Received by OCD: 11/29/2022 1:17:00 PM



[Sheldon L. Hitchcock] [HSE Coordinator]

March 28, 2018

Crystal Weaver Oil Conservation Division, District 2 811 S First St. Artesia, NM 88210

Henryetta Price Bureau of Land Management, CFO 620 E. Green Street Carlsbad, NM 88220

Re: Closure Letter Gehrig Federal #001 API #: 30-015-33600 RP#: 2RP-4241 & 2RP-4498 Unit Letter I Section 9, Township 26S, Range 29E Eddy County, NM

Ms. Weaver/Ms. Price,

COG Operating, LLC (COG) is pleased to submit for your consideration the following closure report for the Gehrig Federal #001. The remediation conducted at this site was in repose to two oil and produced water releases that occurred on May 28 and again on November 18 of 2017. A remediation work plan was submitted to the New Mexico Oil Conservation Division (NMOCD) and the Bureau of Land Management (BLM) on December 28, 2017. The work plan was approved by NMOCD on March 12, 2018 and by BLM on March 21, 2018.

#### BACKGROUND

The Gehrig Federal #001 release is located in Unit Letter I, Section 9, Township 26 South, and Range 29 East in Eddy County, New Mexico. More specifically the latitude and longitude for this release are 32.055139 North and -103.980409 West.

On May 28, 2018, a stuffing box leak resulted in the release of approximately one-half (0.5) barrel (bbl) of oil and six (6) bbls of produced water. Approximately four (4) bbls of produced water were recovered. The RP number NMOCD assigned to this release was 2RP-4241.

On November 18, 2017, a stuffing box leak resulted in the release of approximately four (4) bbls of oil and six (6) bbls of produced water. Approximately three (3) bbls of oil and four (4) bbls of produced water were recovered. The RP number NMOCD assigned to this release was 2RP-4498. This release covered the same area of the well pad as the release that occurred on May 28, 2018.

On December 12, 2017, a site assessment and soil sampling were conducted in order to vertically and horizontally define the area impacted by the two releases at this site. A site diagram is included in Appendix I. The analytical results from the soil sampling activities are summarized in the table below.

#### **GROUNDWATER AND SITE RANKING**

According to the 2005 Chevron Texaco groundwater trend map, groundwater in the project vicinity is approximately one-hundred and twenty (120) feet below ground surface (BGS) (Appendix II). No water well or surface water was observed within one-thousand (1,000) feet of the release site. Therefore the site ranking for this release is zero (0) based on the following:

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

Sample ID	Depth (feet)	Benzene (mg/kg)	Total BTEX	Chloride (mg/kg)	Total TPH
			(mg/kg)		(mg/kg)
<b>T-1</b>	0	< 0.002	< 0.002	10700	45.8
T-1	1	< 0.002	< 0.002	96.6	<15.0
<b>T-1</b>	2	< 0.002	< 0.002	24.3	<15.0
T-1	3	< 0.002	< 0.002	74.5	<15.0
<b>T-2</b>	0	< 0.002	< 0.002	13300	995
<b>T-2</b>	1	< 0.002	< 0.002	271	<15.0
<b>T-2</b>	2	< 0.002	< 0.002	33.8	<15.0
T-2	3	< 0.002	< 0.002	120	<15.0
NORTH	0			<4.98	
SOUTH	0			<4.90	
EAST	0			61	
WEST	0			507	

#### **ANALYTICAL RESULTS**

(--) Analysis not requested

March 28, 2018

#### **REMEDIAL ACTIONS**

- The impacted area was excavated to the depth of one (1) foot BGS.
- All of the excavated material was hauled to an NMOCD approved solid waste disposal facility.
- The excavation was backfilled with caliche and contoured to match the surrounding location.

#### **CLOSURE REQUEST**

COG Operating, LLC respectfully requests that the New Mexico Oil Conservation Division and Bureau of Land Management grant closure approval for the Gehrig Federal #001 incidents that occurred on May 28, 2017 and November 18, 2017.

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

Sincerely,

Sheldon Jutan

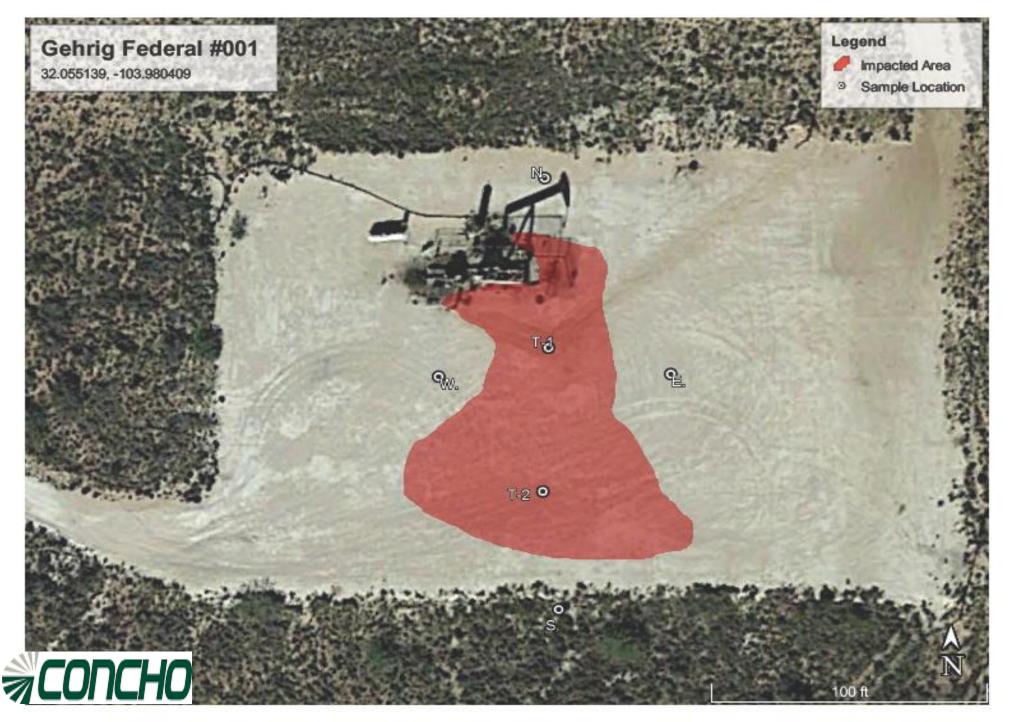
Sheldon L. Hitchcock HSE Coordinator slhitchcock@concho.com

Enclosed:

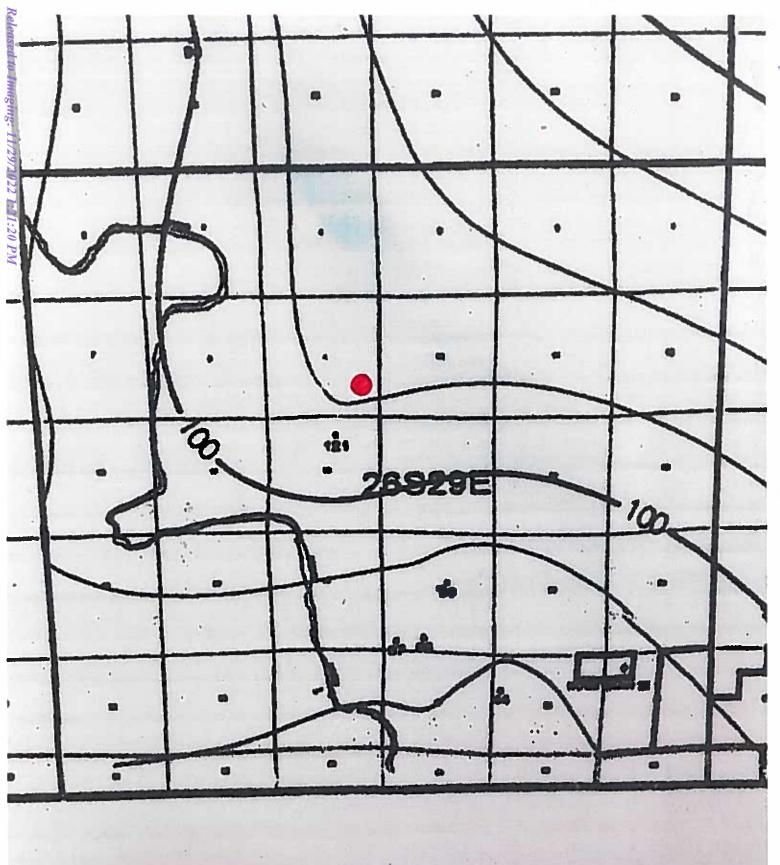
Appendix I: Site Diagram Appendix II: Groundwater Data Appendix III: Final C-141(s) Appendix IV: Analytical Reports and Chain-of-Custody Forms Appendix V: Approved Work Plan (Copy)

## APPENDIX I

December 28, 2017



# APPENDIX II



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Received by OCD: 11/29/2022 1:17:00 PM

# APPENDIX III

State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised August 8, 2011

Page 9 of 56

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

#### **Release Notification and Corrective Action**

		<b>OPERATOR</b>	Initial I	Report 🛛 🛛 Final Re
Name of Company: COG Operating LLC OGH	RID # 229137	Contact:	Robert McNeill	l
Address: 600 West Illinois Avenue, Midland	TX 79701	Telephone No.	432-683-7443	
Facility Name: Gehrig Federal #001		Facility Type:	Wellhead	
Surface Owner: Federal	Mineral Owner	: Federal	API No.	30-015-33600

#### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
Ι	09	26S	29E	1980	South	10	East	Eddy

Latitude 32.05513 Longitude -103.9804077

#### NATURE OF RELEASE

Type of Release:		volume of Release:	volume Recovere	ed:				
(	Oil and Produced Water	0.5 bbls Oil & 6 bbls PW	4 bbls P	roduced Water				
Source of Release:		Date and Hour of Occurrence:	Date and Hour of	Discovery:				
	Wellhead	May 28, 2017 5:00 am	May 28,	, 2017 5:00 am				
Was Immediate Notice C		If YES, To Whom?						
	$\Box$ Yes $\boxtimes$ No $\boxtimes$ Not Required	d						
	By Whom?	Date and Hour:						
Was a Watercourse Reac		If YES, Volume Impacting the Wa	tercourse.					
	🗌 Yes 🖾 No							
If a Watercourse was Imp	pacted, Describe Fully.*	•						
Describe Cause of Proble	em and Remedial Action Taken.*							
Describe Cause of Flobic	em and Remedial Action Taken.							
The packing blew due to	pressure which was caused by a buildup of trash	in the back pressure valve.						
Describe Area Affected and Cleanup Action Taken.*								
	the pad. A vacuum truck was dispatched to remov							
	in preparation for the construction of a remediati ad BLM. Remedial activities were completed in a			submitted to and				
	nformation given above is true and complete to the			NMOCD rules and				
	are required to report and/or file certain release n							
	conment. The acceptance of a C-141 report by the							
	ave failed to adequately investigate and remediate							
	ddition, NMOCD acceptance of a C-141 report d							
federal, state, or local law			j i i	,				
•		OIL CONSERV	ATION DIVIS	SION				
Signature:	heldon guitan							
			1.60.5	Maring				
Printed Name:	Sheldon Hitchcock	Approved by Environmental Speciali	st: Maneg P	napiville				
			0					
Title:	HSE Coordinator	Approval Date: 11/29/2022	Expiration Date:					
E-mail Address:	slhitchcock@concho.com	Conditions of Approval:						
E-mail Audress.	sintencock@concho.com	Conditions of Approval:	Attac	hed				
Date: March 28, 2018	Phone: 575-746-2010							

\* Attach Additional Sheets If Necessary

State of New Mexico **Energy Minerals and Natural Resources** 

Page 10 of 56

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

		_		
Dalaara	Notification			
Release	Nothreation	and	orrective	ACTION
ittust	1 vullication	anu v		<b>I</b> ICHOII

Santa Fe, NM 87505

		<b>OPERATOR</b>	[	Initial Report	$\boxtimes$	Final Report
Name of Company: COG Operating LLC (OC	GRID #229137)	Contact:	Robert	McNeill		
Address: 600 West Illinois Avenue, Midland T	Telephone No.	432-68	83-7443			
Facility Name: Gehrig Federal #001		Facility Type: Oil Well				
Surface Owner: Federal	: Federal		API No. 30-015-33	3600		

#### LOCATION OF RELEASE

Ĩ	Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	Ι	09	26S	29E	1980	South	10	East	Eddy

Latitude: 32.05513 Longitude:-103.9804077 NAD83

#### NATURE OF RELEASE

Type of Release: Oil & Produced Water	Volume of Release:	Volume Re	ecovered:
	4bbls Oil & 6bbls Produced water	3bbls Oil &	2 4bbls Produced water
Source of Release: Wellhead	Date and Hour of Occurrence:	Date and H	lour of Discovery:
	11-18-2017 1:00pm	11-18-2017	7 1:00pm
Was Immediate Notice Given?	If YES, To Whom?		
🗌 Yes 🛛 No 🖾 Not Required			
By Whom?	Date and Hour:		
Was a Watercourse Reached?	If YES, Volume Impacting the Wat	ercourse.	
🗌 Yes 🖾 No			
If a Watercourse was Impacted, Describe Fully.*			
Describe Cause of Problem and Remedial Action Taken.*			
This release was caused by a Stuffing Box Leak. The stuffing box was rep	backed, associated valve was cleaned a	and pressure s	switch was tested.
Describe Area Affected and Cleanup Action Taken.*			
The release economic on the need A yearsum truck was dispetched to remain	us all freestanding fluids. Conche norf	compadia site	accompant and soil compline
The release occurred on the pad. A vacuum truck was dispatched to remo within the impacted area in preparation for the construction of a remediati			
approved by NMOCD and BLM. Remedial activities were completed in a			quentry submitted to and
I hereby certify that the information given above is true and complete to t			ant to NMOCD rules and
regulations all operators are required to report and/or file certain release n			
public health or the environment. The acceptance of a C-141 report by th			
should their operations have failed to adequately investigate and remediat			
or the environment. In addition, NMOCD acceptance of a C-141 report d			
federal, state, or local laws and/or regulations.	ses not rene te une operator or respons	1011109 101 00	
	OIL CONSERV	ATION I	DIVISION
Signature: Sheldon gitan			
Signature: Or Course in Autom	Approved by Environmental Specialis	t: Anh	Par Madunall
		X YUU	ley Maxwell
Printed Name: Sheldon Hitchcock			0
Title: HSE Coordinator	Approval Date: 11/29/2022	Expiration D	ate
		Explution D	
E-mail Address: slhitchcock@concho.com	Conditions of Approval:		
			Attached
Date: March 28, 2018 Phone: 575-746-2010			

\* Attach Additional Sheets If Necessary

## APPENDIX IV





Project Id:

Contact:Sheldon HitchcockProject Location:Eddy County NM

Certificate of Analysis Summary 571793

COG Operating LLC, Artesia, NM Project Name: Gehrig Federal #001



Date Received in Lab:Tue Dec-19-17 11:45 amReport Date:27-DEC-17Project Manager:Kelsey Brooks

	Lab Id:	571793-0	001	571793-(	002	571793-0	003	571793-	004	571793-	005	571793-	006
An alugia Requested	Field Id:	T-1 0		T-1 1		T-1 2		T-1 3	,	T-2 0		T-2 1	•
Analysis Requested	Depth:			1- ft		2- ft		3- ft				1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL	,	SOIL		SOIL	
	Sampled:	Dec-13-17	09:00	Dec-13-17	09:02	Dec-13-17	09:04	Dec-13-17	09:06	Dec-13-17	09:30	Dec-13-17	09:32
BTEX by EPA 8021B	Extracted:	Dec-21-17	13:00										
	Analyzed:	Dec-21-17	20:40	Dec-21-17	20:59	Dec-21-17	21:18	Dec-21-17	21:37	Dec-21-17	21:56	Dec-21-17	22:15
	Units/RL:	mg/kg	RL										
Benzene		< 0.00200	0.00200	< 0.00201	0.00201	< 0.00199	0.00199	< 0.00200	0.00200	< 0.00200	0.00200	< 0.00199	0.00199
Toluene		< 0.00200	0.00200	< 0.00201	0.00201	< 0.00199	0.00199	< 0.00200	0.00200	< 0.00200	0.00200	< 0.00199	0.00199
Ethylbenzene		< 0.00200	0.00200	< 0.00201	0.00201	< 0.00199	0.00199	< 0.00200	0.00200	< 0.00200	0.00200	< 0.00199	0.00199
m,p-Xylenes		< 0.00401	0.00401	< 0.00402	0.00402	< 0.00398	0.00398	< 0.00399	0.00399	< 0.00401	0.00401	< 0.00398	0.00398
o-Xylene		< 0.00200	0.00200	< 0.00201	0.00201	< 0.00199	0.00199	< 0.00200	0.00200	< 0.00200	0.00200	< 0.00199	0.00199
Total Xylenes		< 0.00200	0.00200	< 0.00201	0.00201	< 0.00199	0.00199	< 0.00200	0.00200	< 0.00200	0.00200	< 0.00199	0.00199
Total BTEX		< 0.00200	0.00200	< 0.00201	0.00201	< 0.00199	0.00199	< 0.00200	0.00200	< 0.00200	0.00200	< 0.00199	0.00199
Chloride by EPA 300	Extracted:	Dec-22-17	16:14										
	Analyzed:	Dec-22-17	22:30	Dec-22-17	22:51	Dec-22-17	20:24	Dec-22-17	22:02	Dec-22-17	23:12	Dec-22-17	23:19
	Units/RL:	mg/kg	RL										
Chloride		10700	50.0	96.6	5.00	24.3	5.00	74.5	5.00	13300	100	271	5.00
TPH By SW8015 Mod	Extracted:	Dec-21-17	07:00										
	Analyzed:	Dec-21-17	19:58	Dec-21-17	20:20	Dec-21-17	20:41	Dec-21-17	21:01	Dec-21-17	21:21	Dec-21-17	21:42
	Units/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)		30.1	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	780	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)		15.7	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	215	15.0	<15.0	15.0
Total TPH		45.8	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	995	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.

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Huns Boah

Kelsey Brooks Project Manager





**Project Id: Contact:** 

Sheldon Hitchcock Eddy County NM **Project Location:** 

Certificate of Analysis Summary 571793

COG Operating LLC, Artesia, NM Project Name: Gehrig Federal #001



Date Received in Lab: Tue Dec-19-17 11:45 am Report Date: 27-DEC-17 Project Manager: Kelsey Brooks

	Lab Id:	571793-007	571793-008			
Amalusia Deguested	Field Id:	T-2 2'	T-2 3'			
Analysis Requested	Depth:	2- ft	3- ft			
	Matrix:	SOIL	SOIL			
	Sampled:	Dec-13-17 09:34	Dec-13-17 09:36			
BTEX by EPA 8021B	Extracted:	Dec-21-17 13:00	Dec-21-17 13:00			
	Analyzed:	Dec-21-17 22:34	Dec-21-17 22:53			
	Units/RL:	mg/kg RL	mg/kg RL			
Benzene		<0.00200 0.0020	) <0.00202 0.00202			
Toluene		<0.00200 0.0020	) <0.00202 0.00202			
Ethylbenzene		<0.00200 0.0020	0 <0.00202 0.00202			
m,p-Xylenes		< 0.00399 0.0039	0.00403 0.00403			
o-Xylene		<0.00200 0.0020	0 <0.00202 0.00202			
Total Xylenes		<0.00200 0.0020	0 <0.00202 0.00202			
Total BTEX		<0.00200 0.0020	0 <0.00202 0.00202			
Chloride by EPA 300	Extracted:	Dec-22-17 16:14	Dec-22-17 16:14			
	Analyzed:	Dec-22-17 23:25	Dec-22-17 23:32			
	Units/RL:	mg/kg RL	mg/kg RL			
Chloride		33.8 5.0	120 5.00			
TPH By SW8015 Mod	Extracted:	Dec-21-17 07:00	Dec-21-17 07:00			
	Analyzed:	Dec-21-17 22:02	Dec-21-17 23:04			
	Units/RL:	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<14.9 14.9				
Diesel Range Organics (DRO)		<14.9 14.9				
Oil Range Hydrocarbons (ORO)		<14.9 14.9				
Total TPH		<14.9 14.9	<15.0 15.0			
			1	· · · · · ·	1	1

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,

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Huns Boah

Kelsey Brooks Project Manager

Page 2 of 27

## Analytical Report 571793

for COG Operating LLC

**Project Manager: Sheldon Hitchcock** 

**Gehrig Federal #001** 

#### 27-DEC-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) Received by OCD: 11/29/2022 1:17:00 PM



27-DEC-17

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

Reference: XENCO Report No(s): **571793** Gehrig Federal #001 Project Address: Eddy County NM

#### Sheldon Hitchcock:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 571793. 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. 571793 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

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## Sample Cross Reference 571793



## COG Operating LLC, Artesia, NM

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-1 0'	S	12-13-17 09:00		571793-001
T-1 1'	S	12-13-17 09:02	1 ft	571793-002
T-1 2'	S	12-13-17 09:04	2 ft	571793-003
T-1 3'	S	12-13-17 09:06	3 ft	571793-004
T-2 0'	S	12-13-17 09:30		571793-005
T-2 1'	S	12-13-17 09:32	1 ft	571793-006
T-2 2'	S	12-13-17 09:34	2 ft	571793-007
T-2 3'	S	12-13-17 09:36	3 ft	571793-008



Page 17 of 56

Client Name: COG Operating LLC Project Name: Gehrig Federal #001

Project ID: Work Order Number(s): 571793

ATORIES

 Report Date:
 27-DEC-17

 Date Received:
 12/19/2017

#### Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-3036624 BTEX by EPA 8021B Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3036815 Chloride by EPA 300

Lab Sample ID 571793-004 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 571793-001, -002, -003, -004, -005, -006, -007, -008. The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.





## COG Operating LLC, Artesia, NM

Sample Id: <b>T-1 0'</b> Lab Sample Id: 571793-001		Matrix: Date Collec	Soil ted: 12.13.17 09.00	Ľ	Date Received:12	2.19.17 11.45	
Analytical Method: Chloride b Tech: OJS Analyst: OJS Seq Number: 3036815	oy EPA 300	Date Prep:	12.22.17 16.14	%	rep Method: E. 6 Moisture: 8asis: W	300P <sup>7</sup> et Weight	
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10700	50.0	mg/kg	12.22.17 22.30		10
	W8015 Mod				rep Method: T		

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	12.21.17 19.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	30.1	15.0		mg/kg	12.21.17 19.58		1
Oil Range Hydrocarbons (ORO)	PHCG2835	15.7	15.0		mg/kg	12.21.17 19.58		1
Total TPH	PHC635	45.8	15.0		mg/kg	12.21.17 19.58		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	70	%	70-135	12.21.17 19.58		
o-Terphenyl		84-15-1	72	%	70-135	12.21.17 19.58		



Seq Number: 3036624

## **Certificate of Analytical Results 571793**



## COG Operating LLC, Artesia, NM

Sample Id:	T-1 0'	Matrix:	Soil	Date Receive	d:12.19.17 11.45
Lab Sample I	id: 571793-001	Date Collecte	d: 12.13.17 09.00		
Analytical M	ethod: BTEX by EPA 8021B			Prep Method	: SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	12.21.17 13.00	Basis:	Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	12.21.17 20.40	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	12.21.17 20.40	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	12.21.17 20.40	U	1
m,p-Xylenes	179601-23-1	< 0.00401	0.00401		mg/kg	12.21.17 20.40	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	12.21.17 20.40	U	1
Total Xylenes	1330-20-7	< 0.00200	0.00200		mg/kg	12.21.17 20.40	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	12.21.17 20.40	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	91	%	80-120	12.21.17 20.40		
1,4-Difluorobenzene		540-36-3	91	%	80-120	12.21.17 20.40		





### COG Operating LLC, Artesia, NM

Sample Id: <b>T-1 1'</b> Lab Sample Id: 571793-002		Matrix: Date Collecte	Soil ed: 12.13.17 09.02		ate Received: ample Depth:	12.19.17 11.45 1 ft	
Analytical Method: Chloride by EPA 3 Tech: OJS Analyst: OJS Seq Number: 3036815	300	Date Prep:	12.22.17 16.14	%	rep Method: 1 Moisture: asis:	E300P Wet Weight	
Parameter	Cas Number	Result F	RL	Units	Analysis Dat	e Flag	Dil

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	96.6	5.00	mg/kg	12.22.17 22.51		1

Analytical Method: TPH By SW80 Tech: ARM Analyst: ARM Seq Number: 3036672	15 Mod	Date Pre	p: 12.21	.17 07.00	9	Prep Method: TX 6 Moisture: Basis: We	1005P et Weight	
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	12.21.17 20.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	12.21.17 20.20	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	12.21.17 20.20	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	12.21.17 20.20	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	75	%	70-135	12.21.17 20.20		
o-Terphenyl		84-15-1	78	%	70-135	12.21.17 20.20		





## COG Operating LLC, Artesia, NM

Sample Id: <b>T-1 1'</b>	Matrix: Soil	Date Received:12.19.17 11.45
Lab Sample Id: 571793-002	Date Collected: 12.13.17 09.02	Sample Depth: 1 ft
Analytical Method:BTEX by EPA 8021BTech:ALJAnalyst:ALJSeq Number:3036624	Date Prep: 12.21.17 13.00	Prep Method: SW5030B % Moisture: Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00201	0.00201		mg/kg	12.21.17 20.59	U	1
Toluene	108-88-3	< 0.00201	0.00201		mg/kg	12.21.17 20.59	U	1
Ethylbenzene	100-41-4	< 0.00201	0.00201		mg/kg	12.21.17 20.59	U	1
m,p-Xylenes	179601-23-1	< 0.00402	0.00402		mg/kg	12.21.17 20.59	U	1
o-Xylene	95-47-6	< 0.00201	0.00201		mg/kg	12.21.17 20.59	U	1
Total Xylenes	1330-20-7	< 0.00201	0.00201		mg/kg	12.21.17 20.59	U	1
Total BTEX		< 0.00201	0.00201		mg/kg	12.21.17 20.59	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	92	%	80-120	12.21.17 20.59		
4-Bromofluorobenzene		460-00-4	88	%	80-120	12.21.17 20.59		





## COG Operating LLC, Artesia, NM

Sample Id: <b>T-1 2'</b> Lab Sample Id: 571793-003		Matrix: Date Collecte	Soil d: 12.13.17 09.04	Date Receive Sample Dept	ed:12.19.17 11.45 th: 2 ft
Analytical Method:Chloride by EPATech:OJSAnalyst:OJSSeq Number:3036815	300	Date Prep:	12.22.17 16.14	Prep Method % Moisture: Basis:	
Parameter	Cas Number	Result R	L	Units Analysis	Date Flag Dil

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	24.3	5.00	mg/kg	12.22.17 20.24		1

Analytical Method: TPH By SW80 Tech: ARM Analyst: ARM Seq Number: 3036672	15 Mod	Date Pre	p: 12.21	.17 07.00	%	rep Method: TX 6 Moisture: 8asis: We	1005P t Weight	
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	12.21.17 20.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	12.21.17 20.41	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	12.21.17 20.41	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	12.21.17 20.41	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	89	%	70-135	12.21.17 20.41		
o-Terphenyl		84-15-1	90	%	70-135	12.21.17 20.41		





## COG Operating LLC, Artesia, NM

Sample Id: <b>T-1 2'</b> Lab Sample Id: 571793-003	Matrix: Soil Date Collected: 12.13.17 09.04	Date Received:12.19.17 11.45 Sample Depth: 2 ft
Analytical Method:BTEX by EPA 8021BTech:ALJAnalyst:ALJ	Date Prep: 12.21.17 13.00	Prep Method: SW5030B % Moisture: Basis: Wet Weight
Seq Number: 3036624		

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00199	0.00199		mg/kg	12.21.17 21.18	U	1
Toluene	108-88-3	< 0.00199	0.00199		mg/kg	12.21.17 21.18	U	1
Ethylbenzene	100-41-4	< 0.00199	0.00199		mg/kg	12.21.17 21.18	U	1
m,p-Xylenes	179601-23-1	< 0.00398	0.00398		mg/kg	12.21.17 21.18	U	1
o-Xylene	95-47-6	< 0.00199	0.00199		mg/kg	12.21.17 21.18	U	1
Total Xylenes	1330-20-7	< 0.00199	0.00199		mg/kg	12.21.17 21.18	U	1
Total BTEX		< 0.00199	0.00199		mg/kg	12.21.17 21.18	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	88	%	80-120	12.21.17 21.18		
4-Bromofluorobenzene		460-00-4	83	%	80-120	12.21.17 21.18		





## COG Operating LLC, Artesia, NM

Sample Id: <b>T-1 3'</b> Lab Sample Id: 571793-004		Matrix: Date Collecte	Soil d: 12.13.17 09.06	Date Recei Sample De	5	
Analytical Method:Chloride by EPATech:OJSAnalyst:OJSSeq Number:3036815	300	Date Prep:	12.22.17 16.14	Prep Meth % Moistur Basis:	od: E300P e: Wet Weight	
Parameter	Cas Number	Result R	L	Units Analysi	s Date Flag	Dil

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	74.5	5.00	mg/kg	12.22.17 22.02		1

Analytical Method:TPH By SW80Tech:ARMAnalyst:ARMSeq Number:3036672	15 Mod	Date Pre	p: 12.21	.17 07.00	%	rep Method: TX 6 Moisture: Basis: We	1005P t Weight	
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	12.21.17 21.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	12.21.17 21.01	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	12.21.17 21.01	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	12.21.17 21.01	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	80	%	70-135	12.21.17 21.01		
o-Terphenyl		84-15-1	83	%	70-135	12.21.17 21.01		





## COG Operating LLC, Artesia, NM

Sample Id:         T-1 3'           Lab Sample Id:         571793-004	Matrix: Soil Date Collected: 12.13.17 09.06	Date Received:12.19.17 11.45 Sample Depth: 3 ft
Analytical Method: BTEX by EPA 8021B Tech: ALJ		Prep Method: SW5030B % Moisture:
Analyst: ALJ Seq Number: 3036624	Date Prep: 12.21.17 13.00	Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	12.21.17 21.37	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	12.21.17 21.37	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	12.21.17 21.37	U	1
m,p-Xylenes	179601-23-1	< 0.00399	0.00399		mg/kg	12.21.17 21.37	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	12.21.17 21.37	U	1
Total Xylenes	1330-20-7	< 0.00200	0.00200		mg/kg	12.21.17 21.37	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	12.21.17 21.37	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	94	%	80-120	12.21.17 21.37		
4-Bromofluorobenzene		460-00-4	89	%	80-120	12.21.17 21.37		





## COG Operating LLC, Artesia, NM

Sample Id: <b>T-2 0'</b> Lab Sample Id: 571793-005		Matrix: Date Collecte	Soil ed: 12.13.17 09.30	Date Received:12.19.17 11.45		
Analytical Method:Chloride by 3Tech:OJSAnalyst:OJSSeq Number:3036815	EPA 300	Date Prep:	12.22.17 16.14	Prep Method: E300P % Moisture: Basis: Wet Weig	nt	
Parameter	Cas Number		RL	Units Analysis Date Flag		
Chloride	16887-00-6	13300	100	mg/kg 12.22.17 23.12	20	
Chloride	16887-00-6	13300	100	mg/kg 12.22.17 23.12	20	
Chloride Analytical Method: TPH By SW Tech: ARM		13300	100	mg/kg 12.22.17 23.12 Prep Method: TX1005P % Moisture:	20	

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	12.21.17 21.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	780	15.0		mg/kg	12.21.17 21.21		1
Oil Range Hydrocarbons (ORO)	PHCG2835	215	15.0		mg/kg	12.21.17 21.21		1
Total TPH	PHC635	995	15.0		mg/kg	12.21.17 21.21		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	79	%	70-135	12.21.17 21.21		
o-Terphenyl		84-15-1	85	%	70-135	12.21.17 21.21		



Seq Number: 3036624

## **Certificate of Analytical Results 571793**



## COG Operating LLC, Artesia, NM

Sample Id:	T-2 0'	Matrix:	Soil	Date Receive	d:12.19.17 11.45			
Lab Sample Id: 571793-005         Date Collected: 12.13.17 09.30								
Analytical M	lethod: BTEX by EPA 8021B		Prep Method	: SW5030B				
Tech:	ALJ			% Moisture:				
Analyst:	ALJ	Date Prep:	12.21.17 13.00	Basis:	Wet Weight			

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	12.21.17 21.56	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	12.21.17 21.56	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	12.21.17 21.56	U	1
m,p-Xylenes	179601-23-1	< 0.00401	0.00401		mg/kg	12.21.17 21.56	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	12.21.17 21.56	U	1
Total Xylenes	1330-20-7	< 0.00200	0.00200		mg/kg	12.21.17 21.56	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	12.21.17 21.56	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	87	%	80-120	12.21.17 21.56		
4-Bromofluorobenzene		460-00-4	83	%	80-120	12.21.17 21.56		





## COG Operating LLC, Artesia, NM

Sample Id: <b>T-2 1'</b> Lab Sample Id: 571793-006		Matrix: Date Collecte	Soil d: 12.13.17 09.32	Date Recei Sample De	5	
Analytical Method:Chloride by EPATech:OJSAnalyst:OJSSeq Number:3036815	300	Date Prep:	12.22.17 16.14	Prep Meth % Moistur Basis:	od: E300P e: Wet Weight	
Parameter	Cas Number	Result R	L	Units Analysi	s Date Flag	Dil

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	271	5.00	mg/kg	12.22.17 23.19		1

Analytical Method: TPH By SW801 Tech: ARM Analyst: ARM Seq Number: 3036672	15 Mod	Date Pre	Date Prep: 12.21.17 07.00			Prep Method: TX1005P % Moisture: Basis: Wet Weight			
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil	
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	12.21.17 21.42	U	1	
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	12.21.17 21.42	U	1	
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	12.21.17 21.42	U	1	
Total TPH	PHC635	<15.0	15.0		mg/kg	12.21.17 21.42	U	1	
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag		
1-Chlorooctane		111-85-3	75	%	70-135	12.21.17 21.42			
o-Terphenyl		84-15-1	79	%	70-135	12.21.17 21.42			





## COG Operating LLC, Artesia, NM

Sample Id:         T-2 1'           Lab Sample Id:         571793-006	Matrix: Soil Date Collected: 12.13.17 09.32	Date Received:12.19.17 11.45 Sample Depth: 1 ft
Analytical Method:BTEX by EPA 8021BTech:ALJAnalyst:ALJSeq Number:3036624	Date Prep: 12.21.17 13.00	Prep Method: SW5030B % Moisture: Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00199	0.00199		mg/kg	12.21.17 22.15	U	1
Toluene	108-88-3	< 0.00199	0.00199		mg/kg	12.21.17 22.15	U	1
Ethylbenzene	100-41-4	< 0.00199	0.00199		mg/kg	12.21.17 22.15	U	1
m,p-Xylenes	179601-23-1	< 0.00398	0.00398		mg/kg	12.21.17 22.15	U	1
o-Xylene	95-47-6	< 0.00199	0.00199		mg/kg	12.21.17 22.15	U	1
Total Xylenes	1330-20-7	< 0.00199	0.00199		mg/kg	12.21.17 22.15	U	1
Total BTEX		< 0.00199	0.00199		mg/kg	12.21.17 22.15	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	83	%	80-120	12.21.17 22.15		
1,4-Difluorobenzene		540-36-3	92	%	80-120	12.21.17 22.15		





## COG Operating LLC, Artesia, NM

		Matrix: Date Collecte	Soil d: 12.13.17 09.34	Date Received:12.19.17 11.45 Sample Depth: 2 ft			
Analytical Method:Chloride by EPATech:OJSAnalyst:OJSSeq Number:3036815	300	Date Prep:	12.22.17 16.14	%	ep Method: E. Moisture: asis: W	300P Vet Weight	
Parameter	Cas Number	Result R	L	Units	Analysis Date	Flag	Dil

rarameter	Cas Number	Kesuit	KL	Units	Analysis Date	Flag	Dii
Chloride	16887-00-6	33.8	5.00	mg/kg	12.22.17 23.25		1

Analytical Method: TPH By SW80 Tech: ARM Analyst: ARM Seq Number: 3036672	Date Pre	Date Prep: 12.21.17 07.00			Prep Method: TX1005P % Moisture: Basis: Wet Weight			
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9		mg/kg	12.21.17 22.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9		mg/kg	12.21.17 22.02	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9		mg/kg	12.21.17 22.02	U	1
Total TPH	PHC635	<14.9	14.9		mg/kg	12.21.17 22.02	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	88	%	70-135	12.21.17 22.02		
o-Terphenyl		84-15-1	89	%	70-135	12.21.17 22.02		





## COG Operating LLC, Artesia, NM

Sample Id:         T-2 2'           Lab Sample Id:         571793-007	Matrix: Soil Date Collected: 12.13.17 09.34	Date Received:12.19.17 11.45 Sample Depth: 2 ft
Analytical Method:BTEX by EPA 8021BTech:ALJAnalyst:ALJSeq Number:3036624	Date Prep: 12.21.17 13.00	Prep Method: SW5030B % Moisture: Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	12.21.17 22.34	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	12.21.17 22.34	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	12.21.17 22.34	U	1
m,p-Xylenes	179601-23-1	< 0.00399	0.00399		mg/kg	12.21.17 22.34	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	12.21.17 22.34	U	1
Total Xylenes	1330-20-7	< 0.00200	0.00200		mg/kg	12.21.17 22.34	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	12.21.17 22.34	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	93	%	80-120	12.21.17 22.34		
4-Bromofluorobenzene		460-00-4	86	%	80-120	12.21.17 22.34		





## COG Operating LLC, Artesia, NM

Sample Id: <b>T-2 3'</b> Lab Sample Id: 571793-008			Soil ed: 12.13.17 09.36	Date Received:12.19.17 11.45 Sample Depth: 3 ft			
Analytical Method: Chloride by EPA 3 Tech: OJS Analyst: OJS Seq Number: 3036815	300	Date Prep:	12.22.17 16.14	Prep Metho % Moisturo Basis:			
Parameter	Cas Number	Result F	RL	Units Analysi	s Date Flag Dil		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	120	5.00	mg/kg	12.22.17 23.32		1

Analytical Method:TPH By SW80Tech:ARMAnalyst:ARMSeq Number:3036672	Date Pre	Date Prep: 12.21.17 07.00			Prep Method: TX1005P % Moisture: Basis: Wet Weight			
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0		mg/kg	12.21.17 23.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0		mg/kg	12.21.17 23.04	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0		mg/kg	12.21.17 23.04	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	12.21.17 23.04	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	86	%	70-135	12.21.17 23.04		
o-Terphenyl		84-15-1	86	%	70-135	12.21.17 23.04		





## COG Operating LLC, Artesia, NM

Sample Id: <b>T-2 3'</b>	Matrix: Soil	Date Received:12.19.17 11.45
Lab Sample Id: 571793-008	Date Collected: 12.13.17 09.36	Sample Depth: 3 ft
Analytical Method:BTEX by EPA 8021BTech:ALJAnalyst:ALJSeq Number:3036624	Date Prep: 12.21.17 13.00	Prep Method: SW5030B % Moisture: Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00202	0.00202		mg/kg	12.21.17 22.53	U	1
Toluene	108-88-3	< 0.00202	0.00202		mg/kg	12.21.17 22.53	U	1
Ethylbenzene	100-41-4	< 0.00202	0.00202		mg/kg	12.21.17 22.53	U	1
m,p-Xylenes	179601-23-1	< 0.00403	0.00403		mg/kg	12.21.17 22.53	U	1
o-Xylene	95-47-6	< 0.00202	0.00202		mg/kg	12.21.17 22.53	U	1
Total Xylenes	1330-20-7	< 0.00202	0.00202		mg/kg	12.21.17 22.53	U	1
Total BTEX		< 0.00202	0.00202		mg/kg	12.21.17 22.53	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	87	%	80-120	12.21.17 22.53		
1,4-Difluorobenzene		540-36-3	93	%	80-120	12.21.17 22.53		



# LABORATORIES

## **Flagging Criteria**



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- 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

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Certified and approved by numerous States and Agencies.

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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	





## **COG Operating LLC**

Gehrig Federal #001

Analytical Method:	Chloride by EPA 3	00						Pr	ep Metho	d: E300	)P	
Seq Number:	3036815 Ma				Solid Date Prep: 12.2					ep: 12.2	2.17	
MB Sample Id:	7636572-1-BLK		LCS Sample Id: 7636572-1-BKS					LCSD Sample Id: 7636572-1-BSD				
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limi	t Units	Analysis Date	Flag
Chloride	< 5.00	250	274	110	274	110	90-110	0	20	mg/kg	12.22.17 20:10	

Analytical Method:	Chloride by EPA 3					Pr	ep Metho	d: E30	OP				
Seq Number:	3036815	Matrix:	Soil Date Prep:					p: 12.2	12.22.17				
Parent Sample Id:	571793-003 MS Sample Id				571793-00	)3 S		MSI	O Sample	Id: 571	571793-003 SD		
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag	
	result				1000000	/01100							

Analytical Method:	Chloride by EPA 30	)0						P	rep Meth	od: E300	)P	
Seq Number:	3036815		Matrix: Soil					Date Prep: 12.22.17				
Parent Sample Id:	571793-004		MS Sar	MS Sample Id: 571793-004 S				MSD Sample Id: 571793-0			93-004 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
Chloride	74.5	250	344	108	348	109	90-110	1	20	mg/kg	12.22.17 22:09	

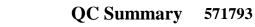
Analytical Method:	lytical Method: TPH By SW8015 Mod									Prep Method: TX1005P						
Seq Number:	3036672				Solid	Date Prep: 12.21.17										
MB Sample Id: 7636449-1-BLK				LCS Sample Id: 7636449-1-BKS			LCSD Sample Id: 7636449-1-BSD									
Parameter		MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPE	RPD Limit	Units	Analysis Date	Flag			
Gasoline Range Hydrocarb	ons (GRO)	<15.0	1000	881	88	882	88	70-135	0	35	mg/kg	12.21.17 17:33				
Diesel Range Organics	(DRO)	<15.0	1000	914	91	919	92	70-135	1	35	mg/kg	12.21.17 17:33				
Surrogate		MB %Rec	MB Flag		CS Rec	LCS Flag	LCSI %Re			Limits	Units	Analysis Date				
1-Chlorooctane		83		5	84		84		7	70-135	%	12.21.17 17:33				
o-Terphenyl		87		9	91		91		2	70-135	%	12.21.17 17:33				

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

.



ABORATORIES



### **COG Operating LLC**

Gehrig Federal #001

Analytical Method:	TPH By S	W8015 M	lod							Prep Method	l: TXI	005P	
Seq Number:	3036672			Matrix: Soil					Date Prep: 12.21.17				
Parent Sample Id:		MS Sample Id: 571792-001 S			MSD Sample Id: 571792-001 SD								
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPI	O RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbo	ons (GRO)	<15.0	998	858	86	841	84	70-135	2	35	mg/kg	12.21.17 18:36	
Diesel Range Organics (I	DRO)	<15.0	998	869	87	857	86	70-135	1	35	mg/kg	12.21.17 18:36	
Surrogate					AS Rec	MS Flag	MSD %Ree			Limits	Units	Analysis Date	
1-Chlorooctane				8	83		80			70-135	%	12.21.17 18:36	
o-Terphenyl				8	39		86			70-135	%	12.21.17 18:36	

<b>Analytical Method:</b> Seq Number: MB Sample Id:	<b>BTEX by EPA 802</b> 3036624 7636429-1-BLK	Prep MethodSolidDate Prep7636429-1-BKSLCSD Sample Id					p: 12.2					
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RP	D RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.00202	0.101	0.0826	82	0.0851	85	70-130	3	35	mg/kg	12.21.17 13:48	
Toluene	< 0.00202	0.101	0.0764	76	0.0786	79	70-130	3	35	mg/kg	12.21.17 13:48	
Ethylbenzene	< 0.00202	0.101	0.0828	82	0.0850	85	71-129	3	35	mg/kg	12.21.17 13:48	
m,p-Xylenes	< 0.00403	0.202	0.165	82	0.169	84	70-135	2	35	mg/kg	12.21.17 13:48	
o-Xylene	< 0.00202	0.101	0.0770	76	0.0785	79	71-133	2	35	mg/kg	12.21.17 13:48	
Surrogate	MB %Rec	MB Flag		CS Rec	LCS Flag	LCSE %Rec			Limits	Units	Analysis Date	
1,4-Difluorobenzene	93		1	12		110			80-120	%	12.21.17 13:48	
4-Bromofluorobenzene	83		1	10		119			80-120	%	12.21.17 13:48	

<b>Analytical Method:</b> Seq Number: Parent Sample Id:	<b>BTEX by EPA 802</b> 3036624 571522-005	1B	Matrix: Soil MS Sample Id: 571522-005 S						Prep Method: SW5030B Date Prep: 12.21.17 MSD Sample Id: 571522-005 SD				
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limi	it Units	Analysis Date	Flag	
Benzene	< 0.00199	0.0994	0.0734	74	0.0880	88	70-130	18	35	mg/kg	12.21.17 23:31		
Toluene	< 0.00199	0.0994	0.0689	69	0.0833	83	70-130	19	35	mg/kg	12.21.17 23:31	Х	
Ethylbenzene	< 0.00199	0.0994	0.0721	73	0.0767	77	71-129	6	35	mg/kg	12.21.17 23:31		
m,p-Xylenes	< 0.00398	0.199	0.142	71	0.138	69	70-135	3	35	mg/kg	12.21.17 23:31	Х	
o-Xylene	< 0.00199	0.0994	0.0675	68	0.0685	69	71-133	1	35	mg/kg	12.21.17 23:31	Х	
Surrogate				1S Rec	MS Flag	MSD %Ree		_	Limits	Units	Analysis Date		
1,4-Difluorobenzene			1	03		89		8	0-120	%	12.21.17 23:31		
4-Bromofluorobenzene			9	98		92		8	0-120	%	12.21.17 23:31		

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

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											1 1 ()	
						-	Analy	rtical Informati	on		Matrix Codes	les
Project Name/		hrig Federal #	001								W = Water S = Soil/Sed/s	Solid
Project Locatio	on:										GW =Ground Water DW = Drinking Wate	d Water ng Water
Invoice To:	COG Opera Attn: Robert	ting, LLC McNeill									P = Product SW = Surface water SL = Sludge	te water
	Midland Tx,	79701				D					WI = Wipe	voea water
PO Number:						NDE	S				O = Oil WW= Waste V	Water
Collection			Numbe	of preserved b	ottles	(TEI	IDE				A = Air	
			HCI NaOH/Zn Acetate	12SO4 NaOH	NEOH						Field Comments	
12/13/17 9		s 1				$\times$	$\frac{\times}{\times}$					
9	202	s 1			~	$\times$	X				2	
9	104	s 1			7	$\times$	λ Υ					
-0	106	s 1				X	X X					
4	:30	s -				X	X					
9	261	s -				X	X		_	) -		
9	.! 34	S 1				X	X		Temp:	Q	IR ID:R-8	
9	1.36				1	X	X		CF:(0-6:	-0.2°C)		
	-								(6-23	1 Temp	-	
		Data De	iverable Informati	on -			-	N		-	(	M
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	Level	III Std QC+	Forms	TRRP Leve	IIV			(			/	21:
	Level	3 (CLP Forr	ns) [	UST / RG	111							22.1
	TRRP	Checklist							>			/202
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me:12/1417	Received By	HIME SAME	12-19- 10 A	Relinquishe	d By:	R DELIVE	RY Date Tir	ne: 1145	Received By	A	Mar	ng: 11
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		ande or efer	i be applied to eac	i project. Xenco s II	ability will be lin	nited to the	cost or samp	iles. Any samples	received by Xen	ico put not analy	zed will be invoiced at \$5 per samp	Releas
	Project Name/       Project Location       Provide To::       Provide To::       Po Number:       Depth       Date       1	Project Name/Number: Ge	Project Name/Number: Gehnig Federal # Project Location: Eddy County, NM Invoice To: COG Operating, LLC Attr:: Robert McNeili 600 W. Illnois Ave. FO Number: Collection Q Date Time A Q Date Time A Q Date A Q DATA	Project Information         Froject Information:         Eddy County, NM         Invoice To: COG Operating, LLC         Attr: Robert McNeill GOO W. Robert McNeill GOO W. Illinois Are.         Follection       Number         Invoice To: COG Operating, LLC Attr: Robert McNeill GOO W. Illinois Are.         PO Number:         Vollection       Number         Invoice To: COG Operating, LLC Attr: Robert McNeill GOO W. Illinois Are.         Attr: Robert McNeill GOO W. Illinois Are.         PO Number:         Vollection       Number         Invoice To: COG Operating, LLC Attr: Robert McNeill GOO W. Illinois Are.         Attr: Robert McNeill GOO W. Illinois Are.         Vollection         Level II Std QC         Inter Received By:         Attr: Received By:         Trime Received By:         Received By:         Received By:         Received By:         Status other torm client company to Xenco. Is affiliates and su sontrol of Xenco. A minimum charge of \$75 will be applied to ead	Project Information         Project Location:         Relay County, NM         Invoice Tre: COG Operating, LLC         Attm: Robert McNeilli         Source Intervention Intervention Intervention         Number Te: COG Operating, LLC         Number of preserved by         Intervention Intervention Intervention         Number of preserved by         Operating, LLC         Attm: Robert McNeilli         Source Intervention Intervention         Intervention         Number of preserved by         Operating, LLC         Number of preserved by         Intervention         Intervention         Number of preserved by         Intervention         Intervention	Project Information         Forject NameWumber: Gening Federal #001         Eday County, NM         Eday County, NM         Multiand Tx, 78701         Number of preserved bottlas         OUNDER         Number of preserved bottlas         OUNDER         Number of preserved bottlas         OUNDER         Validand Tx, 78701         Number of preserved bottlas         OUNDER         Validand Tx, 78701         Number of preserved bottlas         OUNDER         Validand Tx, 78701         Number of preserved bottlas         Validand Tx, 78701         Validand Tx, 78701	Project Information         Project Information         Edby County, NM         Edby County, NM         Edby County, NM         Number of preserved bottles         Operating, LLC         Number of preserved bottles         Department of the operating operating operating operating operating operating operating op	Project Information       Project Information <t< td=""><td>Project Information         Project Information         Project Information         Edity County, NM         Edity County, NM         Edity County, NM         Edity County, NM         Number of preserved bottles         Operating, LLC         Number of preserved bottles         Operating, LLC         Number of preserved bottles         Number of preserved bottles         Operating, LLC         Number of preserved bottles         Number of preserved works         Number of preserved works         Number of preserved works         Numer of preserved works</td><td>Project Information       Project Information       Project Information       Project Information       Educ County, IM       Number of presented before       Number of presented before       Oute of presented colspan= 2 (Presented before       Oute</td><td>Project Numeration     Annalytical Information       Project Numeration:     Edity County, NM       Edity County, NM     Edity County, NM       South Wings Name     Number of preserved bolts:       South Wings Name     South Kan Data Preserved bolts:       South Wings Name     South Kan Data Preserved bolts:       South Wings Name     South Kan Data Preserved bolts:       South Kan Data Preserved Name     South Kan Data Preserved Name</td><td>Analytical Information       Analytical Information       CHLORIDES       CHLORIDES       CHLORIDES       Temp:       Temp:       Temp:       CF:(0-6: -0.2°C)       CF:(0-6: -0.2°C)       CF:(0-6: -0.2°C)       CF:(0-6: -0.2°C)       CF:(0-6: -0.2°C)       Corrected Temp:       Value       Received By:       Pate Time:       Received By:       Received By:       Corrected Temp:       Received By:       Corrected Temp:       Received By:</td></t<>	Project Information         Project Information         Project Information         Edity County, NM         Edity County, NM         Edity County, NM         Edity County, NM         Number of preserved bottles         Operating, LLC         Number of preserved bottles         Operating, LLC         Number of preserved bottles         Number of preserved bottles         Operating, LLC         Number of preserved bottles         Number of preserved works         Number of preserved works         Number of preserved works         Numer of preserved works	Project Information       Project Information       Project Information       Project Information       Educ County, IM       Number of presented before       Number of presented before       Oute of presented colspan= 2 (Presented before       Oute	Project Numeration     Annalytical Information       Project Numeration:     Edity County, NM       Edity County, NM     Edity County, NM       South Wings Name     Number of preserved bolts:       South Wings Name     South Kan Data Preserved bolts:       South Wings Name     South Kan Data Preserved bolts:       South Wings Name     South Kan Data Preserved bolts:       South Kan Data Preserved Name     South Kan Data Preserved Name	Analytical Information       Analytical Information       CHLORIDES       CHLORIDES       CHLORIDES       Temp:       Temp:       Temp:       CF:(0-6: -0.2°C)       CF:(0-6: -0.2°C)       CF:(0-6: -0.2°C)       CF:(0-6: -0.2°C)       CF:(0-6: -0.2°C)       Corrected Temp:       Value       Received By:       Pate Time:       Received By:       Received By:       Corrected Temp:       Received By:       Corrected Temp:       Received By:

# Received by OCD: 11/29/2022 1:17:00 PM

### Final 1.000



Stafford, Texas (281-240-4200)

Phoenix, Arizona (480-355-0900)

San Antonio, Texas (210-509-3334)



# **XENCO** Laboratories



# Prelogin/Nonconformance Report- Sample Log-In

1

Yes

Yes

Yes

Yes

Client: COG Operating LLC Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 12/19/2017 11:45:00 AM Temperature Measuring device used : R8 Work Order #: 571793 Sample Receipt Checklist #1 \*Temperature of cooler(s)? #2 \*Shipping container in good condition? #3 \*Samples received on ice? #4 \*Custody Seals intact on shipping container/ cooler? #5 Custody Seals intact on sample bottles?

#6*Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	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: 12/20/2017

Comments

Checklist completed by: Jessica Warmer Jessica Kramer Checklist reviewed by: Kelsey Brooks

Date: 12/26/2017



Sheldon Hitchcock

Eddy County NM

**Project Id:** 

**Project Location:** 

**Contact:** 

Certificate of Analysis Summary 571794

COG Operating LLC, Artesia, NM Project Name: Gehrig Federal #001



Date Received in Lab:Tue Dec-19-17 11:45 amReport Date:27-DEC-17Project Manager:Kelsey Brooks

	Lab Id:	571794-0	01	571794-0	02	571794-0	03	571794-0	04		
Analysis Requested	Field Id:	Ν		S		Е		W			
Anulysis Kequestea	Depth:										
	Matrix:	SOIL		SOIL		SOIL		SOIL			
	Sampled:	Dec-13-17 1	0:00	Dec-13-17 1	0:05	Dec-13-17	0:10	Dec-13-17	10:15		
Chloride by EPA 300	Extracted:	Dec-26-17 1	0:30	Dec-26-17 1	0:30	Dec-26-17 1	0:30	Dec-26-17	10:30		
	Analyzed:	Dec-26-17 1	3:26	Dec-26-17 1	8:55	Dec-26-17 1	9:01	Dec-26-17	19:08		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		<4.98	4.98	<4.90	4.90	61.0	4.94	507	4.98		

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.

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Version: 1.%

Huns Boah

Kelsey Brooks Project Manager

# Analytical Report 571794

for COG Operating LLC

**Project Manager: Sheldon Hitchcock** 

**Gehrig Federal #001** 

# 27-DEC-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)



27-DEC-17

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

Reference: XENCO Report No(s): **571794 Gehrig Federal #001** Project Address: Eddy County NM

# Sheldon Hitchcock:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 571794. 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. 571794 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

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Page 41 of 56





# Sample Cross Reference 571794



# COG Operating LLC, Artesia, NM

Gehrig Federal #001

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Ν	S	12-13-17 10:00		571794-001
S	S	12-13-17 10:05		571794-002
Ε	S	12-13-17 10:10		571794-003
W	S	12-13-17 10:15		571794-004

Version: 1.%

.



Page 43 of 56

Client Name: COG Operating LLC Project Name: Gehrig Federal #001

Project ID: Work Order Number(s): 571794 
 Report Date:
 27-DEC-17

 Date Received:
 12/19/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None





# COG Operating LLC, Artesia, NM

Gehrig Federal #001

Sample Id: N Lab Sample Id: 571794-001		Matrix: Date Collecte	Soil d: 12.13.17 10.00	D	ate Received:12.	19.17 11.45	
Analytical Method: Chloride by EPA	300				rep Method: E30	00P	
Tech: LRI				,	Moisture:		
Analyst: LRI		Date Prep:	12.26.17 10.30	Ba	asis: We	t Weight	
Seq Number: 3036899							
Parameter	Cas Number	Result F	RL	Units	Analysis Date	Flag	Dil

<4.98

16887-00-6

4.98

mg/kg

12.26.17 13.26

U

1





# COG Operating LLC, Artesia, NM

Gehrig Federal #001

Sample Id: S Lab Sample Id: 571794-002		Matrix: Date Collecte	Soil ed: 12.13.17 10.05	Date Rece	ived:12.19.17 11.4	5
Analytical Method: Chloride by EPA	300			1	od: E300P	
Tech: LRI Analyst: LRI		D ( D	12.26.17 10.30	% Moistur Basis:	re: Wet Weight	
Analyst: LRI Seq Number: 3036899		Date Prep:	12.20.17 10.50	Dasis.	wet weight	
Parameter	Cas Number	Result 1	RL	Units Analys	is Date Flag	Dil

<4.90

16887-00-6

4.90

mg/kg

12.26.17 18.55

U

1





# COG Operating LLC, Artesia, NM

Gehrig Federal #001

Sample Id: E Lab Sample Id: 571794-003	Matrix: Date Collec	Soil cted: 12.13.17 10.10	]	Date Received:12.	19.17 11.4	.5
Analytical Method: Chloride by EPA 300			]	Prep Method: E30	00P	
Tech: LRI			0	% Moisture:		
Analyst: LRI	Date Prep:	12.26.17 10.30	]	Basis: We	t Weight	
Seq Number: 3036899						
Parameter Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride 16887-00-6	61.0	4.94	mg/kg	12.26.17 19.01		1





# COG Operating LLC, Artesia, NM

Gehrig Federal #001

Sample Id: W Lab Sample Id: 571794-004	Matrix: Date Collec	Soil ted: 12.13.17 10.15	1	Date Received:12.	19.17 11.4	5
Analytical Method: Chloride by EPA 300				Prep Method: E30	)0P	
Tech: LRI			Ģ	% Moisture:		
Analyst: LRI	Date Prep:	12.26.17 10.30	I	Basis: We	t Weight	
Seq Number: 3036899						
Parameter Cas Nu	mber Result	RL	Units	Analysis Date	Flag	Dil
Chloride 16887-00	-6 507	4.98	mg/kg	12.26.17 19.08		1



# LABORATORIES

# **Flagging Criteria**



Page 48 of 56

- 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

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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	





# **COG Operating LLC**

Gehrig Federal #001

Analytical Method:	Chloride by EPA 3	00						Pr	ep Metho	od: E30	0P	
Seq Number:	3036899			Matrix:	Solid				Date Pre	ep: 12.2	6.17	
MB Sample Id:	7636590-1-BLK		LCS Sar	nple Id:	7636590-	1-BKS		LCSI	O Sample	Id: 7636	6590-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limi	t Units	Analysis Date	Flag
Chloride					241		90-110		20	mg/kg	12.26.17 10:08	

Analytical Method:	Chloride by EPA 30	)0						Pre	p Metho	d: E30	00P	
Seq Number:	3036899			Matrix:	Soil				Date Prep	p: 12.	26.17	
Parent Sample Id:	571456-002		MS Sar	nple Id:	571456-00	02 S		MSD	Sample	Id: 571	456-002 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD R	RPD Limit	Units	Analysis Date	Flag
Chloride	1050	245	1210	65	1210	65	90-110	0	20	mg/kg	12.26.17 11:28	Х

Analytical Method:	Chloride by EPA 3	00						P	rep Meth	od: E30	0P	
Seq Number:	3036899			Matrix:	Soil				Date Pr	ep: 12.2	6.17	
Parent Sample Id:	572053-007		MS Sar	nple Id:	572053-00	)7 S		MS	D Sample	e Id: 5720	)53-007 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
Chloride	292	246	551	105	550	105	90-110	0	20	mg/kg	12.26.17 13:05	

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

.

# Stafford, Texas (281-240-4200) Setting the Standard since 1990 **ABORATORIES**

Dallas Texas (214-902-0300)

2407 Pecos Ave. Artesia NM 88210 Company Address: Company Name / Branch: COG Operating, LLC

> Project Location: Project Name/Number:

Project Information Gehrig Federal #001

Eddy County, NM

**Client / Reporting Information** 

# CHAIN OF CUSTODY

Page 1 of 1

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

www.xenco.com

Phoenix, Arizona (480-355-0900)

Xenco Quote #

Xenco Job # 271794

Analytical Information

andread/@conduction.com/in       Amir: Robert Modelli       Amir: Robert Modelli       Mair: Robert Modelli         Project conset:       Samplers Nume:       Samplers Nume:       Samplers Nume:       Mair: Robert Modelli         Samplers Nume:       Field ID / Point of Collection       Sampler       Collection       No         1       N. O       Field ID / Point of Collection       Sampler       Collection       No         2       S. O       0       IZ/M/7       I/I/I/I       I <td< th=""><th>Number:           Number of preserved bottles           Collection           Number of preserved bottles           Sample           Samp</th></td<>	Number:           Number of preserved bottles           Collection           Number of preserved bottles           Sample           Samp
COC Operating, LLC         Midland Tx, 79701         Number of preserved bottles         Number of preserved bottles         and       Time       Marin       # of       Cluster       Number of preserved bottles         30/7       J.D. J. S       S       1       Horizon       Marin       # of       Number of preserved bottles         30/7       J.D. J. S       S       1       Horizon       Horizo	Production Time:
Relinquished By:     ust / RG -411	Date Time:
	Date Time:

Released to Imaging: 11/29/2022

1:21:20 PM

W = Water S = Soil/Sed/Solid GW =Ground Water DW = Drinking Water P = Product

Matrix Codes



# **XENCO Laboratories**



# Prelogin/Nonconformance Report- Sample Log-In

1

Yes

Yes

Yes

Client: COG Operating LLC Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 12/19/2017 11:45:00 AM Temperature Measuring device used : R8 Work Order #: 571794 Sample Receipt Checklist #1 \*Temperature of cooler(s)? #2 \*Shipping container in good condition? #3 \*Samples received on ice? #4 \*Custody Seals intact on shipping container/ cooler? #5 Custody Seals intact on sample bottles?

#5 Custody Seals intact on sample bottles?	Yes
#6*Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	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: 12/20/2017

Comments

Checklist completed by: Jessica Kramer Checklist reviewed by: Markanak Kelsey Brooks

Date: 12/26/2017

# APPENDIX V



[Sheldon L. Hitchcock] [HSE Coordinator]

December 28, 2017

Crystal Weaver Oil Conservation Division, District 2 811 S First St. Artesia, NM 88210

Shelly Tucker Bureau of Land Management, CFO 620 E. Green Street Carlsbad, NM 88220

Re: Work Plan Gehrig Federal #001 API #: 30-015-33600 RP#: 2RP-4241 & 2RP-4498 Unit Letter I Section 9, Township 26S, Range 29E Eddy County, NM

Ms. Weaver/Ms. Tucker,

COG Operating, LLC (COG) is pleased to submit for your consideration the following remediation work plan for the Gehrig Federal #001. This plan is in response to two oil and produced water releases that occurred on May 28, 2017 and again on November 18, 2017. A C-141 initial report was submitted to the New Mexico Oil Conservation Division (NMOCD) subsequent to each release.

# BACKGROUND

The Gehrig Federal #001 release is located in Unit Letter I, Section 9, Township 26 South, and Range 29 East in Eddy County, New Mexico. More specifically the latitude and longitude for this release are 32.055139 North and -103.980409 West.

On May 28, 2018, a stuffing box leak resulted in the release of approximately one-half (0.5) barrel (bbl) of oil and six (6) bbls of produced water. Approximately four (4) bbls of produced water were recovered. The RP number NMOCD assigned to this release was 2RP-4241.

On November 18, 2017, a stuffing box leak resulted in the release of approximately four (4) bbls of oil and six (6) bbls of produced water. Approximately three (3) bbls of oil and four (4) bbls of produced water were recovered. The RP number NMOCD assigned to this release was 2RP-4498. This release covered the same area of the well pad as the release that occurred on May 28, 2018.

December 28, 2017

On December 12, 2017, a site assessment and soil sampling were conducted in order to vertically and horizontally define the area impacted by the two releases at this site. A site diagram is included in Appendix I. The analytical results from the soil sampling activities are summarized in the table below.

# **GROUNDWATER AND SITE RANKING**

According to the 2005 Chevron Texaco groundwater trend map, groundwater in the project vicinity is approximately one-hundred and twenty (120) feet below ground surface (BGS) (Appendix II). No water well or surface water was observed within one-thousand (1,000) feet of the release site. Therefore the site ranking for this release is zero (0) based on the following:

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

Sample ID	Depth (feet)	Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)	Total TPH (mg/kg)
<b>T-1</b>	0	< 0.002	< 0.002	10700	45.8
<b>T-1</b>	1	< 0.002	< 0.002	96.6	<15.0
<b>T-1</b>	2	< 0.002	< 0.002	24.3	<15.0
<b>T-1</b>	3	< 0.002	< 0.002	74.5	<15.0
<b>T-2</b>	0	< 0.002	< 0.002	13300	995
<b>T-2</b>	1	< 0.002	< 0.002	271	<15.0
<b>T-2</b>	2	< 0.002	< 0.002	33.8	<15.0
<b>T-2</b>	3	< 0.002	< 0.002	120	<15.0
NORTH	0			<4.98	
SOUTH	0			<4.90	
EAST	0			61	
WEST	0			507	

# **ANALYTICAL RESULTS**

(--) Analysis not requested

December 28, 2017

# **PROPOSED REMEDIAL ACTIONS**

- The impacted area will be excavated to the depth of one (1) foot BGS.
- All of the excavated material will be hauled to an NMOCD approved solid waste disposal facility.
- The excavation will be backfilled with caliche and contoured to match the surrounding location.

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

Sincerely,

Sheldon Jutan

Sheldon L. Hitchcock HSE Coordinator slhitchcock@concho.com

Enclosed:

Appendix I: Site Diagram Appendix II: Groundwater Data Appendix III: Initial C-141 (Copy) Appendix IV: Analytical Reports and Chain-of-Custody Forms

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	162165
	Action Type:
	[IM-SD] Incident File Support Doc (ENV) (IM-BNF)
CONDITIONS	

Created By	Condition	Condition Date
amaxwell	None	11/29/2022

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Action 162165