



March 13, 2015

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

**Re: Patton 5 Fee #2H  
Sec. 5, T19S-R24E  
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 December 3, 2014.

### **Background**

The release was caused by a split in a flow line resulting in the release of 100 barrels of produced water with no fluid recovered. Upon discovery of the split flow line, the line was isolated and fused back together. The released fluid impacted an area in the adjacent pasture measuring approximately 20-80' wide by 600' long.

### **Groundwater**

Based on the information obtained on the NMOSE website, the release area would be classified at a site ranking of Ten with depth to groundwater at greater than 50'. This information comes from a well located approximately 1 mile Southeast of the location.

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

Sample points were taken with the use of a soil coring rig. Sample points are depicted on the attached Site Diagram labeled as B for samples taken on January 12, 2015 and BA for those taken on February 19, 2015. Sampling of the release area was difficult in January due to over saturated soils from winter precipitation and the high water holding capacity of the underlying soils (soils in this area are comprised of high clay content). After initial sample results were obtained, it was determined that further delineation of the area was required. Sample cores taken in February were taken in as close proximity to the initial bores due to plugging of the January soil bores.

Sample results indicate that TPH and BTEX levels were non-detect for the initial cores taken at a depth of 1'. Chloride results were elevated for all sample points taken and

delineated to show a decrease in concentrations. B2 and B2A were sampled in a pooling area that was naturally bermed by the surrounding landscape before the fluid made its way down the hill. Sample point B4A could only be delineated to 15' due to high moisture content in the underlying clay-loam matrix. The visual soil profile in this area consisted of a loam to a depth of 8 – 10' with clay content increasing further in depth. The areas of B5A and B6A were of a loam matrix for the top 3-4' and increased in clay content as depth increased. Copies of the Analytical Results along with a Sample Summary Table are attached for your consideration.

### **Work Plan**

COG Operating LLC purposes that the remediation of the release area consist of a 5' excavation for the areas of B1, B2, B3, and B4 with the placement of a liner and backfill with like material. These areas exist within the natural slope of the landscape and although a 3' excavation with a liner placed below this point would suffice for regrowth, there is concern that future precipitation could affect the backfilled area. Erosion control berms would be installed in the attempt to prevent erosion problems. Any excavation of greater than 5' would cause greater impact to the surrounding area and pose a safety concern during installation of the liner. The area associated with the Centurion and Kinder Morgan Pipelines would be excavated and backfilled in accordance to their protocols when excavating within their right of ways. The areas of B5A and B6A would be excavated to a depth of 4' and backfilled with like material.

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,

A handwritten signature in black ink, appearing to read 'Lupe Carrasco', written in a cursive style.

Lupe Carrasco  
Environmental Coordinator

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



# Patton 5 Fee #2H

## Sec. 5, T19S-R24E

Released: 100 B/PW

### Legend

- Patton Release
- Sampled 2/19/15
- Sampled 1/12/15

1/12/2015	
B1	CI-
1'	10500
2'	14400
3'	16600
4'	16400
6'	15800
8'	6080
10'	7600
12'	3480
14'	2680
B2	CI-
1'	11100
3'	7400
4'	14600
6'	15800
8'	14400
10'	16200
12'	13600
14'	8400
16'	14100
18'	12700
20'	11300
B3	CI-
1'	10200
2'	15400
3'	20800
4'	19600
6'	14800
8'	9200
10'	9400
12'	9060
14'	5280
16'	2480
18'	1880
20'	496
B4	CI-
1'	3520
2'	5840
3'	12000
4'	6930
6'	9860
8'	7730

2/19/2015	
B1A	CI-
1'	9860
5'	13000
10'	6660
15'	3920
20'	368
B2A	CI-
1'	8400
5'	12500
10'	13900
15'	11500
20'	12500
25'	3520
30'	3040
35'	3760
40'	2040
45'	1920
B4A	CI-
1'	2480
5'	7200
10'	7040
15'	2920
B5A	CI-
1'	14400
3'	6320
5'	400
B6A	CI-
1'	6000
3'	2520
5'	464





## Patton 5 Fee #2H Sampling

1/12/2015	
B1	CI-
1'	10500
2'	14400
3'	16600
4'	16400
6'	15800
8'	6080
10'	7600
12'	3480
14'	2680
B2	CI-
1'	11100
3'	7400
4'	14600
6'	15800
8'	14400
10'	16200
12'	13600
14'	8400
16'	14100
18'	12700
20'	11300
B3	CI-
1'	10200
2'	15400
3'	20800
4'	19600
6'	14800
8'	9200
10'	9400
12'	9060
14'	5280
16'	2480
18'	1880
20'	496
B4	CI-
1'	3520
2'	5840
3'	12000
4'	6930
6'	9860
8'	7730

2/19/2015	
B1A	CI-
1'	9860
5'	13000
10'	6660
15'	3920
20'	368
B2A	CI-
1'	8400
5'	12500
10'	13900
15'	11500
20'	12500
25'	3520
30'	3040
35'	3760
40'	2040
45'	1920
B4A	CI-
1'	2480
5'	7200
10'	7040
15'	2920
B5A	CI-
1'	14400
3'	6320
5'	400
B6A	CI-
1'	6000
3'	2520
5'	464



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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February 23, 2015

GARRETT MERKET

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: PATTON 5

Enclosed are the results of analyses for samples received by the laboratory on 02/19/15 16:54.

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/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/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  
 GARRETT MERKET  
 P. O. BOX 1630  
 ARTESIA NM, 88210  
 Fax To: NONE

 Received: 02/19/2015  
 Reported: 02/23/2015  
 Project Name: PATTON 5  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 02/19/2015  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: B1A- 1' (H500495-01)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	9860	16.0	02/20/2015	ND	416	104	400	3.92		

**Sample ID: B1A- 5' (H500495-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	13000	16.0	02/20/2015	ND	416	104	400	3.92	

**Sample ID: B1A- 10' (H500495-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6660	16.0	02/20/2015	ND	416	104	400	3.92	

**Sample ID: B1A- 15' (H500495-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3920	16.0	02/20/2015	ND	416	104	400	3.92	

Cardinal Laboratories

\* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

COG OPERATING  
GARRETT MERKET  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 02/19/2015  
Reported: 02/23/2015  
Project Name: PATTON 5  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 02/19/2015  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

**Sample ID: B1A- 20' (H500495-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	02/20/2015	ND	416	104	400	3.92	

**Sample ID: B2A- 1' (H500495-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8400	16.0	02/20/2015	ND	416	104	400	3.92	

**Sample ID: B2A- 5' (H500495-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	12500	16.0	02/20/2015	ND	416	104	400	3.92	

**Sample ID: B2A- 10' (H500495-08)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	13900	16.0	02/20/2015	ND	416	104	400	3.92	

**Sample ID: B2A- 15' (H500495-09)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	11500	16.0	02/20/2015	ND	416	104	400	3.92		

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

COG OPERATING  
GARRETT MERKET  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 02/19/2015  
Reported: 02/23/2015  
Project Name: PATTON 5  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 02/19/2015  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

**Sample ID: B2A- 20' (H500495-10)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	12500	16.0	02/20/2015	ND	416	104	400	3.92	

**Sample ID: B2A- 25' (H500495-11)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3520	16.0	02/23/2015	ND	416	104	400	3.92		

**Sample ID: B4A- 1' (H500495-12)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2480	16.0	02/23/2015	ND	416	104	400	3.92	

**Sample ID: B4A- 5' (H500495-13)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7200	16.0	02/23/2015	ND	416	104	400	3.92	

**Sample ID: B4A- 10' (H500495-14)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7040	16.0	02/23/2015	ND	416	104	400	3.92	

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

COG OPERATING  
GARRETT MERKET  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 02/19/2015  
Reported: 02/23/2015  
Project Name: PATTON 5  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 02/19/2015  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

**Sample ID: B5A- 1' (H500495-15)**

Chloride, SM4500Cl-B			mg/kg							
			Analyzed By: AP							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	14400	16.0	02/23/2015	ND	416	104	400	3.92		

**Sample ID: B5A- 3' (H500495-16)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6320	16.0	02/23/2015	ND	416	104	400	3.92	

**Sample ID: B5A- 5' (H500495-17)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	02/23/2015	ND	416	104	400	3.92	

**Sample ID: B6A- 1' (H500495-18)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6000	16.0	02/23/2015	ND	416	104	400	3.92	

**Sample ID: B6A- 3' (H500495-19)**

Chloride, SM4500Cl-B			mg/kg								Analyzed By: AP	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier			
Chloride	2520	16.0	02/23/2015	ND	416	104	400	3.92				

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

COG OPERATING  
GARRETT MERKET  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 02/19/2015  
Reported: 02/23/2015  
Project Name: PATTON 5  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 02/19/2015  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

**Sample ID: B6A- 5' (H500495-20)****Chloride, SM4500Cl-B****mg/kg****Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	464	16.0	02/23/2015	ND	416	104	400	3.92	

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\*=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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Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <b>Crutcher Resources</b>		P.O. #:	
Project Manager: <b>Ernest Webb</b>		Company:	
Address:		Attn:	
City:	State:	Zip:	
Phone #:	Fax #:	Address:	
Project #:		City:	State:
Project Name: <b>Patton</b>		Zip:	
Project Location:		Phone #:	
Sampler Name:		Fax #:	

FOR LAB USE ONLY		MATRIX		PRESERV	SAMPLING
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER
		SOIL	OIL	SLUDGE	OTHER
		ACID/BASE:	ICE / COOL	OTHER :	
		DATE	TIME		

1	B3A-1'	6	X	2/19/15	X	CHLORIDE
2	B3A-5'	6	X	2/19/15	X	
3	B3A-10'	6	X	2/19/15	X	
4	B3A-15'	6	X	2/19/15	X	
5	B3A-20'	6	X	2/19/15	X	
6	B3A-1'	6	X	2/19/15	X	
7	B3A-5'	6	X	2/19/15	X	
8	B3A-10'	6	X	2/19/15	X	
9	B3A-15'	6	X	2/19/15	X	
10	B3A-20'	6	X	2/19/15	X	

PLEASE NOTE: Liability and Damages. Cardinal's liability and claims are limited to the amount paid by the client for the service. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages including without limitation, business interruptions, loss of use or loss of profits incurred by client, as subcontractors, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: <b>Ernest Webb</b>	Date: <b>2/19/15</b>	Received By: <b>John Henderson</b>
Relinquished By:	Date:	Received By:
Time:		

Delivered By: (Circle One)	Sample Condition	CHECKED BY: <b>[Signature]</b>
Sampler - UPS - Bus - Other:	<input type="checkbox"/> Cool <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	

Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
REMARKS:	





## Page 9 of 9

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

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

---

February 26, 2015

GARRETT MERKET  
COG OPERATING  
P. O. BOX 1630  
ARTESIA, NM 88210

RE: PATTON 5

Enclosed are the results of analyses for samples received by the laboratory on 02/25/15 10:30.

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/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/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  
GARRETT MERKET  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONEReceived: 02/25/2015  
Reported: 02/26/2015  
Project Name: PATTON 5  
Project Number: NONE GIVEN  
Project Location: NOT GIVENSampling Date: 02/19/2015  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson**Sample ID: B2A - 30' (H500528-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3040	16.0	02/26/2015	ND	400	100	400	3.92	

**Sample ID: B2A - 35' (H500528-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3760	16.0	02/26/2015	ND	400	100	400	3.92	

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

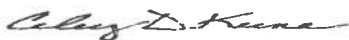
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received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

---

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\*=Accredited Analyte

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---

Celey D. Keene, Lab Director/Quality Manager





February 26, 2015

GARRETT MERKET

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: PATTON 5

Enclosed are the results of analyses for samples received by the laboratory on 02/25/15 10:30.

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/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/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  
GARRETT MERKET  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONEReceived: 02/25/2015  
Reported: 02/26/2015  
Project Name: PATTON 5  
Project Number: NONE GIVEN  
Project Location: NOT GIVENSampling Date: 02/19/2015  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson**Sample ID: B2A- 40' (H500530-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2040	16.0	02/26/2015	ND	400	100	400	3.92		

**Sample ID: B2A- 45' (H500530-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1920	16.0	02/26/2015	ND	400	100	400	3.92		

Cardinal Laboratories

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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

---

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager





**COG Operating LLC**

Page 4 of 4

February 26, 2015

GARRETT MERKET

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: PATTON 5

Enclosed are the results of analyses for samples received by the laboratory on 02/25/15 10:30.

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  
GARRETT MERKET  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONEReceived: 02/25/2015  
Reported: 02/26/2015  
Project Name: PATTON 5  
Project Number: NONE GIVEN  
Project Location: NOT GIVENSampling Date: 02/19/2015  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson**Sample ID: B4A - 15' (H500531-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2920	16.0	02/26/2015	ND	400	100	400	3.92	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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**	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





CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: COG Operating LLC		<b>BILL TO</b>		ANALYSIS REQUEST																							
Project Manager: Garrett Merkel		P.O. #:																									
Address: 2208 West Main		Company: COG Operating LLC																									
City: Artesia		Attn: Robert McNeill																									
State: NM		Address: 600 W Illinois																									
Zip: 88210		City: Midland																									
Phone #: (575) 748-6940		State: TX																									
Fax #: Project Owner:		Zip: 79701																									
Project Name: Patton		Phone #: (432) 221-0388																									
Project Location:		Fax #:																									
Sampler Name: Garrett Merkel		MATRIX		PRESERV		SAMPLING																					
FOR LAB USE ONLY		(G)RAB OR (C)OMP		# CONTAINERS		GROUNDWATER		WASTEWATER																			
Lab I.D. Sample I.D.		SOIL		OIL		SLUDGE		OTHER		ACID/BASE		ICE / COOL		OTHER													
H500531		B4A-15		X		2/19/15		DATE		TIME		BTX		TPH		Chloride											
PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal. Regardless of whether such claim is based upon any of the above stated reasons or otherwise.		Relinquished By: [Signature]		Date: 3/30/15		Time: 10:30 am		Received By: [Signature]		Date: 3/30/15		Time: 10:30 am		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #: [Blank]											
Delivered By: (Circle One)		Sample Condition		CHECKED BY: [Signature]		REMARKS: gcarra@concho.com		Add'l Fax #: [Blank]																			
FORM 986 R 2.0		Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>		YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		4.60c		#54																			
Sampler - UPS - Bus - Other:		Sample Condition		CHECKED BY: [Signature]		REMARKS: gcarra@concho.com		Add'l Phone #: [Blank]																			



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

---

January 20, 2015

LUPE CARRASCO

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: PATTON 5 FEE #2H

Enclosed are the results of analyses for samples received by the laboratory on 01/14/15 14:00.

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/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/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: 01/14/2015  
Reported: 01/20/2015  
Project Name: PATTON 5 FEE #2H  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/12/2015  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: B1 - 1' (H500137-01)**

BTEX 8021B		mg/kg	Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/16/2015	ND	1.62	81.2	2.00	10.6	
Toluene*	<0.050	0.050	01/16/2015	ND	1.57	78.7	2.00	11.7	
Ethylbenzene*	<0.050	0.050	01/16/2015	ND	1.54	77.2	2.00	11.8	
Total Xylenes*	<0.150	0.150	01/16/2015	ND	4.64	77.4	6.00	12.3	
Total BTEX	<0.300	0.300	01/16/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.4 % 61-154

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10500	16.0	01/16/2015	ND	432	108	400	0.00	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/15/2015	ND	187	93.6	200	8.50	
DRO >C10-C28	<10.0	10.0	01/15/2015	ND	209	104	200	15.9	

Surrogate: 1-Chlorooctane 102 % 47.2-157

Surrogate: 1-Chlorooctadecane 119 % 52.1-176

**Sample ID: B1 - 2' (H500137-02)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	14400	16.0	01/16/2015	ND	432	108	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: 01/14/2015  
Reported: 01/20/2015  
Project Name: PATTON 5 FEE #2H  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/12/2015  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: B1 - 3' (H500137-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16600	16.0	01/16/2015	ND	432	108	400	0.00	

**Sample ID: B1 - 4' (H500137-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16400	16.0	01/16/2015	ND	432	108	400	0.00	

**Sample ID: B1 - 6' (H500137-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	15800	16.0	01/16/2015	ND	432	108	400	0.00	

**Sample ID: B1 - 8' (H500137-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6080	16.0	01/16/2015	ND	432	108	400	0.00	

**Sample ID: B1 - 10' (H500137-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7600	16.0	01/16/2015	ND	432	108	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: 01/14/2015  
Reported: 01/20/2015  
Project Name: PATTON 5 FEE #2H  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/12/2015  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: B2 - 1' (H500137-08)**

BTEX 8021B			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/16/2015	ND	1.62	81.2	2.00	10.6	
Toluene*	<0.050	0.050	01/16/2015	ND	1.57	78.7	2.00	11.7	
Ethylbenzene*	<b>0.054</b>	0.050	01/16/2015	ND	1.54	77.2	2.00	11.8	
Total Xylenes*	<0.150	0.150	01/16/2015	ND	4.64	77.4	6.00	12.3	
Total BTEX	<0.300	0.300	01/16/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 61-154

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>11100</b>	16.0	01/16/2015	ND	432	108	400	0.00	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/15/2015	ND	181	90.6	200	6.29	
DRO >C10-C28	<10.0	10.0	01/15/2015	ND	184	91.9	200	12.1	

Surrogate: 1-Chlorooctane 91.7 % 47.2-157

Surrogate: 1-Chlorooctadecane 110 % 52.1-176

**Sample ID: B2 - 3' (H500137-09)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>7400</b>	16.0	01/16/2015	ND	432	108	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: 01/14/2015  
 Reported: 01/20/2015  
 Project Name: PATTON 5 FEE #2H  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 01/12/2015  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: B2 - 4' (H500137-10)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	14600	16.0	01/16/2015	ND	432	108	400	0.00	

**Sample ID: B2 - 6' (H500137-11)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	15800	16.0	01/16/2015	ND	432	108	400	0.00	

**Sample ID: B2 - 8' (H500137-12)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	14400	16.0	01/16/2015	ND	432	108	400	0.00	

**Sample ID: B2 - 10' (H500137-13)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16200	16.0	01/16/2015	ND	432	108	400	0.00	

Cardinal Laboratories

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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: 01/14/2015  
Reported: 01/20/2015  
Project Name: PATTON 5 FEE #2H  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/12/2015  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: B3 - 1' (H500137-14)**

BTEX 8021B		mg/kg	Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/16/2015	ND	1.62	81.2	2.00	10.6	
Toluene*	<0.050	0.050	01/16/2015	ND	1.57	78.7	2.00	11.7	
Ethylbenzene*	<0.050	0.050	01/16/2015	ND	1.54	77.2	2.00	11.8	
Total Xylenes*	<0.150	0.150	01/16/2015	ND	4.64	77.4	6.00	12.3	
Total BTEX	<0.300	0.300	01/16/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 61-154

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10200	16.0	01/16/2015	ND	432	108	400	0.00	

TPH 8015M		mg/kg	Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/16/2015	ND	181	90.6	200	6.29	
DRO >C10-C28	<10.0	10.0	01/16/2015	ND	184	91.9	200	12.1	

Surrogate: 1-Chlorooctane 104 % 47.2-157

Surrogate: 1-Chlorooctadecane 117 % 52.1-176

**Sample ID: B3 - 2' (H500137-15)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	15400	16.0	01/16/2015	ND	448	112	400	7.41	

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: 01/14/2015  
 Reported: 01/20/2015  
 Project Name: PATTON 5 FEE #2H  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 01/12/2015  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: B3 - 3' (H500137-16)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	20800	16.0	01/16/2015	ND	448	112	400	7.41	

**Sample ID: B3 - 4' (H500137-17)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	19600	16.0	01/16/2015	ND	448	112	400	7.41	

**Sample ID: B3 - 6' (H500137-18)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	14800	16.0	01/16/2015	ND	448	112	400	7.41	

**Sample ID: B3 - 8' (H500137-19)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9200	16.0	01/16/2015	ND	448	112	400	7.41	

**Sample ID: B3 - 10' (H500137-20)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9400	16.0	01/16/2015	ND	448	112	400	7.41	

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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: 01/14/2015  
Reported: 01/20/2015  
Project Name: PATTON 5 FEE #2H  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/12/2015  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: B4 - 1' (H500137-21)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/19/2015	ND	1.79	89.5	2.00	13.9	
Toluene*	<0.050	0.050	01/19/2015	ND	1.81	90.4	2.00	16.3	
Ethylbenzene*	<0.050	0.050	01/19/2015	ND	1.77	88.5	2.00	14.9	
Total Xylenes*	<0.150	0.150	01/19/2015	ND	5.33	88.8	6.00	14.6	
Total BTX	<0.300	0.300	01/19/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 61-154

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3520	16.0	01/16/2015	ND	448	112	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/16/2015	ND	181	90.6	200	6.29	
DRO >C10-C28	<10.0	10.0	01/16/2015	ND	184	91.9	200	12.1	

Surrogate: 1-Chlorooctane 101 % 47.2-157

Surrogate: 1-Chlorooctadecane 114 % 52.1-176

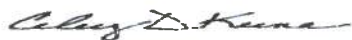
**Sample ID: B4 - 2' (H500137-22)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5840	16.0	01/16/2015	ND	448	112	400	7.41	

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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: 01/14/2015  
Reported: 01/20/2015  
Project Name: PATTON 5 FEE #2H  
Project Number: NONE GIVEN  
Project Location: NOT GIVENSampling Date: 01/12/2015  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson**Sample ID: B4 - 3' (H500137-23)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	12000	16.0	01/16/2015	ND	448	112	400	7.41	

**Sample ID: B4 - 4' (H500137-24)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6930	16.0	01/16/2015	ND	448	112	400	7.41	

**Sample ID: B4 - 6' (H500137-25)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9860	16.0	01/16/2015	ND	448	112	400	7.41	

**Sample ID: B4 - 8' (H500137-26)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7730	16.0	01/16/2015	ND	448	112	400	7.41	

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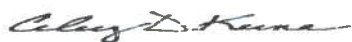


Caley D. Keene, Lab Director/Quality Manager



### Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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





CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: COG Operating LLC		<b>BILL TO</b>		ANALYSIS REQUEST																					
Project Manager: Lupe Carrasco		P.O. #:																							
Address: 2208 West Main		Company: COG Operating LLC																							
City: Artesia		Attn: Robert McNeill																							
Phone #: (575) 748-6940		Address: 600 W Illinois																							
Project #:		City: Midland																							
Project Name: Patton 5 Fee #2H		State: TX Zip: 79701																							
Project Location:		Phone #: (432) 221-0388																							
Sampler Name: Lupe Carrasco		Fax #:																							
FOR LAB USE ONLY		MATRIX		PRESERV.		SAMPLING																			
Lab I.D.		(G)RAB OR (C)OMP		ACID/BASE		ICE / COOL		OTHER																	
Sample I.D.		# CONTAINERS		GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER											
H500R37		DATE		TIME		BTX		TPH		Chloride															
8 B2-1'		1/12/14				X		X		X															
9 B2-3'		1/12/14								X															
10 B2-4'		1/12/14								X															
11 B2-6'		1/12/14								X															
12 B2-8'		1/12/14								X															
13 B2-10'		1/12/14								X															
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Relinquished By:		Date:		Time:		Received By:		Date:		Time:															
Relinquished By: [Signature]		Date: 1/13/14		Time: 3:00		Received By: [Signature]		Date: 1/13/14		Time: 4:30															
Delivered By: (Circle One)		Sample Condition		Checked By:		Phone Result:		Fax Result:		Add'l Phone #:															
FORM 996 R 2.0		Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>		[Signature]		<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:															
Sampler - UPS - Bus - Other:		4.80		[Signature]		[Signature]		[Signature]		[Signature]															





Page 13 of 14

Page 13 of 14







PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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January 27, 2015

GARRETT MERKET

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: PATTON 5

Enclosed are the results of analyses for samples received by the laboratory on 01/23/15 13:00.

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/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/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  
 GARRETT MERKET  
 P. O. BOX 1630  
 ARTESIA NM, 88210  
 Fax To: NONE

 Received: 01/23/2015  
 Reported: 01/27/2015  
 Project Name: PATTON 5  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 01/12/2015  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: B1 - 12' (H500229-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3480	16.0	01/26/2015	ND	400	100	400	3.92	

**Sample ID: B1 - 14' (H500229-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2680	16.0	01/26/2015	ND	400	100	400	3.92	

**Sample ID: B2 - 12' (H500229-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	13600	16.0	01/26/2015	ND	400	100	400	3.92	

**Sample ID: B2 - 14' (H500229-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8400	16.0	01/26/2015	ND	400	100	400	3.92	

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

COG OPERATING  
GARRETT MERKET  
P. O. BOX 1630  
ARTESIA NM, 88210  
Fax To: NONE

Received: 01/23/2015  
Reported: 01/27/2015  
Project Name: PATTON 5  
Project Number: NONE GIVEN  
Project Location: NOT GIVEN

Sampling Date: 01/12/2015  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

**Sample ID: B2 - 16' (H500229-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	14100	16.0	01/26/2015	ND	400	100	400	3.92	

**Sample ID: B2 - 18' (H500229-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	12700	16.0	01/26/2015	ND	400	100	400	3.92	

**Sample ID: B2 - 20' (H500229-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	11300	16.0	01/26/2015	ND	400	100	400	3.92	

**Sample ID: B3 - 12' (H500229-08)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9060	16.0	01/26/2015	ND	400	100	400	3.92	

**Sample ID: B3 - 14' (H500229-09)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5280	16.0	01/26/2015	ND	400	100	400	3.92	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 COG OPERATING  
 GARRETT MERKET  
 P. O. BOX 1630  
 ARTESIA NM, 88210  
 Fax To: NONE

 Received: 01/23/2015  
 Reported: 01/27/2015  
 Project Name: PATTON 5  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 01/12/2015  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: B3 - 16' (H500229-10)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2480	16.0	01/26/2015	ND	400	100	400	3.92	

**Sample ID: B3 - 18' (H500229-11)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1880	16.0	01/26/2015	ND	400	100	400	3.92	

**Sample ID: B3 - 20' (H500229-12)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	01/26/2015	ND	400	100	400	3.92	

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Caley D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

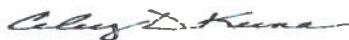
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received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

---

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\*=Accredited Analyte

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---

Celey 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		P.O. #:		<b>BILL TO</b>									
Project Manager: Garrett Merkel		Company: COG Operating LLC		<b>ANALYSIS REQUEST</b>									
Address: 2208 West Main		Attn: Robert McNeill											
City: Artesia		Address: 600 W Illinois											
Phone #: (575) 748-6940		City: Midland											
Fax #: (575) 748-6940		State: TX Zip: 79701											
Project #: Patton 5		Phone #: (432) 221-0388											
Project Location:		Fax #:											
Sampler Name: Garrett Merkel		PRESERV.											
FOR LAB USE ONLY		MATRIX											
Lab I.D. Sample I.D.		GROUNDWATER											
H500224		WASTEWATER											
B1-12'		SOIL											
B1-14'		OIL											
B2-12'		SLUDGE											
B2-14'		OTHER											
B2-16'		ACID/BASE											
B2-18'		ICE / COOL											
B2-20'		OTHER											
B3-12'		DATE											
B3-14'		TIME											
B3-16'		BTEX											
		TPH											
		Chloride											

PLEASE NOTE: Liability and Damages: Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: <i>1/13/15</i>	Received By: <i>1/13/15</i>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #: _____
Date: <i>1/13/15</i>	Time: <i>1:00 pm</i>	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #: _____
Time: _____	Remarks: <i>16.20</i>	REMARKS: <i>gcarnasco@concho.com</i>	
Time: _____		<i>atrujillo@concho.com, gmerkel@concho.com</i>	

Delivered By: (Circle One) FORM 06 R 2.0 Sampler - UPS - Bus - Other:	Sample Condition Cool <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CHECKED BY: <i>1/13/15</i>
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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: Patton 5 Fee #2H	Facility Type: Battery	
Surface Owner: Fee	Mineral Owner: Fee	API No. 30-015-39815

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	5	19S	26E	1040	North	330	West	Eddy

Latitude 32.6943346809995 Longitude -104.411977186383

**NATURE OF RELEASE**

Type of Release: Produced Water	Volume of Release: 100 bbls	Volume Recovered: 0 bbls
Source of Release: Flowline	Date and Hour of Occurrence: 12/2/2014 3:27 pm	Date and Hour of Discovery: 12/2/2014 3:27 pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher - NMOCD	
By Whom? Amanda Trujillo	Date and Hour: 12/3/2014 3:00 pm	
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.* The release was caused by a split in a poly flowline. The line was fused back together.		
Describe Area Affected and Cleanup Action Taken.* The impacted area is approximately 600'x20' to SE of the location off the edge of the battery. 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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Amanda Trujillo	Approved by Environmental Specialist:	
Title: Senior Environmental Coordinator	Approval Date:	Expiration Date:
E-mail Address: atrujillo@concho.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: December 3, 2014 Phone: 575-748-6940		

\* Attach Additional Sheets If Necessary