



September 22, 2015

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

**Re: SRO SWD #101  
30-015-26105  
Sec. 5, T26S-R28E  
Eddy County, NM**

Mr. Mike Bratcher,

COG Operating LLC would like to submit for your consideration the enclosed work plan for the above captioned well. The plan is in response to the C-141 Initial report dated August 25, 2015.

### **Background**

The release was reported to COG through the State Land Office and was determined to have been caused by an illegal dump in the pasture near COG flow lines. Due to the lack of information regarding the spill, the amount of fluid released is unknown and encompasses an approximate area of 150' X 300'. The approximate location of the impacted area is 32.064890, -104.100022, and is located about 2 miles west of the intersection of Highway 285 and White's City Road.

### **Groundwater**

Based on the New Mexico Office of the State Engineer Website, the release area would be classified at a site ranking of **Zero** with depth to groundwater at greater than 100' (T26S-R28E).

### **Soil Assessment and Analytical Results**

Sample points noted on the attached Site Diagram are labeled with a B to denote samples taken within the release area.

Sample results for chlorides proved to be elevated for all sample points taken and are summarized on the attached site diagram. Background samples were taken down gradient from the release area and prove to naturally elevate past a depth of 15' as do the samples taken within the release area. The same soil matrix was noted through all sample points were as clay was reached at a depth of 10' followed by increasing amounts

of gypsum with the exception of the background sample in which clay/gypsum was reached at depths closer to 15-20'.

### **Work Plan**

COG Operating LLC proposes a 3' excavation across the release area with backfill consistent with that of a capillary barrier. Crushed rock will be hauled in from an adjacent pit to form a 6" capillary break followed by 18" layer of caliche and 1' of top soil. The top soil will be backfilled to 6" above the normal grade in order to prevent any pooling of precipitation. The remediated area will be reseeded in June of 2016 to ensure timely precipitation for the reestablishment of vegetation.

If there are no objections or further stipulations, COG Operating LLC would like to begin the remediation process based on approval of this work plan. Please feel free to contact me with any questions or concerns at (575) 748-6933.

Sincerely,



Lupe Carrasco  
Environmental Coordinator

Enclosure(s): Site Diagram  
Analytical Results  
C-141 Initial (Copy)



**Site Ranking: Zero**  
**Depth to GW per**  
**SEO: 100'**

| B1  | Cl-   |
|-----|-------|
| 1'  | 24400 |
| 3'  | 8400  |
| 5'  | 4400  |
| 10' | 3200  |
| 15' | 704   |
| 20' | 800   |
| B2  | Cl-   |
| 1'  | 13200 |
| 3'  | 9600  |
| 5'  | 7360  |
| 10' | 1020  |
| 15' | 976   |
| 20' | 1020  |
| B3  | Cl-   |
| 1'  | 7600  |
| 3'  | 2680  |
| 5'  | 416   |
| 10' | 624   |
| 15' | 896   |
| 20' | 992   |
| 25' | 1100  |
| 30' | 1140  |
| B4  | Cl-   |
| 1'  | 9900  |
| 3'  | 9100  |
| 5'  | 2040  |
| 10' | 832   |
| 15' | 784   |
| 20' | 1100  |
| BG  | Cl-   |
| 1'  | ND    |
| 5'  | 32    |
| 10' | ND    |
| 15' | 144   |
| 20' | 896   |

August 27, 2015

LUPE CARRASCO  
COG OPERATING  
P. O. BOX 1630  
ARTESIA, NM 88210

RE: SRO 101

Enclosed are the results of analyses for samples received by the laboratory on 08/21/15 11:07.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

|                  |                              |
|------------------|------------------------------|
| Method EPA 552.2 | Haloacetic Acids (HAA-5)     |
| Method EPA 524.2 | Total Trihalomethanes (TTHM) |
| Method EPA 524.4 | Regulated VOCs (V1, V2, V3)  |

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene  
Lab Director/Quality Manager



**Analytical Results For:**

COG OPERATING  
LUPE CARRASCO  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 08/21/2015  
Reported: 08/27/2015  
Project Name: SRO 101  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 08/18/2015  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Judy Garcia

**Sample ID: B1-1' (H502215-01)**

| Chloride, SM4500CI-B |        | mg/kg           | Analyzed By: HM |              |     |            |               |      |           |
|----------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed        | Method Blank | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 24400  | 16.0            | 08/24/2015      | ND           | 432 | 108        | 400           | 3.77 |           |

**Sample ID: B1-3' (H502215-02)**

| Chloride, SM4500CI-B |        | mg/kg           | Analyzed By: HM |              |     |            |               |      |           |
|----------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed        | Method Blank | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 8400   | 16.0            | 08/24/2015      | ND           | 432 | 108        | 400           | 3.77 |           |

**Sample ID: B1-5' (H502215-03)**

| Chloride, SM4500CI-B |        | mg/kg           | Analyzed By: HM |              |     |            |               |      |           |
|----------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed        | Method Blank | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 4400   | 16.0            | 08/24/2015      | ND           | 432 | 108        | 400           | 3.77 |           |

**Sample ID: B2-1' (H502215-04)**

| Chloride, SM4500CI-B |        | mg/kg           | Analyzed By: HM |              |     |            |               |      |           |
|----------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed        | Method Blank | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 13200  | 16.0            | 08/24/2015      | ND           | 432 | 108        | 400           | 3.77 |           |

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

COG OPERATING  
LUPE CARRASCO  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 08/21/2015  
Reported: 08/27/2015  
Project Name: SRO 101  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 08/18/2015  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Judy Garcia

**Sample ID: B2-3' (H502215-05)**

| Chloride, SM4500CI-B |        | mg/kg           | Analyzed By: HM |              |     |            |               |      |           |
|----------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed        | Method Blank | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 9600   | 16.0            | 08/24/2015      | ND           | 432 | 108        | 400           | 3.77 |           |

**Sample ID: B2-5' (H502215-06)**

| Chloride, SM4500CI-B |        | mg/kg           | Analyzed By: HM |              |     |            |               |      |           |
|----------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed        | Method Blank | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 7360   | 16.0            | 08/24/2015      | ND           | 432 | 108        | 400           | 3.77 |           |

**Sample ID: B3-1' (H502215-07)**

| Chloride, SM4500CI-B |        | mg/kg           | Analyzed By: HM |              |     |            |               |      |           |
|----------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed        | Method Blank | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 7600   | 16.0            | 08/24/2015      | ND           | 432 | 108        | 400           | 3.77 |           |

**Sample ID: B3-3' (H502215-08)**

| Chloride, SM4500CI-B |        | mg/kg           | Analyzed By: HM |              |     |            |               |      |           |
|----------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed        | Method Blank | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 2680   | 16.0            | 08/24/2015      | ND           | 432 | 108        | 400           | 0.00 |           |

**Sample ID: B3-5' (H502215-09)**

| Chloride, SM4500CI-B |        | mg/kg           | Analyzed By: HM |              |     |            |               |      |           |
|----------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed        | Method Blank | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 416    | 16.0            | 08/24/2015      | ND           | 432 | 108        | 400           | 0.00 |           |

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 COG OPERATING  
 LUPE CARRASCO  
 P. O. BOX 1630  
 ARTESIA NM, 88210  
 Fax To: NONE

 Received: 08/21/2015  
 Reported: 08/27/2015  
 Project Name: SRO 101  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 08/18/2015  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Judy Garcia

**Sample ID: B4-1' (H502215-10)**

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: HM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 9900   | 16.0            | 08/24/2015 | ND              | 432 | 108        | 400           | 0.00 |           |

**Sample ID: B4-3' (H502215-11)**

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: HM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 9100   | 16.0            | 08/24/2015 | ND              | 432 | 108        | 400           | 0.00 |           |

**Sample ID: B4-5' (H502215-12)**

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: HM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 2040   | 16.0            | 08/24/2015 | ND              | 432 | 108        | 400           | 0.00 |           |  |

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

|     |  |
|-----|--|
| ND  | Analyte NOT DETECTED at or above the reporting limit   |
| RPD | Relative Percent Difference  |
| **  | Samples not received at proper temperature of 6°C or below.  |
| *** | Insufficient time to reach temperature.  |
| -   | Chloride by SM4500Cl-B does not require samples be received at or below 6°C<br>Samples reported on an as received basis (wet) unless otherwise noted on report |

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**Celestine D. Keene, Lab Director/Quality Manager**





101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: COG Operating LLC  
Project Manager: Lupe Carrasco  
Address: 2208 West Main  
City: Artesia State: NM Zip: 88210  
Phone #: (575) 748-6940 Fax #:   
Project #: Project Owner:   
Project Name: SRO 101  
Project Location:   
Sampler Name: Lupe Carrasco

FOR LAB USE ONLY  
Lab I.D. Sample I.D.  
H502215  
1 B1-1' (G)RAB OR (C)OMP. # CONTAINERS  
2 B1-3' GROUNDWATER  
3 B1-5' WASTEWATER  
4 B2-1' SOIL  
5 B2-3' OIL  
6 B2-5' SLUDGE  
OTHER :  
ACID/BASE:  
ICE / COOL  
OTHER :  
DATE TIME  
8/18/15  
8/18/15  
8/18/15  
8/18/15  
8/18/15  
8/18/15  
BTEX  
TPH  
Chloride  
ANALYSIS REQUEST

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Relinquished By:   
Date: 8/18/15 Received By:   
Time: 11:07  
Delivered By: (Circle One)   
Sampler - UPS - Bus - Other:   
FORM-006 R 2.0

Sample Condition   
Cool ☒ Yes ☐ No   
Intact ☒ Yes ☐ No

CHECKED BY:   
atrujillo@concho.com

Phone Result: ☐ Yes ☐ No Add'l Phone #:   
Fax Result: ☐ Yes ☐ No Add'l Fax #:   
REMARKS: gcarasco@concho.com



101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

|                                 |                      |                            |  |
|---------------------------------|----------------------|----------------------------|--|
| Company Name: COG Operating LLC |                      | P.O. #:                    |  |
| Project Manager: Lupe Carrasco  |                      | Company: COG Operating LLC |  |
| Address: 2208 West Main         |                      | Attn: Robert McNeill       |  |
| City: Artesia                   | State: NM Zip: 88210 | Address: 600 W Illinois    |  |
| Phone #: (575) 748-6940         | Fax #:               | City: Midland              |  |
| Project #:                      |                      | State: TX Zip: 79701       |  |
| Project Name: SRO 101           |                      | Phone #: (432) 221-0388    |  |
| Project Location:               |                      | Fax #:                     |  |
| Sampler Name: Lupe Carrasco     |                      |                            |  |

| FOR LAB USE ONLY |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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August 27, 2015

LUPE CARRASCO  
COG OPERATING  
P. O. BOX 1630  
ARTESIA, NM 88210

RE: SRO 101

Enclosed are the results of analyses for samples received by the laboratory on 08/21/15 11:07.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

|                  |                              |
|------------------|------------------------------|
| Method EPA 552.2 | Haloacetic Acids (HAA-5)     |
| Method EPA 524.2 | Total Trihalomethanes (TTHM) |
| Method EPA 524.4 | Regulated VOCs (V1, V2, V3)  |

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene  
Lab Director/Quality Manager

**Analytical Results For:**

COG OPERATING  
LUPE CARRASCO  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 08/21/2015  
Reported: 08/27/2015  
Project Name: SRO 101  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 08/18/2015  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Judy Garcia

**Sample ID: B1-10' (H502213-01)**

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: HM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 3200   | 16.0            | 08/24/2015 | ND              | 416 | 104        | 400           | 0.00 |           |

**Sample ID: B1-15' (H502213-02)**

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: HM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 704    | 16.0            | 08/24/2015 | ND              | 416 | 104        | 400           | 0.00 |           |

**Sample ID: B1-20' (H502213-03)**

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: HM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 800    | 16.0            | 08/24/2015 | ND              | 416 | 104        | 400           | 0.00 |           |

**Sample ID: B2-10' (H502213-04)**

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: HM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 1020   | 16.0            | 08/24/2015 | ND              | 416 | 104        | 400           | 0.00 |           |

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

COG OPERATING  
LUPE CARRASCO  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 08/21/2015  
Reported: 08/27/2015  
Project Name: SRO 101  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 08/18/2015  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Judy Garcia

**Sample ID: B2-15' (H502213-05)**

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: HM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 976    | 16.0            | 08/24/2015 | ND              | 416 | 104        | 400           | 0.00 |           |

**Sample ID: B2-20' (H502213-06)**

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: HM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 1020   | 16.0            | 08/24/2015 | ND              | 416 | 104        | 400           | 0.00 |           |

**Sample ID: B3-10' (H502213-07)**

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: HM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 624    | 16.0            | 08/24/2015 | ND              | 416 | 104        | 400           | 0.00 |           |

**Sample ID: B3-15' (H502213-08)**

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: HM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 896    | 16.0            | 08/24/2015 | ND              | 416 | 104        | 400           | 0.00 |           |

**Sample ID: B3-20' (H502213-09)**

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: HM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 992    | 16.0            | 08/24/2015 | ND              | 416 | 104        | 400           | 0.00 |           |

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

 COG OPERATING  
 LUPE CARRASCO  
 P. O. BOX 1630  
 ARTESIA NM, 88210  
 Fax To: NONE

 Received: 08/21/2015  
 Reported: 08/27/2015  
 Project Name: SRO 101  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 08/18/2015  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Judy Garcia

**Sample ID: B3-25' (H502213-10)**

| Chloride, SM4500CI-B |        | mg/kg           | Analyzed By: HM |              |     |            |               |      |           |
|----------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed        | Method Blank | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 1100   | 16.0            | 08/24/2015      | ND           | 416 | 104        | 400           | 0.00 |           |

**Sample ID: B3-30' (H502213-11)**

| Chloride, SM4500CI-B |        | mg/kg           | Analyzed By: HM |              |     |            |               |      |           |
|----------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed        | Method Blank | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 1140   | 16.0            | 08/24/2015      | ND           | 416 | 104        | 400           | 0.00 |           |

**Sample ID: B4-10' (H502213-12)**

| Chloride, SM4500CI-B |        | mg/kg           | Analyzed By: HM |              |     |            |               |      |           |
|----------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed        | Method Blank | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 832    | 16.0            | 08/24/2015      | ND           | 416 | 104        | 400           | 0.00 |           |

**Sample ID: B4-15' (H502213-13)**

| Chloride, SM4500CI-B |        | mg/kg           | Analyzed By: HM |              |     |            |               |      |           |
|----------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed        | Method Blank | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 784    | 16.0            | 08/24/2015      | ND           | 416 | 104        | 400           | 0.00 |           |

**Sample ID: B4-20' (H502213-14)**

| Chloride, SM4500CI-B |        | mg/kg           | Analyzed By: HM |              |     |            |               |      |           |
|----------------------|--------|-----------------|-----------------|--------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed        | Method Blank | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 1100   | 16.0            | 08/24/2015      | ND           | 432 | 108        | 400           | 3.77 |           |

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

|     |   |
|-----|---|
| ND  | Analyte NOT DETECTED at or above the reporting limit                            |
| RPD | Relative Percent Difference   |
| **  | Samples not received at proper temperature of 6°C or below.                     |
| *** | Insufficient time to reach temperature.   |
| -   | Chloride by SM4500Cl-B does not require samples be received at or below 6°C     |
|     | Samples reported on an as received basis (wet) unless otherwise noted on report |

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**Celey D. Keene, Lab Director/Quality Manager**

101 East Mariand, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

*Cardinal COC*

Company Name: COG Operating LLC

Project Manager: Lupe Carrasco

Address: 2208 West Main

City: Artesia

Phone #: (575) 748-6940

Project #:

Project Name: SRO 101

Project Location:

Sample Name: Lupe Carrasco

### BILL TO

### ANALYSIS REQUEST

P.O. #:

Company: COG Operating LLC

Attn: Robert McNeill

Address: 600 W Illinois

City: Midland

State: TX Zip: 79701

Phone #: (432) 221-0388

Fax #:

FOR LAB USE ONLY

Lab I.D. Sample I.D.

H502213

1 B1-10'  
2 B1-15'  
3 B1-20'  
4 B2-10'  
5 B2-15'  
6 B2-20'

(G)RAB OR (C)OMP.

# CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER:

ACID/BASE:

ICE / COOL

OTHER:

DATE

TIME

BTEX

TPH

Chloride

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Relinquished By:

Date: 8/18/15 Received By:

Time:

Relinquished By:

Date: 8/21/15 Received By:

Time:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

FORM-006 R 2.0

Sample Condition

Cool

Intact

Yes

No

CHECKED BY:

(Initials)

8/21/15

7:20

Phone Result: ☐ Yes ☐ No Add'l Phone #:  
Fax Result: ☐ Yes ☐ No Add'l Fax #:  
REMARKS: gcarasco@concho.com  
atn:jillio@concho.com





August 27, 2015

LUPE CARRASCO

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: SRO 101

Enclosed are the results of analyses for samples received by the laboratory on 08/21/15 11:07.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

|                  |                              |
|------------------|------------------------------|
| Method EPA 552.2 | Haloacetic Acids (HAA-5)     |
| Method EPA 524.2 | Total Trihalomethanes (TTHM) |
| Method EPA 524.4 | Regulated VOCs (V1, V2, V3)  |

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager



**Analytical Results For:**

 COG OPERATING  
 LUPE CARRASCO  
 P. O. BOX 1630  
 ARTESIA NM, 88210  
 Fax To: NONE

 Received: 08/21/2015  
 Reported: 08/27/2015  
 Project Name: SRO 101  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 08/18/2015  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Judy Garcia

**Sample ID: BG-1' (H502219-01)**

| Chloride, SM4500CI-B |        |                 | mg/kg      |              | Analyzed By: AP |            |               |      |           |
|----------------------|--------|-----------------|------------|--------------|-----------------|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank | BS              | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | <16.0  | 16.0            | 08/26/2015 | ND           | 416             | 104        | 400           | 0.00 |           |

**Sample ID: BG-5' (H502219-02)**

| Chloride, SM4500CI-B |        |                 | mg/kg      |              | Analyzed By: AP |            |               |      |           |
|----------------------|--------|-----------------|------------|--------------|-----------------|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank | BS              | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 32.0   | 16.0            | 08/26/2015 | ND           | 416             | 104        | 400           | 0.00 |           |

**Sample ID: BG-10' (H502219-03)**

| Chloride, SM4500CI-B |        |                 | mg/kg      |              | Analyzed By: AP |            |               |      |           |
|----------------------|--------|-----------------|------------|--------------|-----------------|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank | BS              | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | <16.0  | 16.0            | 08/26/2015 | ND           | 416             | 104        | 400           | 0.00 |           |

**Sample ID: BG-15' (H502219-04)**

| Chloride, SM4500CI-B |        |                 | mg/kg      |              | Analyzed By: AP |            |               |      |           |
|----------------------|--------|-----------------|------------|--------------|-----------------|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank | BS              | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 144    | 16.0            | 08/26/2015 | ND           | 416             | 104        | 400           | 0.00 |           |

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**COG OPERATING  
LUPE CARRASCO  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONEReceived: 08/21/2015  
Reported: 08/27/2015  
Project Name: SRO 101  
Project Number: NONE GIVEN  
Project Location: NOT GIVENSampling Date: 08/18/2015  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Judy Garcia**Sample ID: BG-20' (H502219-05)**

Chloride, SM4500Cl-B

mg/kg

Analyzed By: AP

| Analyte  | Result | Reporting Limit | Analyzed   | Method Blank | BS  | % Recovery | True Value QC | RPD  | Qualifier |
|----------|--------|-----------------|------------|--------------|-----|------------|---------------|------|-----------|
| Chloride | 896    | 16.0            | 08/26/2015 | ND           | 416 | 104        | 400           | 0.00 |           |

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

|     |   |
|-----|---|
| ND  | Analyte NOT DETECTED at or above the reporting limit                            |
| RPD | Relative Percent Difference   |
| **  | Samples not received at proper temperature of 6°C or below.                     |
| *** | Insufficient time to reach temperature.   |
| -   | Chloride by SM4500Cl-B does not require samples be received at or below 6°C     |
|     | Samples reported on an as received basis (wet) unless otherwise noted on report |

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---

**Celey D. Keene, Lab Director/Quality Manager**



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

Form C-141  
Revised August 8, 2011

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

### Release Notification and Corrective Action

#### OPERATOR

☒ Initial Report ☐ Final Report

|   |                            |                      |
|---|----------------------------|----------------------|
| Name of Company: COG Operating LLC                  | Contact: Robert McNeill    |                      |
| Address: 600 West Illinois Avenue, Midland TX 79701 | Telephone No. 432-230-0077 |                      |
| Facility Name: SRO SWD #101                         | Facility Type: SWD         |                      |
| Surface Owner: State                                | Mineral Owner:             | API No. 30-015-26105 |

#### LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|--------|
| G           | 5       | 26S      | 28E   | 1980          | North            | 1980          | East           | Eddy   |

Latitude 32.0734787 Longitude -104.1072769

#### NATURE OF RELEASE

|  |   |  |
|--|---|--|
| Type of Release:<br>Produced Water   | Volume of Release:<br>Unknown             | Volume Recovered:<br>Unknown             |
| Source of Release:<br>Illegal Dump   | Date and Hour of Occurrence:<br>Unknown   | Date and Hour of Discovery:<br>7/20/2015 |
| Was Immediate Notice Given?<br><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required   | If YES, To Whom?                          |  |
| By Whom?   | Date and Hour:                            |  |
| Was a Watercourse Reached?<br><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.*<br>Concho received notification of a spill near COG flowlines. The spill was dry and unclear as to when it occurred. Following an investigation it was determined the release most likely occurred from an illegal dump. The dump site is located off a busy oil field road.   |   |  |
| Describe Area Affected and Cleanup Action Taken.*<br>The impacted area is in the pasture at 32°03'53.34" 104°05'59.40" 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:    | OIL CONSERVATION DIVISION                 |  |
| Printed Name: Amanda Trujillo  | Approved by Environmental Specialist:     |  |
| Title: Senior Environmental Coordinator  | Approval Date:                            | Expiration Date:                         |
| E-mail Address: <a href="mailto:atrujillo@concho.com">atrujillo@concho.com</a>   | Conditions of Approval:                   | Attached <input type="checkbox"/>        |
| Date: August 25, 2015 Phone: 575-748-6940  |   |  |

\* Attach Additional Sheets If Necessary