on MDL and Validated for QC Purposes

Version: 1.%



BS / BSD Recoveries



Project Name: BKU Satellite B

Work Order #: 580037		Project ID:											
Analyst: ARM	D	ate Prepar	red: 03/23/201	8		Date Analyzed: 03/23/2018							
Lab Batch ID: 3044787 Sample: 7641465-1-1	BKS	BKSBatch #: 1Matrix: Solid											
Units: mg/kg		BLAN	K /BLANK S	SPIKE / I	BLANK S	SPIKE DUPI	LICATE	RECOVI	ERY STUD	PΥ			
TPH by SW8015 Mod	Blank Sample Result [A]	Spike Added	Blank Spike Result	Blank Spike %R	Spike Added	Blank Spike Duplicate	Blk. Spk Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag		
Analytes		[B]	[C]	[D]	[E]	Result [F]	[G]						
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1010	101	1000	1010	101	0	70-135	35			
Diesel Range Organics (DRO)	<15.0	1000	1050	105	1000	1050	105	0	70-135	35			

Relative Percent Difference RPD = $200^{*}|(C-F)/(C+F)|$ Blank Spike Recovery [D] = $100^{*}(C)/[B]$ Blank Spike Duplicate Recovery [G] = $100^{*}(F)/[E]$ All results are based on MDL and Validated for QC Purposes

Version: 1.%



Form 3 - MS / MSD Recoveries

Project Name: BKU Satellite B

.

Work Order # : 580037						Project ID):						
Lab Batch ID: 3044730	QC- Sample ID:	580037-00)7 S	Ba	tch #:	1 Matrix	: Soil						
Date Analyzed: 03/23/2018	Date Prepared:	03/23/2018	8	An	alyst: N	ЛIТ							
Reporting Units: mg/kg		MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
BTEX by EPA 8021B	Parent Sample Result	Spike Added	piked Sample Result [C]	Spiked Sample %R	Spike Added	Duplicate Spiked Sample Result [F]	Spiked Dup. %R	RPD %	Control Limits %R	Control Limits %RPD	Flag		
Analytes	[A]	[B]		[D]	[E]		[G]						
Benzene	<0.0198	1.98	1.77	89	2.00	1.80	90	2	54-120	25			
Toluene	<0.0198	1.98	1.85	93	2.00	1.84	92	1	57-120	25			
Ethylbenzene	<0.0198	1.98	1.97	99	2.00	1.95	98	1	58-131	25			
m,p-Xylenes	<0.0396	3.96	3.94	99	4.00	3.93	98	0	62-124	25			
o-Xylene	<0.0198	1.98	1.95	98	2.00	1.94	97	1	62-124	25			
LID (LID 2044920	QC- Sample ID:	590027.00	1.0	р.		1 34.4	0-1						
Lab Batch ID: 3044820	QC- Sample ID:	380037-00	15	ва	tch #:	1 Matrix	: 501						
Lab Batch ID: 3044820 Date Analyzed: 03/26/2018	Date Prepared:				tch #: alyst: F		: 501						
Date Analyzed: 03/26/2018		03/26/2018	8	An	alyst: F			OVERY	STUDY				
Date Analyzed: 03/26/2018	Date Prepared: Parent Sample	03/26/2018 MAT Spike Sp	8 TRIX SPIKI piked Sample Result	An E / MAT Spiked Sample	alyst: F RIX SPI	RNL KE DUPLICA Duplicate Spiked Sample	FE REC Spiked Dup.	RPD	Control Limits	Control Limits	Flag		
Date Analyzed: 03/26/2018 Reporting Units: mg/kg	Date Prepared: Parent Sample	03/26/2018 MAT	8 TRIX SPIKI piked Sample	An E / MAT Spiked	alyst: F	RNL KE DUPLICA' Duplicate	FE REC Spiked		Control		Flag		
Date Analyzed: 03/26/2018 Reporting Units: mg/kg Chloride by EPA 300	Date Prepared: Parent Sample Result	03/26/2018 MA7 Spike Added	8 TRIX SPIKI piked Sample Result	An E / MAT Spiked Sample %R	alyst: F RIX SPI Spike Added	RNL KE DUPLICA Duplicate Spiked Sample	FE REC Spiked Dup. %R	RPD	Control Limits	Limits	Flag		
Date Analyzed: 03/26/2018 Reporting Units: mg/kg Chloride by EPA 300 Analytes Chloride Chloride	Date Prepared: Parent Sample Result [A]	03/26/2018 MAT Spike Added [B] 250	8 TRIX SPIKI piked Sample Result [C] 6150	An E / MAT Spiked Sample %R [D] 304	alyst: F RIX SPI Spike Added [E]	RNL KE DUPLICA Duplicate Spiked Sample Result [F]	TE REC Spiked Dup. %R [G] 384	RPD %	Control Limits %R	Limits %RPD			
Date Analyzed: 03/26/2018 Reporting Units: mg/kg Chloride by EPA 300 Analytes Chloride Chloride	Date Prepared: Parent Sample Result [A] 5390	03/26/2018 MA7 Spike Added [B] 250 580038-00	8 TRIX SPIKI piked Sample Result [C] 6150	An E / MAT Spiked Sample %R [D] 304 Ba	alyst: F RIX SPI Spike Added [E] 250	RNL KE DUPLICA Duplicate Spiked Sample Result [F] 6350 1 Matrix	TE REC Spiked Dup. %R [G] 384	RPD %	Control Limits %R	Limits %RPD			
Date Analyzed: 03/26/2018 Reporting Units: mg/kg Chloride by EPA 300 Analytes Chloride 3044820	Date Prepared: Parent Sample Result [A] 5390 QC- Sample ID:	03/26/2018 MAT Spike Added [B] 250 580038-00 03/26/2018	8 TRIX SPIKI piked Sample Result [C] 6150 01 S 8	An E / MAT Spiked Sample %R [D] 304 Ba An	alyst: F RIX SPI Spike Added [E] 250 tch #: alyst: F	RNL KE DUPLICA Duplicate Spiked Sample Result [F] 6350 1 Matrix	TE RECO Spiked Dup. %R [G] 384 :: Soil	RPD %	Control Limits %R 80-120	Limits %RPD			
Date Analyzed: 03/26/2018 Reporting Units: mg/kg Chloride by EPA 300 Analytes Chloride 1000000000000000000000000000000000000	Date Prepared: Parent Sample Result [A] 5390 QC- Sample ID: Date Prepared:	03/26/2018 MAT Spike Added [B] 250 580038-00 03/26/2018 MAT Spike Spike	8 TRIX SPIKI piked Sample Result [C] 6150 01 S 8 TRIX SPIKI piked Sample Result	An E / MAT Spiked Sample %R [D] 304 Ba An E / MAT Spiked Sample	alyst: F RIX SPI Spike Added [E] 250 tch #: alyst: F RIX SPI Spike	RNL KE DUPLICA' Duplicate Spiked Sample Result [F] 6350 1 Matrix RNL KE DUPLICA' Duplicate Spiked Sample	TE REC Spiked Dup. %R [G] 384 :: Soil TE REC Spiked Dup.	RPD % 3 OVERY	Control Limits %R 80-120 STUDY Control Limits	Limits %RPD 20 Control Limits	X		
Date Analyzed: 03/26/2018 Reporting Units: mg/kg Chloride by EPA 300 Analytes Chloride 1000000000000000000000000000000000000	Date Prepared: Parent Sample Result [A] 5390 QC- Sample ID: Date Prepared:	03/26/2018 MAT Spike Added [B] 250 580038-00 03/26/2018 MAT	8 TRIX SPIKI piked Sample Result [C] 6150 01 S 8 TRIX SPIKI piked Sample	An E / MAT Spiked Sample %R [D] 304 Ba An E / MAT	alyst: F RIX SPI Spike Added [E] 250 tch #: alyst: F RIX SPI	RNL KE DUPLICA Duplicate Spiked Sample Result [F] 6350 1 Matrix RNL KE DUPLICA Duplicate	TE RECC Spiked Dup. %R [G] 384 :: Soil TE RECC Spiked	RPD % 3 OVERY	Control Limits %R 80-120 STUDY Control	Limits %RPD 20 Control			

Matrix Spike Percent Recovery $[D] = 100^{*}(C-A)/B$ Relative Percent Difference RPD = $200^{*}|(C-F)/(C+F)|$ Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Page 15 of 20



Form 3 - MS / MSD Recoveries

Project Name: BKU Satellite B

Work Order # :	580037						Project II):				
Lab Batch ID:	3044787	C- Sample ID:	579817	-001 S	Ba	tch #:	1 Matrix	k: Soil				
Date Analyzed:	03/23/2018	Date Prepared:	03/23/2	2018	An	alyst: A	ARM					
Reporting Units:	mg/kg		Ν	IATRIX SPIK	E / MAT	RIX SPI	KE DUPLICA	TE REC	OVERYS	STUDY		
Ĩ	TPH by SW8015 Mod	Parent Sample	Spike	Spiked Sample Result	Sample	Spike	Duplicate Spiked Sample	-	RPD	Control Limits	Control Limits	Flag
	Analytes	Result [A]	Added [B]	[C]	%R [D]	Added [E]	Result [F]	%R [G]	%	%R	%RPD	
Gasoline Range I	Hydrocarbons (GRO)	<15.0	1000	1000	100	999	1010	101	1	70-135	35	
Diesel Range Org	ganics (DRO)	<15.0	1000	1100	110	999	1110	111	1	70-135	35	

Matrix Spike Percent Recovery $[D] = 100^{*}(C-A)/B$ Relative Percent Difference RPD = $200^{*}|(C-F)/(C+F)|$ Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Page 16 of 20

Revision 2016.1	Service Center- Amarillo, TX (806) 678-4514	Service Center-Hobbs, NM (575) 392-7550	* 580037	Matrix Codes		W = Water S = Soi//Sod/Solid	GW = Ground Water DW = Drinking Water	P = Product SW = Surface water SL = Sludge OW = Ocean/Sea Water WI = Wine	O = Oil WW= Waste Water	A = Air	Field Commants		2	r,	t	5	X	5									OLYN102"10"0101 # 61	By:	By:	Coolar Tama	VILLE COOLET LEMP. INFIM. COT. FACTOR	cost of samples and shall not assume anyfresponsibility for any losses to but not analyzed will be invoiced at \$5 per sample. These terms will be	
CUSTODY	Phoenix, AZ (480) 355-0900 Ser	uge, LA (832) 712-8143	Xenco Quote # Xenco Job #	Analytical Information				C		13T.	CHFOB BLEX 16H\EX 160H 1800	* + >	XXXX	xxxx	xxxx			+ + + + + + + + + + + + + + + + + + + +				Notes:	Level IV (Full Data Pkg /raw data)	svel IV	3 411		FED-EX / UPS: Tracking #	Date Time: Date	Con Con			co, its arrillates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume anyfresponsibility for any losses 75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be involced at \$5 per sample. These terms will be	
CHAIN OF CUSY	04-544	San Antonio, TX (210) 509-3334	www.xenco.com		Project Information	Project Name/Number: BKU Satellite B	Project Location: BVI Scientific D	Invoice To: COG Operating LLC Attn: Robert McNeill 600 W. Illinois Midland, Texas 79701	PO Number:	Collection Number of preserved bottles	0490H -4320⊄ -4520⊄ -400H/2U -400H/2U +01 -400H/2U -400H/2U -401 -401 -401 -401 -401 -401 -400 	1 5 512 6		3/9245 5 1	379 250 5 1	3-19 300 5 1	3-19 300 5	3-19 317 5 1					Level II Std QC	Level III Std QC+ Forms	Level 3 (CLP Forms) UST / RG -411	Level II Report with TRRP checklist		MENTED BELOW EACH TIME SAMPLES CHANGE POSSI	2	3 [4 C C) , O Received By: Clientry Seal #	1 5 Dande (Deuch	r rrom cuent company/or Xenco, its amiliates and subcontractors. It assigns nco. A minimum charge of \$75 will be applied to each project. Xenco's liabl	
TORIES	e <i>1990</i> 00 El Paso, TX (915) 585-3443	5	51			Pro		Beoncho.com, shitch.cock@concho.com	bo	Ö	Field ID / Point of Collection Sample Depth	1 0 14	20	53 @ 253	0 30	58 @ 353	06 00 1	5B1 3 453)		siness dave)		5 Day TAT	T Day TAT	Contract TAT		TAT Starts Day received by Lab, if received by 5:00 pm	C SAMPLE CUSTODY MUST BE DOCU	Date Time:	Date Time:	3/2/1	review cluster or unsured or unsure and reminutationer to a samples constructes as value guicidasegrater from cluent comparized or comparized or expenses incurred by the Client factor horse are due to circumstances beyond the control of Xenco. A minimum charge of \$7 enforced unless previously negotiated under a fully executed client contract.	
XENCO	Setting the Standard since 1990 Stafford, TX (281) 240-4200	Dallas, TX (214) 902-0300	5800		Client / Reporting Information	Company Name / Branch: COG Operating LLC	Company Address: Attn: Robert McNell 600 W/ Illinois Ava Midland Tavas 70704	Email: Finalstell@concho.com, dned2, cbrunson@bbcintemational.com Project Contact: Becky Haskell	Samplers's Name: Jeff Ornelas		No. Field ID	+	2	ю	4	ß	Q	7	8	0	10 Turnaround Time / Business dave)		Same Day TAT	Next Day EMERGENCY	2 Day EMERGENCY	3 Day EMERGENCY	TAT Starts Day receiv	Relinquisher by Sampley:	Melifiquished by:	3 Relinquished by:	5	or expenses incurred by the Client if successful to the client of the cl	

Page 17 of 20

Received by OCD: 4/11/2023 2:17:12 PM

Page 96 of 100



Inter-Office Shipment

Page 1 of 1

IOS Number 1058010

Date/Time:	03/22/18 16:23
Lab# From:	Lubbock
Lab# To:	Midland

Delivery Priority: Air Bill No.:

Brenda Ward

Created by:

Please send report to: Jessica Kramer

Address: 6701 Aberdeen, Suite 9 Lubbock, TX 79424 Phone:

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
580037-001	S	SB1 @ 14	03/19/18 14:15	SW8015MOD_NM	TPH by SW8015 Mod	03/28/18	04/02/18	JKR	PHCC10C28 PHCC28C35 1	
580037-002	S	SB1 @ 20	03/19/18 14:30	SW8015MOD_NM	TPH by SW8015 Mod	03/28/18	04/02/18	JKR	PHCC10C28 PHCC28C35 1	
580037-003	S	SB1 @ 25	03/19/18 14:45	SW8015MOD_NM	TPH by SW8015 Mod	03/28/18	04/02/18	JKR	PHCC10C28 PHCC28C35 1	
580037-004	S	SB1 @ 30	03/19/18 14:50	SW8015MOD_NM	TPH by SW8015 Mod	03/28/18	04/02/18	JKR	PHCC10C28 PHCC28C35 1	
580037-005	S	SB1 @ 35	03/19/18 15:00	SW8015MOD_NM	TPH by SW8015 Mod	03/28/18	04/02/18	JKR	PHCC10C28 PHCC28C35 1	
580037-006	S	SB1 @ 40	03/19/18 15:08	SW8015MOD_NM	TPH by SW8015 Mod	03/28/18	04/02/18	JKR	PHCC10C28 PHCC28C35 1	
580037-007	S	SB1 @ 45	03/19/18 15:17	SW8015MOD_NM	TPH by SW8015 Mod	03/28/18	04/02/18	JKR	PHCC10C28 PHCC28C35]	

Inter Office Shipment or Sample Comments:

Relinquished By

renda Ward

Brenda Ward

Date Relinquished: 03/22/2018

Received By: Katie Lowe

Date Received: 03/23/2020 12:01

Cooler Temperature: <u>1.2</u>



LABORATORIES

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland IOS #: 1058010

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Temperature Measuring device used : R8

Sent By:	Brenda Ward	Date Sent:	03/22/2018 04:23 PM
Received By:	Katie Lowe	Date Received:	03/23/2020 12:01 PM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	1.2	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received with appropriate temperature?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	N/A	
#5 *Custody Seals Signed and dated for Containers/coolers	N/A	
#6 *IOS present?	Yes	
#7 Any missing/extra samples?	No	
#8 IOS agrees with sample label(s)/matrix?	Yes	
#9 Sample matrix/ properties agree with IOS?	Yes	
#10 Samples in proper container/ bottle?	Yes	TPH in bulk container
#11 Samples properly preserved?	Yes	
#12 Sample container(s) intact?	Yes	
#13 Sufficient sample amount for indicated test(s)?	Yes	
#14 All samples received within hold time?	Yes	

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

NonConformance:

Corrective Action Taken:

Contact:

Nonconformance Documentation

Contacted by :

Date:

Checklist reviewed by:

Date: 03/23/2018

Katie Lowe

Received by OCD: 4/11/2023 2:17:12 PM



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating, LLC Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 03/22/2018 09:10:00 AM Temperature Measuring device used : IR-3 Work Order #: 580037 Sample Receipt Checklist #1 *Temperature of cooler(s)? 3.9 #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#:

Date: 03/22/2018

Comments

Checklist completed by: Brenda Ward Brenda Ward Checklist reviewed by: Jessica Veamer Jessica Kramer

Date: 03/22/2018

District I 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3470 Fax: (505) 476-3462

State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 S. St Francis Dr. Santa Fe, NM 87505

CONDITIONS

Operator:	OGRID:
COG OPERATING LLC	229137
600 W Illinois Ave	Action Number:
Midland, TX 79701	206436
	Action Type:
	[IM-SD] Incident File Support Doc (ENV) (IM-BNF)
	-

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	5/5/2023