



2057 Commerce Drive  
Midland, TX 79703

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[www.trcsolutions.com](http://www.trcsolutions.com)

September 6, 2017

Mike Bratcher  
New Mexico Energy, Minerals and Natural Resources Department  
Oil Conservation Division, District 2  
811 S. First Street  
Artesia, NM 88210

Amber Groves  
Hobbs Field Office  
New Mexico State Land Office  
2827 N. Dal Paso St., Suite 117  
Hobbs, New Mexico 88240

Re: Soil Investigation Summary and Proposed Remediation Workplan  
State GQ Com #003H (2RP-4139)  
GPS: N 32.1509857° W 104.1195908°  
Unit Letter "A", Section 7, Township 25 South, Range 28 East  
Eddy County, New Mexico

Dear Mr. Bratcher and Ms. Groves,

TRC Environmental Corporation (TRC), on behalf of COG Operating, LLC (COG) has prepared this Soil Investigation Summary and Proposed Remediation Workplan (Workplan) for the State GQ Com #003H Release Site (Release Site). The purpose of this Workplan is to propose remediation activities designed to advance the State GQ Com #003H Release Site toward a New Mexico Oil Conservation Division (NMOCD) approved Site Closure Status. The legal description of the Release Site is Unit Letter "A", Section 7, Township 25 South, Range 28 East, in Eddy County, New Mexico. The GPS coordinates for the site are N 32.1509857° W 104.1195908°. The subject property is administered by the New Mexico State Land Office (NMSLO). A Site Location Map and Site Map are provided as Figure 1 and Figure 2, respectively.

On March 3, 2017, COG discovered a produced water release from a three (3) inch steel pipeline. The release flowed to the northeast and southeast of the release point and measured approximately 2,376 square feet in area. On March 7, 2017, a Release Notification and Corrective Action (Form C-141) was submitted to the NMOCD. During initial response activities, COG repaired and replaced the damaged section of the three (3) inch pipeline. Approximately twenty (20) barrels of fluid was released from the pipeline, with eighteen (18) barrels recovered. The Form C-141 is attached to this report.

A groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) identified one (1) registered water well in Section 7, Township 25 South, Range 28 East. However, information on the well listed the installation depth and date for the well with no reference to the observed depth to groundwater. A reference map utilized by the NMOCD Hobbs District Office indicates groundwater should be encountered at approximately forty (40) to fifty (50) feet below ground surface (bgs). Based on the NMOCD site classification system, twenty (20) points will be assigned to the subject area ranking as a result of this criterion.

No water wells were observed within one-thousand (1,000) feet of the Release Site. Based on the NMOCD site classification system, zero (0) points will be assigned to the subject area ranking as a result of this criterion.

No surface water was observed within one-thousand (1,000) feet of the release. Based on the NMOCD site classification system, zero (0) points will be assigned to the subject area ranking as a result of this criterion.

Based on the NMOCD Site Classification criteria, the Release Site soil remediation levels are 10 milligrams per Kilogram (mg/Kg) for benzene, 50 mg/Kg for benzene, toluene, ethylbenzene and xylenes (BTEX), and one hundred (100) mg/Kg for total petroleum hydrocarbons (TPH). Per NMOCD request, chloride remediation levels for the Release Site will be 250 mg/Kg.

On March 16, 2017, a COG representative collected twenty (20) delineation soil samples from the impacted area (see attached Figure 2 and Table 1 for sample locations and analytical results). The soil samples were submitted to Xenco Laboratories in Midland, Texas for determination of concentration of chloride using Method 300/300.1. Chloride concentrations ranged from <10.0 mg/Kg for soil sample T1-2' to 7,070 mg/Kg for soil sample T1-Surface. A review of laboratory analytical results indicated chloride concentrations were below NMOCD regulatory guidelines for the submitted soil samples, with the exception of soil samples T1-Surface (7,070 mg/Kg), T1-1' (957 mg/Kg), T1-10' (329 mg/Kg), T2-Surface (5,920 mg/Kg), and T2-1' (997 mg/Kg).

Based on the laboratory analytical results of the soil samples collected at depths of approximately two (2) feet bgs to eight (8) feet bgs, twelve (12) feet bgs, and fourteen (14) feet bgs from trench T1, soil sample T1-10' (329 mg/Kg) appears to be an anomalous chloride concentration and does not appear to accurately represent chloride concentrations at ten (10) feet bgs.

Based on the analytical results of the soil samples collected on March 16, 2017, COG proposes the following field activities designed to remediate the State GQ Com #003H:

- Utilizing a backhoe, excavate the Release Site to a depth of approximately one and one half (1.5) feet below ground surface (bgs). The excavated soil will be stockpiled on a plastic liner adjacent to the excavation pending transportation to a NMOCD approved disposal facility.
- Collect an appropriate number of excavation floor soil samples, spaced at approximately every fifty (50) feet, and submit the soil samples to the laboratory for determination of concentrations of BTEX and TPH. In addition, a minimum of four (4) soil samples will be collected to the north, south, east and west of the excavated area to confirm horizontal delineation of the impacted soil and submitted for BTEX, TPH, and chloride analysis.

- Based on the laboratory analytical results of the soil samples collected at depths of approximately two (2) feet bgs to eight (8) feet bgs, twelve (12) feet bgs, and fourteen (14) feet bgs from trench T1, soil sample T1-10' (329 mg/Kg) appears to be an anomalous chloride concentration and does not appear to accurately represent chloride concentrations at ten (10) feet bgs. Therefore, no additional delineation activities appear to be warranted in the area represented by trench T1.
- On receipt of favorable analytical results (below NMOCD regulatory guidelines referenced above), the excavation will be backfilled with locally purchased non-impacted "like" soil.
- The excavated soil will be transported under manifest to an NMOCD approved disposal facility.
- Prepare and submit a "Remediation Summary and Site Closure Request" to the NMOCD and NMSLO.

COG is prepared to begin the activities outlined in this Soil Investigation Summary and Proposed Remediation Workplan on NMOCD and NMSLO approval.

If you have any questions, or if additional information is required, please feel free to call me at 432-520-7720 (office) or 432-664-6699 (cell).

Thank you,



Nikki Green  
Project Manager  
TRC Environmental Corporation



Jeffrey Kindley, PG  
Senior Project Manager  
TRC Environmental Corporation

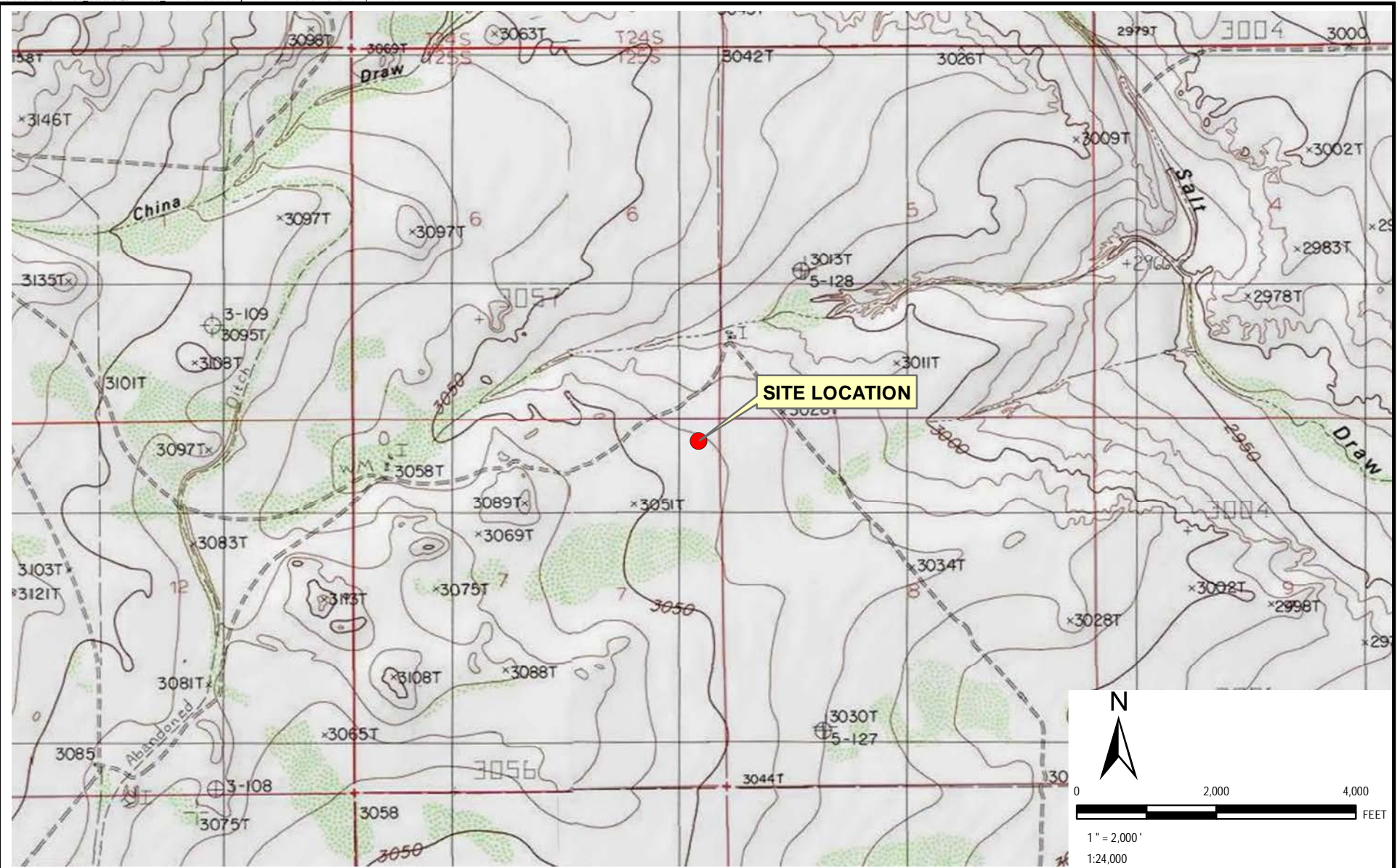
**Attachments:**

Figure 1 - Site Location Map  
Figure 2 - Site Map  
Table 1 - Concentration of Chloride in Soil  
Laboratory Analytical Results  
Release Notification and Corrective Action (Form C-141)

cc: Rebecca Haskell  
COG Operating, LLC  
600 W. Illinois Avenue  
Midland, Texas 79701

File





2075 Commerce Drive  
Midland, TX 79703  
Phone: 432.520.770

TRC - GIS

TITLE:

## FIGURE 1 SITE LOCATION MAP

PROJECT:

STATE GQ COM #003H  
EDDY COUNTY, NEW MEXICO  
COG OPERATING, LLC

DRAWN BY: MLOVELACE

CHECKED BY: NGREEN

APPROVED BY: NGREEN

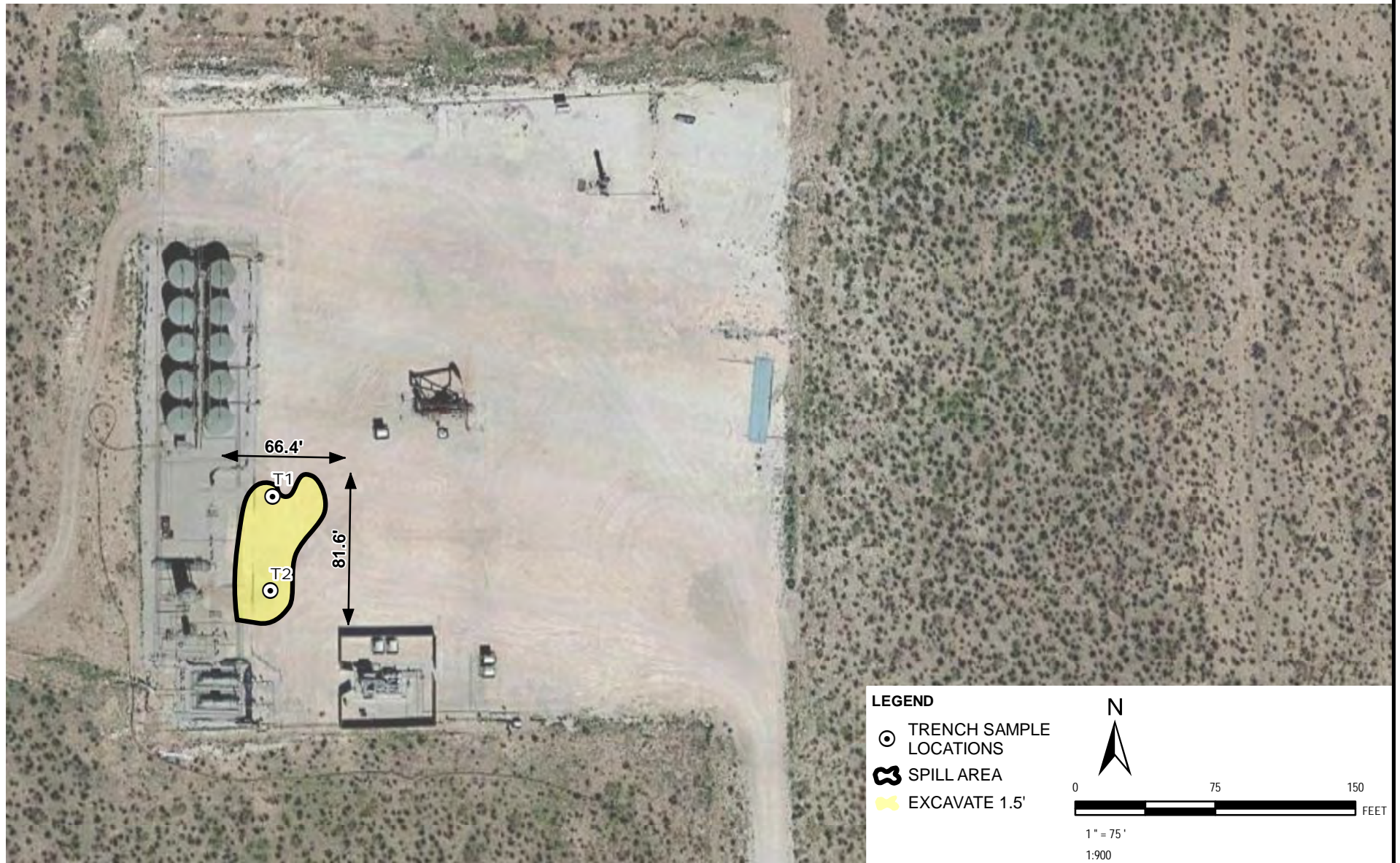
DATE: JULY 2017

PROJ. NO.: 279786

GPS: LAT. N 32.1509857, LONG. W 104.1195908

**NE1/4 NE1/4 SEC 7 T25S R28E**





2075 Commerce Drive  
Midland, TX 79703  
Phone: 432.520.770

TRC - GIS

TITLE:

## FIGURE 2 SITE MAP

PROJECT:

STATE GQ COM #003H  
EDDY COUNTY, NEW MEXICO  
COG OPERATING, LLC.

DRAWN BY: MLOVELACE

CHECKED BY: NGREEN

APPROVED BY: NGREEN

DATE: AUGUST 2017

PROJ. NO.: 279786

GPS: LAT. N 32.1509857, LONG. W 104.1195908

**NE1/4 NE1/4 SEC 7 T25S R28E**

TABLE 1

## CONCENTRATION OF CHLORIDE IN SOIL

COG Operating LLC  
 State GQ Com #003H  
 EDDY COUNTY, NEW MEXICO

*All concentrations are reported in mg/Kg*

SAMPLE LOCATION	SAMPLE DATE	SOIL STATUS	E 300.1
			CHLORIDE
NMOCD Site Classification Criteria			250
T1-Surface	03/16/17	Trench	7,070
T1-1'	03/16/17	Trench	957
T1-2'	03/16/17	Trench	<10.0
T1-3'	03/16/17	Trench	24.4
T1-4'	03/16/17	Trench	55.2
T1-6'	03/16/17	Trench	46.5
T1-8'	03/16/17	Trench	127
T1-10'	03/16/17	Trench	329
T1-12'	03/16/17	Trench	120
T1-14'	03/16/17	Trench	66.7
T2-Surface	03/16/17	Trench	5,920
T2-1'	03/16/17	Trench	997
T2-2'	03/16/17	Trench	126
T2-3'	03/16/17	Trench	46.6
T2-4'	03/16/17	Trench	35.4
T2-6'	03/16/17	Trench	12.7
T2-8'	03/16/17	Trench	17.4
T2-10'	03/16/17	Trench	53.2
T2-12'	03/16/17	Trench	75.0
T2-14'	03/16/17	Trench	196



# Certificate of Analysis Summary 549471

COG Operating LLC, Artesia, NM

Project Name: State GC #3



Project Id:

Contact: Dakota Neel

Project Location:

Date Received in Lab: Sat Mar-25-17 10:30 am

Report Date: 06-APR-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	549471-001	549471-002	549471-003	549471-004	549471-005	549471-006
	<i>Field Id:</i>	T1 - Surface	T1 - 1'	T1 - 2'	T1 - 3'	T1 - 4'	T1 - 6'
	<i>Depth:</i>		1 ft	2 ft	3 ft	4 ft	6 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Mar-16-17 12:30	Mar-16-17 12:31	Mar-16-17 12:35	Mar-16-17 12:40	Mar-16-17 12:45	Mar-16-17 12:50
<b>Inorganic Anions by EPA 300/300.1 SUB: TX104704215</b>	<i>Extracted:</i>	Apr-03-17 18:00	Apr-03-17 18:00	Apr-03-17 17:00	Apr-03-17 17:00	Apr-03-17 17:00	Apr-03-17 17:00
	<i>Analyzed:</i>	Apr-04-17 01:44	Apr-04-17 01:54	Apr-04-17 03:46	Apr-04-17 04:14	Apr-04-17 04:23	Apr-04-17 04:33
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		7070 D 100	957 10.0	<10.0 10.0	24.4 10.0	55.2 10.0	46.5 10.0

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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Kelsey Brooks  
Project Manager



# Certificate of Analysis Summary 549471

COG Operating LLC, Artesia, NM

Project Name: State GC #3



Project Id:

Contact: Dakota Neel

Project Location:

Date Received in Lab: Sat Mar-25-17 10:30 am

Report Date: 06-APR-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	549471-007	549471-008	549471-009	549471-010	549471-011	549471-012
	<i>Field Id:</i>	T1 - 8'	T1 - 10'	T1 - 12'	T1 - 14'	T2 - Surface	T2 - 1'
	<i>Depth:</i>	8 ft	10 ft	12 ft	14 ft		1 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Mar-16-17 12:53	Mar-16-17 12:57	Mar-16-17 13:00	Mar-16-17 13:05	Mar-16-17 13:20	Mar-16-17 13:25
<b>Inorganic Anions by EPA 300/300.1 SUB: TX104704215</b>	<i>Extracted:</i>	Apr-03-17 17:00	Apr-03-17 17:00	Apr-03-17 17:00	Apr-03-17 17:00	Apr-03-17 17:00	Apr-03-17 17:00
	<i>Analyzed:</i>	Apr-04-17 04:42	Apr-04-17 02:50	Apr-04-17 03:18	Apr-04-17 03:27	Apr-04-17 03:36	Apr-04-17 04:51
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		127 10.0	329 10.0	120 10.0	66.7 10.0	5920 D 100	997 10.0

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Kelsey Brooks  
Project Manager





# Certificate of Analysis Summary 549471

COG Operating LLC, Artesia, NM

Project Name: State GC #3



Project Id:

Contact: Dakota Neel

Project Location:

Date Received in Lab: Sat Mar-25-17 10:30 am

Report Date: 06-APR-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	549471-013	549471-014	549471-015	549471-016	549471-017	549471-018
	<i>Field Id:</i>	T2 - 2'	T2 - 3'	T2 - 4'	T2 - 6'	T2 - 8'	T2 - 10'
	<i>Depth:</i>	2 ft	3 ft	4 ft	6 ft	8 ft	10 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Mar-16-17 13:30	Mar-16-17 13:33	Mar-16-17 13:37	Mar-16-17 13:42	Mar-16-17 13:48	Mar-16-17 13:55
<b>Inorganic Anions by EPA 300/300.1 SUB: TX104704215</b>	<i>Extracted:</i>	Apr-03-17 17:00	Apr-03-17 17:00	Apr-03-17 17:00	Apr-03-17 17:00	Apr-03-17 17:00	Apr-03-17 17:00
	<i>Analyzed:</i>	Apr-04-17 05:01	Apr-04-17 05:29	Apr-04-17 05:38	Apr-04-17 06:06	Apr-04-17 06:15	Apr-04-17 06:25
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		126 10.0	46.6 10.0	35.4 10.0	12.7 10.0	17.4 10.0	53.2 10.0

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Kelsey Brooks  
Project Manager



# Certificate of Analysis Summary 549471

COG Operating LLC, Artesia, NM

Project Name: State GC #3



Project Id:

Contact: Dakota Neel

Project Location:

Date Received in Lab: Sat Mar-25-17 10:30 am

Report Date: 06-APR-17

Project Manager: Kelsey Brooks

<b>Analysis Requested</b>	<b>Lab Id:</b>	549471-019	549471-020				
	<b>Field Id:</b>	T2 - 12'	T2 - 14'				
	<b>Depth:</b>	12 ft	14 ft				
	<b>Matrix:</b>	SOIL	SOIL				
	<b>Sampled:</b>	Mar-16-17 14:00	Mar-16-17 14:05				
<b>Inorganic Anions by EPA 300/300.1 SUB: TX104704215</b>	<b>Extracted:</b>	Apr-03-17 17:00	Apr-03-17 17:00				
	<b>Analyzed:</b>	Apr-04-17 06:34	Apr-04-17 06:43				
	<b>Units/RL:</b>	mg/kg RL	mg/kg RL				
Chloride		75.0 10.0	196 10.0				

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Kelsey Brooks  
Project Manager

# Analytical Report 549471

for  
**COG Operating LLC**

**Project Manager: Dakota Neel**

**State GC #3**

**06-APR-17**

Collected By: Dakota Neel



**1211 W. Florida Ave, Midland TX 79701**

Xenco-Houston (EPA Lab code: TX00122):  
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)  
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)  
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)  
Xenco-San Antonio: Texas (T104704534)  
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)  
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



06-APR-17

Project Manager: **Dakota Neel**

**COG Operating LLC**

2407 Pecos Avenue

Artesia, NM 88210

Reference: XENCO Report No(s): **549471**

**State GC #3**

Project Address:

**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) 549471. 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. 549471 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

**Kelsey Brooks**

Project Manager

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

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## COG Operating LLC, Artesia, NM

State GC #3

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T1 - Surface	S	03-16-17 12:30	N/A	549471-001
T1 - 1'	S	03-16-17 12:31	- 1 ft	549471-002
T1 - 2'	S	03-16-17 12:35	- 2 ft	549471-003
T1 - 3'	S	03-16-17 12:40	- 3 ft	549471-004
T1 - 4'	S	03-16-17 12:45	- 4 ft	549471-005
T1 - 6'	S	03-16-17 12:50	- 6 ft	549471-006
T1 - 8'	S	03-16-17 12:53	- 8 ft	549471-007
T1 - 10'	S	03-16-17 12:57	- 10 ft	549471-008
T1 - 12'	S	03-16-17 13:00	- 12 ft	549471-009
T1 - 14'	S	03-16-17 13:05	- 14 ft	549471-010
T2 - Surface	S	03-16-17 13:20	N/A	549471-011
T2 - 1'	S	03-16-17 13:25	- 1 ft	549471-012
T2 - 2'	S	03-16-17 13:30	- 2 ft	549471-013
T2 - 3'	S	03-16-17 13:33	- 3 ft	549471-014
T2 - 4'	S	03-16-17 13:37	- 4 ft	549471-015
T2 - 6'	S	03-16-17 13:42	- 6 ft	549471-016
T2 - 8'	S	03-16-17 13:48	- 8 ft	549471-017
T2 - 10'	S	03-16-17 13:55	- 10 ft	549471-018
T2 - 12'	S	03-16-17 14:00	- 12 ft	549471-019
T2 - 14'	S	03-16-17 14:05	- 14 ft	549471-020



## CASE NARRATIVE

*Client Name: COG Operating LLC*

*Project Name: State GC #3*

Project ID:

Work Order Number(s): 549471

Report Date: 06-APR-17

Date Received: 03/25/2017

---

**Sample receipt non conformances and comments:**

please email results to:

rgrubbs@concho.com rhaskell@concho.com alieb@concho.com

---

**Sample receipt non conformances and comments per sample:**

None



# Certificate of Analytical Results 549471



## COG Operating LLC, Artesia, NM

State GC #3

Sample Id: **T1 - Surface**

Matrix: Soil

Date Received: 03.25.17 10.30

Lab Sample Id: 549471-001

Date Collected: 03.16.17 12.30

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: ALA

% Moisture:

Analyst: ALA

Date Prep: 04.03.17 18.00

Basis: Wet Weight

Seq Number: 3014002

SUB: TX104704215

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7070	100	mg/kg	04.05.17 16.34	D	10



# Certificate of Analytical Results 549471



## COG Operating LLC, Artesia, NM

State GC #3

Sample Id: T1 - 1'  
Lab Sample Id: 549471-002

Matrix: Soil  
Date Collected: 03.16.17 12.31

Date Received: 03.25.17 10.30  
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: ALA

Analyst: ALA

Seq Number: 3014002

Date Prep: 04.03.17 18.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	957	10.0	mg/kg	04.04.17 01.54		1





# Certificate of Analytical Results 549471



## COG Operating LLC, Artesia, NM

State GC #3

Sample Id: T1 - 2'  
Lab Sample Id: 549471-003

Matrix: Soil  
Date Collected: 03.16.17 12.35

Date Received: 03.25.17 10.30  
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: ALA

Analyst: ALA

Seq Number: 3014044

Date Prep: 04.03.17 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	04.04.17 03.46	U	1



# Certificate of Analytical Results 549471



## COG Operating LLC, Artesia, NM

State GC #3

Sample Id: T1 - 3'  
Lab Sample Id: 549471-004

Matrix: Soil  
Date Collected: 03.16.17 12.40

Date Received: 03.25.17 10.30  
Sample Depth: 3 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: ALA

Analyst: ALA

Seq Number: 3014044

Date Prep: 04.03.17 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	24.4	10.0	mg/kg	04.04.17 04.14		1



# Certificate of Analytical Results 549471



## COG Operating LLC, Artesia, NM

State GC #3

Sample Id: T1 - 4'  
Lab Sample Id: 549471-005

Matrix: Soil  
Date Collected: 03.16.17 12.45

Date Received: 03.25.17 10.30  
Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: ALA

% Moisture:

Analyst: ALA

Date Prep: 04.03.17 17.00

Basis: Wet Weight

Seq Number: 3014044

SUB: TX104704215

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	55.2	10.0	mg/kg	04.04.17 04.23		1



# Certificate of Analytical Results 549471



## COG Operating LLC, Artesia, NM

State GC #3

Sample Id: **T1 - 6'**  
Lab Sample Id: 549471-006

Matrix: Soil  
Date Collected: 03.16.17 12.50

Date Received: 03.25.17 10.30  
Sample Depth: 6 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: ALA

Analyst: ALA

Seq Number: 3014044

Date Prep: 04.03.17 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	46.5	10.0	mg/kg	04.04.17 04.33		1





# Certificate of Analytical Results 549471



## COG Operating LLC, Artesia, NM

State GC #3

Sample Id: T1 - 8'  
Lab Sample Id: 549471-007

Matrix: Soil  
Date Collected: 03.16.17 12.53

Date Received: 03.25.17 10.30  
Sample Depth: 8 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: ALA

Analyst: ALA

Seq Number: 3014044

Date Prep: 04.03.17 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	127	10.0	mg/kg	04.04.17 04.42		1



# Certificate of Analytical Results 549471



## COG Operating LLC, Artesia, NM

State GC #3

Sample Id: **T1 - 10'**  
Lab Sample Id: 549471-008

Matrix: Soil  
Date Collected: 03.16.17 12.57

Date Received: 03.25.17 10.30  
Sample Depth: 10 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: ALA

Analyst: ALA

Seq Number: 3014044

Date Prep: 04.03.17 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	329	10.0	mg/kg	04.04.17 02.50		1



# Certificate of Analytical Results 549471



## COG Operating LLC, Artesia, NM

State GC #3

Sample Id: **T1 - 12'**  
Lab Sample Id: 549471-009

Matrix: Soil  
Date Collected: 03.16.17 13.00

Date Received: 03.25.17 10.30  
Sample Depth: 12 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: ALA

Analyst: ALA

Seq Number: 3014044

Date Prep: 04.03.17 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	120	10.0	mg/kg	04.04.17 03.18		1



# Certificate of Analytical Results 549471



## COG Operating LLC, Artesia, NM

State GC #3

Sample Id: **T1 - 14'**  
Lab Sample Id: 549471-010

Matrix: Soil  
Date Collected: 03.16.17 13.05

Date Received: 03.25.17 10.30  
Sample Depth: 14 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: ALA

Analyst: ALA

Seq Number: 3014044

Date Prep: 04.03.17 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	66.7	10.0	mg/kg	04.04.17 03.27		1





# Certificate of Analytical Results 549471



## COG Operating LLC, Artesia, NM

State GC #3

Sample Id: **T2 - Surface**

Matrix: Soil

Date Received: 03.25.17 10.30

Lab Sample Id: 549471-011

Date Collected: 03.16.17 13.20

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: ALA

% Moisture:

Analyst: ALA

Date Prep: 04.03.17 17.00

Basis: Wet Weight

Seq Number: 3014044

SUB: TX104704215

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5920	100	mg/kg	04.05.17 16.42	D	10



# Certificate of Analytical Results 549471



## COG Operating LLC, Artesia, NM

State GC #3

Sample Id: T2 - 1'  
Lab Sample Id: 549471-012

Matrix: Soil  
Date Collected: 03.16.17 13.25

Date Received: 03.25.17 10.30  
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: ALA

Analyst: ALA

Seq Number: 3014044

Date Prep: 04.03.17 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	997	10.0	mg/kg	04.04.17 04.51		1



# Certificate of Analytical Results 549471



## COG Operating LLC, Artesia, NM

State GC #3

Sample Id: T2 - 2'  
Lab Sample Id: 549471-013

Matrix: Soil  
Date Collected: 03.16.17 13.30

Date Received: 03.25.17 10.30  
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: ALA

Analyst: ALA

Seq Number: 3014044

Date Prep: 04.03.17 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	126	10.0	mg/kg	04.04.17 05.01		1



# Certificate of Analytical Results 549471



## COG Operating LLC, Artesia, NM

State GC #3

Sample Id: T2 - 3'  
Lab Sample Id: 549471-014

Matrix: Soil  
Date Collected: 03.16.17 13.33

Date Received: 03.25.17 10.30  
Sample Depth: 3 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: ALA

Analyst: ALA

Seq Number: 3014044

Date Prep: 04.03.17 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	46.6	10.0	mg/kg	04.04.17 05.29		1



# Certificate of Analytical Results 549471



## COG Operating LLC, Artesia, NM

State GC #3

Sample Id: T2 - 4'  
Lab Sample Id: 549471-015

Matrix: Soil  
Date Collected: 03.16.17 13.37

Date Received: 03.25.17 10.30  
Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: ALA

Analyst: ALA

Seq Number: 3014044

Date Prep: 04.03.17 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	35.4	10.0	mg/kg	04.04.17 05.38		1





# Certificate of Analytical Results 549471



## COG Operating LLC, Artesia, NM

State GC #3

Sample Id: T2 - 6'  
Lab Sample Id: 549471-016

Matrix: Soil  
Date Collected: 03.16.17 13.42

Date Received: 03.25.17 10.30  
Sample Depth: 6 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: ALA

Analyst: ALA

Seq Number: 3014044

Date Prep: 04.03.17 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.7	10.0	mg/kg	04.04.17 06.06		1



# Certificate of Analytical Results 549471



## COG Operating LLC, Artesia, NM

State GC #3

Sample Id: T2 - 8'  
Lab Sample Id: 549471-017

Matrix: Soil  
Date Collected: 03.16.17 13.48

Date Received: 03.25.17 10.30  
Sample Depth: 8 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: ALA

% Moisture:

Analyst: ALA

Date Prep: 04.03.17 17.00

Basis: Wet Weight

Seq Number: 3014044

SUB: TX104704215

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.4	10.0	mg/kg	04.04.17 06.15		1



# Certificate of Analytical Results 549471



## COG Operating LLC, Artesia, NM

State GC #3

Sample Id: **T2 - 10'**  
Lab Sample Id: 549471-018

Matrix: Soil  
Date Collected: 03.16.17 13.55

Date Received: 03.25.17 10.30  
Sample Depth: 10 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: ALA

Analyst: ALA

Seq Number: 3014044

Date Prep: 04.03.17 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	53.2	10.0	mg/kg	04.04.17 06.25		1



# Certificate of Analytical Results 549471



## COG Operating LLC, Artesia, NM

State GC #3

Sample Id: T2 - 12'  
Lab Sample Id: 549471-019

Matrix: Soil  
Date Collected: 03.16.17 14.00

Date Received: 03.25.17 10.30  
Sample Depth: 12 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: ALA

Analyst: ALA

Seq Number: 3014044

Date Prep: 04.03.17 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	75.0	10.0	mg/kg	04.04.17 06.34		1



# Certificate of Analytical Results 549471



## COG Operating LLC, Artesia, NM

State GC #3

Sample Id: T2 - 14'  
Lab Sample Id: 549471-020

Matrix: Soil  
Date Collected: 03.16.17 14.05

Date Received: 03.25.17 10.30  
Sample Depth: 14 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Tech: ALA

Analyst: ALA

Seq Number: 3014044

Date Prep: 04.03.17 17.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: TX104704215

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	196	10.0	mg/kg	04.04.17 06.43		1

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

\*\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

+ 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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 2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282

Phone	Fax
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(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	



COG Operating LLC  
State GC #3

## Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3014044

Matrix: Solid

Prep Method: E300P

MB Sample Id: 722517-1-BLK

LCS Sample Id: 722517-1-BKS

Date Prep: 04.03.17

LCSD Sample Id: 722517-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<2.00	20.0	19.7	99	20.0	100	80-120	2	20	mg/kg	04.04.17 02:31	

## Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3014002

Matrix: Solid

Prep Method: E300P

MB Sample Id: 722515-1-BLK

LCS Sample Id: 722515-1-BKS

Date Prep: 04.03.17

LCSD Sample Id: 722515-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<2.00	20.0	20.2	101	19.8	99	80-120	2	20	mg/kg	04.03.17 21:23	

## Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3014044

Matrix: Soil

Prep Method: E300P

Parent Sample Id: 549471-008

MS Sample Id: 549471-008 S

Date Prep: 04.03.17

MSD Sample Id: 549471-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	329	100	425	96	424	95	80-120	0	20	mg/kg	04.04.17 02:59	

## Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3014044

Matrix: Soil

Prep Method: E300P

Parent Sample Id: 549471-013

MS Sample Id: 549471-013 S

Date Prep: 04.03.17

MSD Sample Id: 549471-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	126	100	228	102	227	101	80-120	0	20	mg/kg	04.04.17 05:10	

## Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3014002

Matrix: Solid

Prep Method: E300P

Parent Sample Id: 549470-012

MS Sample Id: 549470-012 S

Date Prep: 04.03.17

MSD Sample Id: 549470-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8090	100	7970	0	7980	0	80-120	0	20	mg/kg	04.03.17 22:09	X

## Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3014002

Matrix: Solid

Prep Method: E300P

Parent Sample Id: 549470-020

MS Sample Id: 549470-020 S

Date Prep: 04.03.17

MSD Sample Id: 549470-020 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	43.6	100	148	104	147	103	80-120	1	20	mg/kg	04.04.17 00:20	

**CHAIN OF CUSTODY**

Page 1 Of 2

Page 1 Of 2

## Setting the Standard since 1990

Stafford, Texas (281-240-4200)  
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**San Antonio, Texas (210-509-3334)**  
**Midland, Texas (432-704-5251)**

[www.xenco.com](http://www.xenco.com)

Phoenix, Arizona (480-355-0900)

**Xenco Quote #**

Xenco Job #

217675 #

## Matrix Codes

 $M = M_{\text{after}}$ 

S = Soil/Sed/Solid

GW = Ground Water

DW = Drinking Water

**P = Product**

SW = Surface water

SL = Sludge

OW = Ocean/Sea Water

WI - wipe  
O = Oil

WW= Waste Water

A = Air

1000000

### Field Comments

Dallas Texas (214-902-0300)						Midland, Texas (432-/04-9251)										
						<a href="http://www.xenco.com">www.xenco.com</a>										
Client / Reporting Information						Project Information										
Company Name / Branch:			COG Operating LLC			Project Name/Number:			State GC #3							
Company Address:			2407 PECOS Avenue Artesia NM 88210			Project Location:			Eddy County,NM							
Email:			<a href="mailto:alleb@concho.com">alleb@concho.com</a>			Phone No: 575-748-1553			Invoice To: COG Operating LLC Attn: Robert McNeill 600 W. Illinois Midland TX 79701							
Project Contact: Aaron Lieb						PO Number:										
Sampler's Name- Aaron Lieb																
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Notes	Matrix Codes
1	T1- SURFACE	-	3/16/17	12:30 PM	S	1										W = Water S = Soil/Sed/Solid GW = Ground Water DW = Drinking Water P = Product SW = Surface water SL = Sludge OW = Ocean/Sea Water WI = Waste O = Oil WW= Waste Water A = Air
2	T1- 1	1		12:31 PM		1										
3	T1- 2	2		12:33 PM		1										
4	T1- 3	3		12:40 PM		1										
5	T1- 4	4		12:45 PM		1										
6	T1- 6	6		12:50 PM		1										
7	T1- 8	8		12:53 PM		1										
8	T1- 10	10		12:57 PM		1										
9	T1- 12	12		1:00 PM		1										
10	T1- 14	14		1:05 PM		1										
Turnaround Time (Business days)																
Data Deliverable Information																
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																
TAT Starts Day received by Lab, if received by 5:00 pm																
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																
Relinquished by Sampler:																
Date Time: Received By: Relinquished By: Date Time:																
Relinquished by:																
Date Time: Received By: Relinquished By: Date Time:																
Relinquished by:																
Date Time: Received By: Relinquished By: Date Time:																
Custody Seal # Preserved where applicable On Ice Corrected Temp: IR ID-R-8																
FED-EX / UPS: Tracking #																





Stafford, Texas (281-240-4200)

Dallas Texas (214-902-0300)

**San Antonio, Texas (210-509-3334)**

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Phoenix, Arizona (480-355-0900)

Xenco Quote #

Xenco Job #

54947

### Matrix Codes

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes				
Company Name / Branch: COG Operating LLC				Project Name/Number: State GQ #3												
Company Address: 2407 PECOS Avenue Artesia NM 88210				Project Location: Eddy County,NM												
Email: <a href="mailto:alieh@concho.com">alieh@concho.com</a> <a href="mailto:dneelz@concho.com">dneelz@concho.com</a> <a href="mailto:raskell@concho.com">raskell@concho.com</a>				Invoice To: COG Operating LLC Attn: Robert McNeill 600 W. Illinois Midland TX 79701												
Project Contact: Aaron Lieb				PO Number:												
Sample's Name: Aaron Lieb																
No.	Field ID / Point of Collection	Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Field Comments
1	T2- SureFire		1	3/16/17	1:20 PM	S	1									chloride
2	T2- 1'		2		1:30 PM		1									
3	T2- 2'		3		1:33 PM		1									
4	T2- 3'		4		1:37 PM		1									
5	T2- 4'		6		1:42 PM		1									
6	T2- 6'		8		1:48 PM		1									
7	T2- 8'		10		1:55 PM		1									
8	T2- 10'		12		2:00 PM		1									
9	T2- 12'		14		2:05 PM		1									
10	T2- 14'															
Turnaround Time (Business days)				Data Deliverable Information				Notes:								
<input type="checkbox"/> Same Day TAT				<input type="checkbox"/> 5 Day TAT				<input type="checkbox"/> Level II Std QC				<input type="checkbox"/> Level IV (Full Data Pkg raw data)				
<input type="checkbox"/> Next Day EMERGENCY				<input type="checkbox"/> 7 Day TAT				<input type="checkbox"/> Level III Std QC+ Forms				<input type="checkbox"/> TRRP Level IV				
<input type="checkbox"/> 2 Day EMERGENCY				<input type="checkbox"/> Contract TAT				<input type="checkbox"/> Level 3 (CLP Forms)				<input type="checkbox"/> UST / RG -411				
<input type="checkbox"/> 3 Day EMERGENCY				<input type="checkbox"/> TRRP Checklist												
TAT Starts Day received by Lab, if received by 5:00 pm																
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																
Relinquished by Sampler:				Date Time: Received By:				Date Time: Relinquished By:								
1 DNEELZ				3/24/17 11:00 A.R. Raskell 11:00 3/24/17				2				DNEELZ				
Relinquished by:				Date Time: Received By:				Date Time: Relinquished By:								
3								3								
Relinquished by:				Date Time: Received By:				Custody Seal #				Preserved where applicable				
5								5								
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 terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such losses 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.																



# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In



Client: COG Operating LLC

Date/ Time Received: 03/25/2017 10:30:00 AM

Work Order #: 549471

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.9
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seal present on shipping container/ cooler?	N/A
#5 *Custody Seals intact on shipping container/ cooler?	N/A
#6 Custody Seals intact on sample bottles?	N/A
#7 *Custody Seals Signed and dated?	N/A
#8 *Chain of Custody present?	Yes
#9 Sample instructions complete on Chain of Custody?	Yes
#10 Any missing/extra samples?	No
#11 Chain of Custody signed when relinquished/ received?	Yes
#12 Chain of Custody agrees with sample label(s)?	Yes
#13 Container label(s) legible and intact?	Yes
#14 Sample matrix/ properties agree with Chain of Custody?	Yes
#15 Samples in proper container/ bottle?	Yes
#16 Samples properly preserved?	Yes
#17 Sample container(s) intact?	Yes
#18 Sufficient sample amount for indicated test(s)?	Yes
#19 All samples received within hold time?	Yes
#20 Subcontract of sample(s)?	N/A
#21 VOC samples have zero headspace?	N/A
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	N/A
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

*Jessica Kramer*

Jessica Kramer

Date: 03/27/2017

Checklist reviewed by:

*Kelsey Brooks*

Kelsey Brooks

Date: 03/27/2017

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

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

NM OIL CONSERVATION

ARTESIA DISTRICT

Form C-141  
Revised August 8, 2011

MAR 07 2017

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

RECEIVED

Release Notification and Corrective Action

NAB1706941748 OPERATOR ☒ Initial Report ☐ Final Report

Name of Company:	COG Operating LLC <u>229137</u>	Contact:	Robert McNeill
Address:	600 West Illinois Avenue, Midland TX 79701	Telephone No.	432-683-7443
Facility Name:	STATE GQ COM #003H	Facility Type:	Tank Battery
Surface Owner:	State	Mineral Owner:	API No. 30-015-40867

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	07	25S	28E	330'	North	380'	East	Eddy

Latitude 32.1509857 Longitude 104.1195908

NATURE OF RELEASE

Type of Release:	Produced Water	Volume of Release:	20bbls	Volume Recovered:	18bbls
Source of Release:	3" Steel Line	Date and Hour of Occurrence:	03/03/17 3:10 pm	Date and Hour of Discovery:	03/03/17 3:10 pm
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?			
By Whom?		Date and Hour:			
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			
If a Watercourse was Impacted, Describe Fully.*					
Describe Cause of Problem and Remedial Action Taken.*					
A hole developed in the middle of a 3" steel line. Replace the steel joint with a new section of steel pipe.					
Describe Area Affected and Cleanup Action Taken.*					
This release was contained on the pad in front of the berm. An estimated area of 20' x 20'. Concho will have the spill site sampled to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation work.					
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.					
Signature: <u>Robert Grubbs Jr.</u>		OIL CONSERVATION DIVISION			
Printed Name: Robert Grubbs Jr.		Approved by Environmental Specialist: <u>Christa D. Weir</u>			
Title: Senior HSE Coordinator		Approval Date: <u>3/10/17</u>		Expiration Date: <u>N/A</u>	
E-mail Address: <u>rgrubbs@concho.com</u>		Conditions of Approval: <u>COAs attached</u>		Attached <input checked="" type="checkbox"/>	
Date: March 7, 2017 Phone: 432-683-7443					

\* Attach Additional Sheets If Necessary

2RP-4139

Operator/Responsible Party,

The OCD has received the form C-141 you provided on **3/7/17** regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4139 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 division-approved corrective action 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 II office in Artesia on or before 4/14/17. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant 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; C<sub>6</sub> thru C<sub>36</sub>), 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; C<sub>6</sub> thru C<sub>36</sub>), 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](mailto:jim.griswold@state.nm.us)

## Weaver, Crystal, EMNRD

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**From:** Robert Grubbs <RGrubbs@concho.com>  
**Sent:** Tuesday, March 7, 2017 8:35 AM  
**To:** Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; 'agroves@slo.state.nm.us'  
**Subject:** (C-141 Initial) STATE GQ COM #003H (TB) 30-015-40867  
**Attachments:** State GQ Com #003H (TB) Initial.pdf

MR. BRATCHER / MS. GROVES,

ATTACHED IS A C-141 FOR YOUR CONSIDERATION. IF YOU HAVE ANY ADDITIONAL QUESTIONS PLEASE FEEL FREE TO CONTACT ME.

THANK YOU,

ROBERT GRUBBS JR.  
SR. HSE COORDINATOR  
432.683.7443 (MAIN)  
432.818.2369 (DIRECT)  
432.661.6601 (CELL)  
432.221.0892 (FAX)  
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ONE CONCHO CENTER  
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