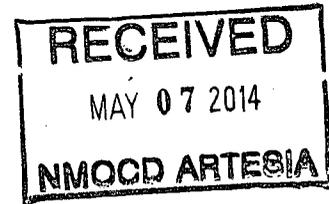




Lupe Carrasco  
Environmental Coordinator

May 7, 2014

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



Re: Myox 32 State #001H  
30-015-41641  
Sec. 32, T25S-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 3/27/14.

### **Background**

The release was due to a valve being left open at the SWD 101 which was tied to an open-ended line. The valve at the SWD was closed and transition valves were installed on all open-ended lines. The area impacted measured approximately 1-2' wide x 850' long. The initial release consisted of 30 barrels of produced water with 0 barrels recovered. The initial cleanup was excavated down to approximately 12-18" and was hauled to an approved NMOCD facility for disposal.

### **Groundwater**

Based on the New Mexico Office of the State Engineer website, the release area would be classified at a site ranking of Zero (~100').

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

Delineation samples were taken along the impacted area labeled as S1, S2, S3, S4, S5, S6, S7, S8, and S9 on the attached Site Diagram. Background samples were also taken outside of the impacted area, labeled as BG 1 and BG 2 on the attached Site Diagram. Attached for your consideration is a copy of a Line Graph showing the correlation between background samples and delineation samples, a Sample Summary Table, Analytical Results, and a copy of the NRCS Soil Survey for the area.

Sample results show TPH and BTEX levels to be non-detect with elevated chloride concentrations above background for S1, S2, S3, S4, S5, S7, and S9 at a depth of 2'. S7

shows elevated levels down to a depth of 4' with 6' just slightly above background which poses no threats to root development and groundwater.

### **Work Plan**

COG proposes that S1, S2, S3, S4, S5, and S9 be excavated to a depth of 2', S7 to a depth of 4', and with no further excavation for S6 and S8. All impacted material excavated will be hauled and disposed at a NMOCD approved facility. Backfill of the excavation would consist of caliche with a 1' top soil cover and the addition of soil erosion controls. S6 and S8 would be backfilled with topsoil due to the areas initial excavation of approximately 12-18" in depth.

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 my with any questions or concerns at (575) 748-6933

Sincerely,

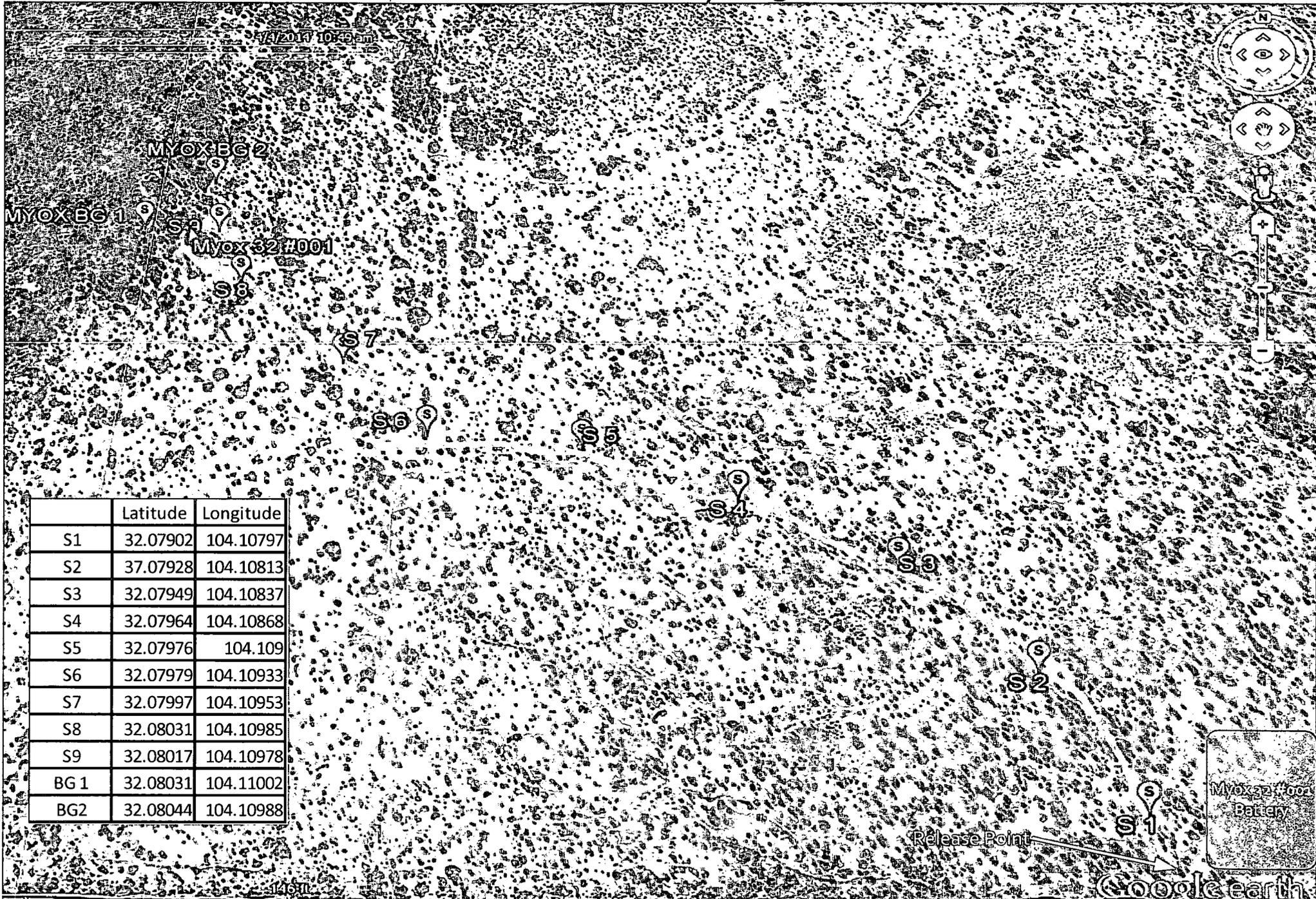


Lupe Carrasco  
Environmental Coordinator

Enclosed:    Site Diagram  
                  Line Graph  
                  Sample Summary Table  
                  Analytical Results  
                  NRCS Soil Survey  
                  C-141 Initial

May 6, 2014

# Myox 32 State #001H



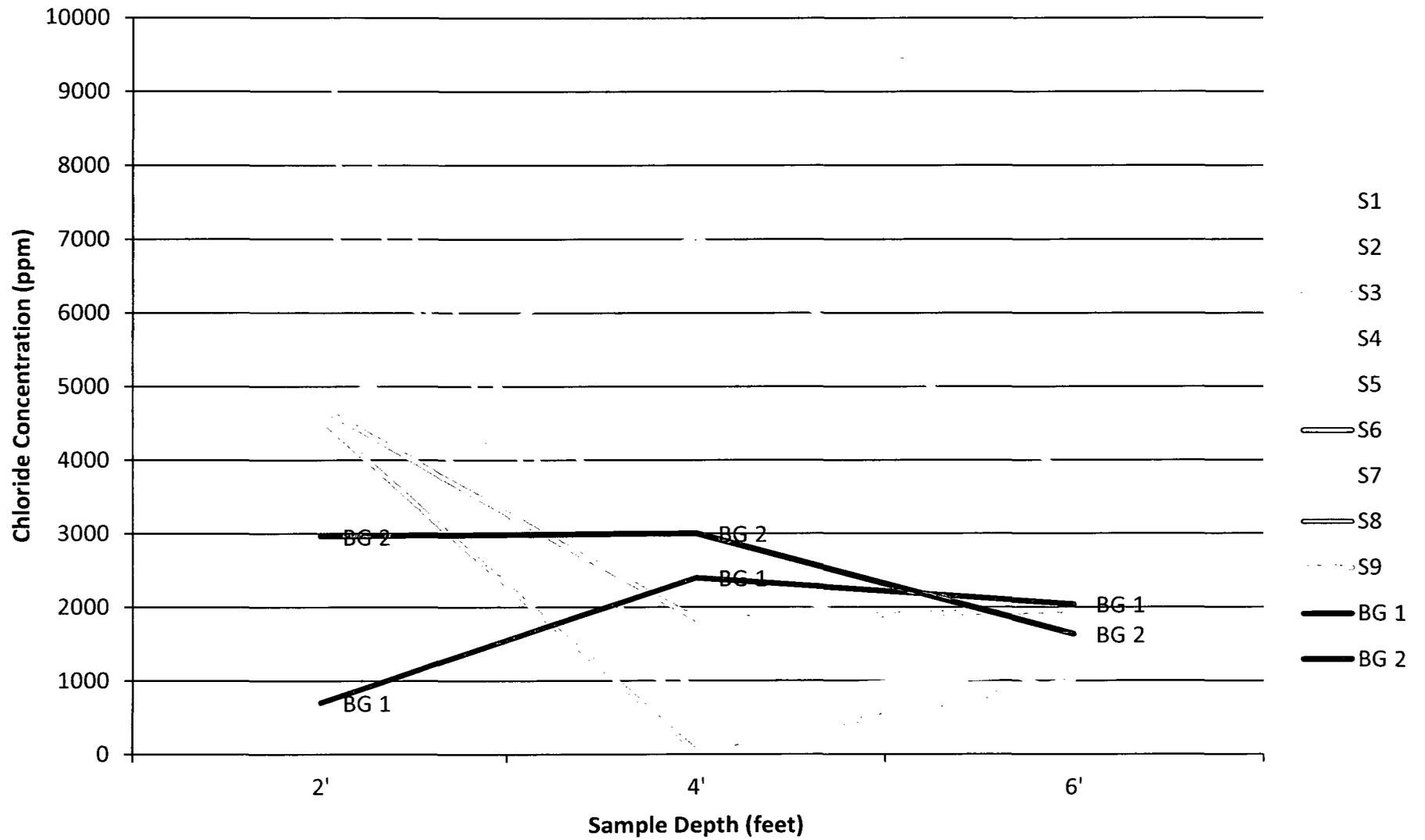
	Latitude	Longitude
S1	32.07902	104.10797
S2	37.07928	104.10813
S3	32.07949	104.10837
S4	32.07964	104.10868
S5	32.07976	104.109
S6	32.07979	104.10933
S7	32.07997	104.10953
S8	32.08031	104.10985
S9	32.08017	104.10978
BG 1	32.08031	104.11002
BG2	32.08044	104.10988

Release Point

Myox 32 floor Battery

Google earth

# Myox 32 State #001H



Myox 32 State #001H

Site Ranking: Zero

Depth to GW per SEO: ~100'

S1	DRO	GRO	TPH	BTEX	Cl-
2'	13.1	ND	ND	ND	7200
4'					2600
6'					784
S2	DRO	GRO	TPH	BTEX	Cl-
2'	ND	ND	ND	ND	9330
4'					176
6'					192
S3	DRO	GRO	TPH	BTEX	Cl-
2'	ND	ND	ND	ND	4560
4'					48
6'					1020
S4	DRO	GRO	TPH	BTEX	Cl-
2'	ND	ND	ND	ND	8400
4'					192
6'					80
S5	DRO	GRO	TPH	BTEX	Cl-
2'	ND	ND	ND	ND	5680
4'					848
6'					1100
S6	DRO	GRO	TPH	BTEX	Cl-
2'	ND	ND	ND	ND	32
S7	DRO	GRO	TPH	BTEX	Cl-
2'	ND	ND	ND	ND	4720
4'					7040
6'					3760
S8	DRO	GRO	TPH	BTEX	Cl-
2'	ND	ND	ND	ND	1360
S9	DRO	GRO	TPH	BTEX	Cl-
2'	ND	ND	ND	ND	4720
4'					1840
6'					1960
Background #1	DRO	GRO	TPH	BTEX	Cl-
2'					704
4'					2400
6'					2040
Background #2	DRO	GRO	TPH	BTEX	Cl-
2'					2960
4'					3000
6'					1630
1' was excavated during initial excavation.					

	Latitude	Longitude
S1	32.07902	104.10797
S2	37.07928	104.10813
S3	32.07949	104.10837
S4	32.07964	104.10868
S5	32.07976	104.109
S6	32.07979	104.10933
S7	32.07997	104.10953
S8	32.08031	104.10985
S9	32.08017	104.10978
BG 1	32.08031	104.11002
BG2	32.08044	104.10988



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

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April 10, 2014

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

RE: MYOX 32 #001

Enclosed are the results of analyses for samples received by the laboratory on 04/04/14 15:40.

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,

A handwritten signature in cursive script that reads "Celey D. Keene".

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: 04/04/2014  
 Reported: 04/10/2014  
 Project Name: MYOX 32 #001  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 04/04/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S3 2' (H401034-03)**

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	04/08/2014	ND	2.50	125	2.00	1.27		
Toluene*	<0.050	0.050	04/08/2014	ND	2.33	116	2.00	1.56		
Ethylbenzene*	<0.050	0.050	04/08/2014	ND	2.22	111	2.00	1.44		
Total Xylenes*	<0.150	0.150	04/08/2014	ND	6.37	106	6.00	1.34		
Total BTEX	<0.300	0.300	04/08/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 117 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4560	16.0	04/09/2014	ND	400	100	400	3.92		

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	04/08/2014	ND	196	98.1	200	1.61		
DRO >C10-C28	<10.0	10.0	04/08/2014	ND	211	105	200	2.34		

Surrogate: 1-Chlorooctane 88.2 % 65.2-140

Surrogate: 1-Chlorooctadecane 82.5 % 63.6-154

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: 04/04/2014  
 Reported: 04/10/2014  
 Project Name: MYOX 32 #001  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

Sampling Date: 04/04/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S4 2' (H401034-04)**

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	04/09/2014	ND	2.50	125	2.00	1.27	
Toluene*	<0.050	0.050	04/09/2014	ND	2.33	116	2.00	1.56	
Ethylbenzene*	<0.050	0.050	04/09/2014	ND	2.22	111	2.00	1.44	
Total Xylenes*	<0.150	0.150	04/09/2014	ND	6.37	106	6.00	1.34	
Total BTEX	<0.300	0.300	04/09/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 118 % 89.4-126

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	04/09/2014	ND	400	100	400	3.92	

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	04/08/2014	ND	196	98.1	200	1.61	
DRO >C10-C28	<10.0	10.0	04/08/2014	ND	211	105	200	2.34	

Surrogate: 1-Chlorooctane 85.0 % 65.2-140

Surrogate: 1-Chlorooctadecane 77.9 % 63.6-154

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: 04/04/2014  
 Reported: 04/10/2014  
 Project Name: MYOX 32 #001  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 04/04/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S5 2' (H401034-05)**

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	04/09/2014	ND	2.50	125	2.00	1.27		
Toluene*	<0.050	0.050	04/09/2014	ND	2.33	116	2.00	1.56		
Ethylbenzene*	<0.050	0.050	04/09/2014	ND	2.22	111	2.00	1.44		
Total Xylenes*	<0.150	0.150	04/09/2014	ND	6.37	106	6.00	1.34		
Total BTEX	<0.300	0.300	04/09/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 119 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5680	16.0	04/09/2014	ND	400	100	400	3.92		

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	04/08/2014	ND	196	98.1	200	1.61		
DRO >C10-C28	<10.0	10.0	04/08/2014	ND	211	105	200	2.34		

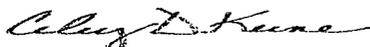
Surrogate: 1-Chlorooctane 96.7 % 65.2-140

Surrogate: 1-Chlorooctadecane 92.4 % 63.6-154

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\* = 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: 04/04/2014  
 Reported: 04/10/2014  
 Project Name: MYOX 32 #001  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 04/04/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S6 2' (H401034-06)**

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	04/09/2014	ND	2.50	125	2.00	1.27		
Toluene*	<0.050	0.050	04/09/2014	ND	2.33	116	2.00	1.56		
Ethylbenzene*	<0.050	0.050	04/09/2014	ND	2.22	111	2.00	1.44		
Total Xylenes*	<0.150	0.150	04/09/2014	ND	6.37	106	6.00	1.34		
Total BTEX	<0.300	0.300	04/09/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 117 % 89.4-126

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>32.0</b>	16.0	04/10/2014	ND	416	104	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	04/08/2014	ND	196	98.1	200	1.61		
DRO >C10-C28	<10.0	10.0	04/08/2014	ND	211	105	200	2.34		

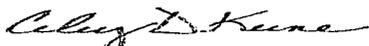
Surrogate: 1-Chlorooctane 93.7 % 65.2-140

Surrogate: 1-Chlorooctadecane 88.7 % 63.6-154

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\* = 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: 04/04/2014  
 Reported: 04/10/2014  
 Project Name: MYOX 32 #001  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 04/04/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S7 2' (H401034-07)**

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	04/09/2014	ND	2.50	125	2.00	1.27		
Toluene*	<0.050	0.050	04/09/2014	ND	2.33	116	2.00	1.56		
Ethylbenzene*	<0.050	0.050	04/09/2014	ND	2.22	111	2.00	1.44		
Total Xylenes*	<0.150	0.150	04/09/2014	ND	6.37	106	6.00	1.34		
Total BTEX	<0.300	0.300	04/09/2014	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 117 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4720	16.0	04/10/2014	ND	416	104	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	04/08/2014	ND	196	98.1	200	1.61		
DRO >C10-C28	<10.0	10.0	04/08/2014	ND	211	105	200	2.34		

Surrogate: 1-Chlorooctane 99.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 94.3 % 63.6-154

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: 04/04/2014  
 Reported: 04/10/2014  
 Project Name: MYOX 32 #001  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 04/04/2014  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: S9 2' (H401034-09)**

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	04/09/2014	ND	2.19	109	2.00	4.47	
Toluene*	<0.050	0.050	04/09/2014	ND	2.09	105	2.00	3.09	
Ethylbenzene*	<0.050	0.050	04/09/2014	ND	2.02	101	2.00	3.47	
Total Xylenes*	<0.150	0.150	04/09/2014	ND	5.81	96.8	6.00	3.75	
Total BTEX	<0.300	0.300	04/09/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 120 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4720	16.0	04/10/2014	ND	416	104	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	04/08/2014	ND	196	98.1	200	1.61	
DRO >C10-C28	<10.0	10.0	04/08/2014	ND	211	105	200	2.34	

Surrogate: 1-Chlorooctane 107 % 65.2-140

Surrogate: 1-Chlorooctadecane 102 % 63.6-154

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

---

Cardinal Laboratories

\*=Accredited Analyte

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---

Celest D. Keene, Lab Director/Quality Manager



May 02, 2014

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

RE: MYOX 32 #001

Enclosed are the results of analyses for samples received by the laboratory on 04/25/14 16:25.

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: 04/25/2014  
 Reported: 05/02/2014  
 Project Name: MYOX 32 #001  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 04/23/2014  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: S1 - 4' (H401259-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2600	16.0	04/30/2014	ND	400	100	400	0.00		

**Sample ID: S1 - 6' (H401259-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	784	16.0	04/30/2014	ND	400	100	400	0.00		

**Sample ID: S2 - 4' (H401259-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	176	16.0	04/30/2014	ND	400	100	400	0.00		

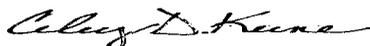
**Sample ID: S2 - 6' (H401259-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	04/30/2014	ND	400	100	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: 04/25/2014  
 Reported: 05/02/2014  
 Project Name: MYOX 32 #001  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 04/23/2014  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: S3 - 4' (H401259-05)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	04/30/2014	ND	400	100	400	0.00		

**Sample ID: S3 - 6' (H401259-06)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1020	16.0	04/30/2014	ND	400	100	400	0.00		

**Sample ID: S4 - 4' (H401259-07)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	04/30/2014	ND	400	100	400	0.00		

**Sample ID: S4 - 6' (H401259-08)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	04/30/2014	ND	400	100	400	0.00		

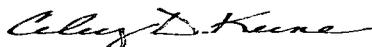
**Sample ID: S5 - 4' (H401259-09)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	848	16.0	04/30/2014	ND	400	100	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: 04/25/2014  
 Reported: 05/02/2014  
 Project Name: MYOX 32 #001  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 04/23/2014  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: S5 - 6' (H401259-10)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1100	16.0	04/30/2014	ND	400	100	400	0.00		

**Sample ID: S7 - 4' (H401259-11)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	7040	16.0	04/30/2014	ND	400	100	400	0.00		

**Sample ID: S7 - 6' (H401259-12)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3760	16.0	04/30/2014	ND	400	100	400	0.00		

**Sample ID: S9 - 4' (H401259-13)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1840	16.0	04/30/2014	ND	400	100	400	0.00		

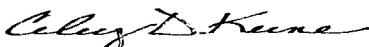
**Sample ID: S9 - 6' (H401259-14)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1960	16.0	04/30/2014	ND	400	100	400	0.00		

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Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

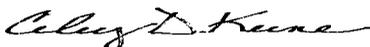
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported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

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---

Celey D. Keene, Lab Director/Quality Manager







April 11, 2014

LUPE CARRASCO

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: MYOX 32 #001

Enclosed are the results of analyses for samples received by the laboratory on 04/04/14 15:40.

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).

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Sincerely,

A handwritten signature in black ink that reads 'Celey D. Keene'.

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: <u>COB</u>		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>																					
Project Manager: <u>Lupe Carrasco</u>		P.O. #:																							
Address: <u>7208 W. Main St.</u>		Company:																							
City: <u>Artesia</u> State: <u>NM</u> Zip: <u>88210</u>		Attn:																							
Phone #: <u>748-6933</u> Fax #:		Address:																							
Project #: _____ Project Owner:		City:																							
Project Name: <u>Max 32 #001</u>		State: _____ Zip: _____																							
Project Location:		Phone #:																							
Sampler Name: <u>Lupe Carrasco</u>		Fax #:																							
FOR LAB USE ONLY																									
Lab I.D.	Sample I.D.	GRAB OR (COMP. # CONTAINERS	MATRIX													PRESERV.		SAMPLING		DATE	TIME				
			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:														
<u>H4D1035</u>																									
<u>1</u>	<u>Background #1</u>	<u>X</u>										<u>4/4/19</u>													
<u>2</u>	<u>Background #2</u>	<u>X</u>										<u>4/4/19</u>													

Chlorides

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Relinquished By: <u>Lupe Carrasco</u>	Date: <u>4/4/19</u>	Received By: <u>Spai Nenson</u>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
	Time: <u>3:40pm</u>		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: <u>gcarrasco@concho.com</u>
Delivered By: (Circle One)	Sample Condition	CHECKED BY:	
Sampler - UPS - Bus - Other:	<u>2.8g</u> Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/>	<u>[Signature]</u>	

#54

May 02, 2014

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

RE: MYOX 32 #001

Enclosed are the results of analyses for samples received by the laboratory on 04/25/14 16:25.

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

 Received: 04/25/2014  
 Reported: 05/02/2014  
 Project Name: MYOX 32 #001  
 Project Number: NONE GIVEN  
 Project Location: NOT GIVEN

 Sampling Date: 04/23/2014  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: BG 1- 4' (H401258-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2400	16.0	04/30/2014	ND	400	100	400	0.00		

**Sample ID: BG 1- 6' (H401258-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2040	16.0	04/30/2014	ND	400	100	400	0.00		

**Sample ID: BG 2- 4' (H401258-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3000	16.0	04/30/2014	ND	400	100	400	0.00		

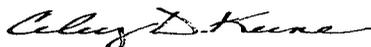
**Sample ID: BG 2- 6' (H401258-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1630	16.0	04/30/2014	ND	400	100	400	0.00		

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**Notes and Definitions**

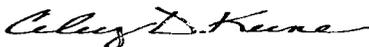
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
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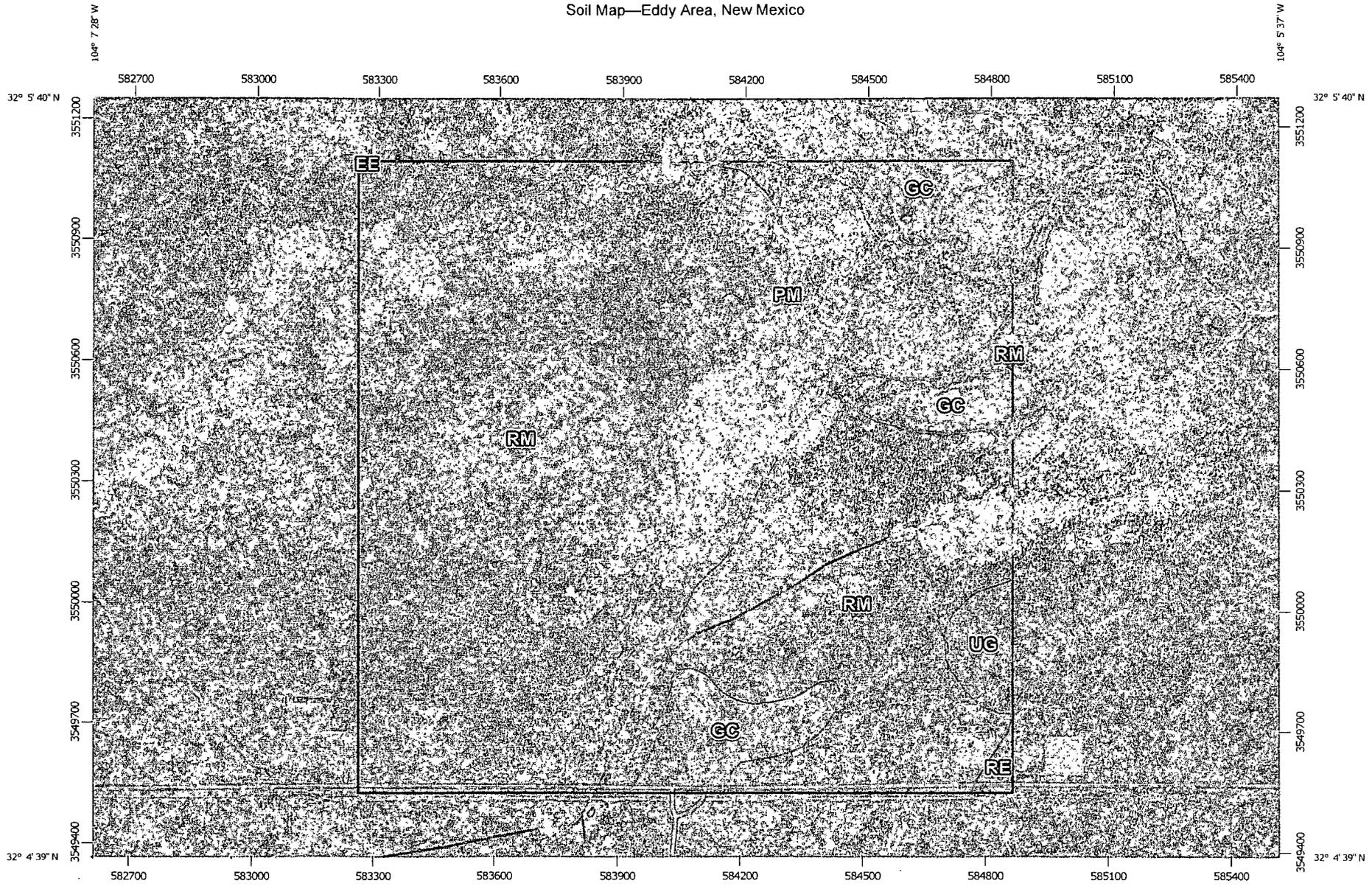


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Celey D. Keene, Lab Director/Quality Manager



Soil Map—Eddy Area, New Mexico



Map Scale: 1:13,300 if printed on A landscape (11" x 8.5") sheet.

0 150 300 600 900 Meters

0 500 1000 2000 3000 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

### MAP LEGEND

- |                               |   |                        |   |                       |
|-------------------------------|---|------------------------|---|-----------------------|
| <b>Area of Interest (AOI)</b> |    | Area of Interest (AOI) |  | Spoil Area            |
| <b>Soils</b>                  |    | Soil Map Unit Polygons |  | Stony Spot            |
|                               |    | Soil Map Unit Lines    |  | Very Stony Spot       |
|                               |    | Soil Map Unit Points   |  | Wet Spot              |
| <b>Special Point Features</b> |    | Blowout                |  | Other                 |
|                               |    | Borrow Pit             |  | Special Line Features |
|                               |    | Clay Spot              | <b>Water Features</b>   |                       |
|                               |    | Closed Depression      |  | Streams and Canals    |
|                               |    | Gravel Pit             | <b>Transportation</b>   |                       |
|                               |    | Gravelly Spot          |  | Rails                 |
|                               |    | Landfill               |  | Interstate Highways   |
|                               |    | Lava Flow              |  | US Routes             |
|                               |    | Marsh or swamp         |  | Major Roads           |
|                               |    | Mine or Quarry         |  | Local Roads           |
|                               |    | Miscellaneous Water    | <b>Background</b>   |                       |
|                               |   | Perennial Water        |  | Aerial Photography    |
|                               |  | Rock Outcrop           |   |                       |
|                               |  | Saline Spot            |   |                       |
|                               |  | Sandy Spot             |   |                       |
|                               |  | Severely Eroded Spot   |   |                       |
|                               |  | Sinkhole               |   |                       |
|                               |  | Slide or Slip          |   |                       |
|                               |  | Sodic Spot             |   |                       |

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Eddy Area, New Mexico  
 Survey Area Data: Version 10, Dec 17, 2013

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 4, 2011—Mar 20, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Eddy Area, New Mexico (NM614)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
EE	Ector extremely rocky loam, 9 to 25 percent slopes	0.3	0.0%
GC	Gypsum land-Cottonwood complex, 0 to 3 percent slopes	52.3	8.4%
PM	Pima silt loam, 0 to 1 percent slopes	125.4	20.1%
RE	Reagan-Upton association, 0 to 9 percent slopes	2.3	0.4%
RM	Reeves-Reagan loams, 0 to 3 percent slopes	433.3	69.5%
UG	Upton gravelly loam, 0 to 9 percent slopes	10.3	1.7%
<b>Totals for Area of Interest</b>		<b>623.9</b>	<b>100.0%</b>

## Eddy Area, New Mexico

### GC—Gypsum land-Cottonwood complex, 0 to 3 percent slopes

#### Map Unit Setting

*Elevation:* 3,000 to 5,000 feet  
*Mean annual precipitation:* 10 to 14 inches  
*Mean annual air temperature:* 60 to 64 degrees F  
*Frost-free period:* 190 to 220 days

#### Map Unit Composition

*Gypsum land:* 60 percent  
*Cottonwood and similar soils:* 30 percent

#### Description of Gypsum Land

##### Setting

*Landform:* Plains, hills, ridges  
*Landform position (two-dimensional):* Backslope, footslope, shoulder, toeslope  
*Landform position (three-dimensional):* Side slope, crest, nose slope, head slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from gypsum

##### Interpretive groups

*Farmland classification:* Not prime farmland  
*Land capability (nonirrigated):* 8s  
*Hydrologic Soil Group:* C

#### Description of Cottonwood

##### Setting

*Landform:* Hills, ridges  
*Landform position (two-dimensional):* Backslope, footslope, shoulder, toeslope  
*Landform position (three-dimensional):* Crest, nose slope, side slope, head slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Linear  
*Parent material:* Residuum weathered from gypsum

##### Properties and qualities

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* 3 to 12 inches to paralithic bedrock  
*Drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.20 to 2.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None

*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 15 percent  
*Gypsum, maximum content:* 5 percent  
*Maximum salinity:* Nonsaline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 1.0  
*Available water capacity:* Very low (about 1.2 inches)

**Interpretive groups**

*Farmland classification:* Not prime farmland  
*Land capability (nonirrigated):* 6s  
*Hydrologic Soil Group:* C  
*Ecological site:* Gyp Upland (R042XC006NM)

**Typical profile**

*0 to 8 inches:* Loam  
*8 to 60 inches:* Bedrock

## Data Source Information

Soil Survey Area: Eddy Area, New Mexico  
Survey Area Data: Version 10, Dec 17, 2013

## Eddy Area, New Mexico

### RM—Reeves-Reagan loams, 0 to 3 percent slopes

#### Map Unit Setting

*Elevation:* 3,000 to 4,400 feet

*Mean annual precipitation:* 10 to 14 inches

*Mean annual air temperature:* 60 to 64 degrees F

*Frost-free period:* 200 to 220 days

#### Map Unit Composition

*Reeves and similar soils:* 50 percent

*Reagan and similar soils:* 35 percent

#### Description of Reeves

##### Setting

*Landform:* Ridges, plains, hills

*Landform position (two-dimensional):* Backslope, footslope, shoulder, toeslope

*Landform position (three-dimensional):* Side slope, crest, nose slope, head slope

*Down-slope shape:* Convex

*Across-slope shape:* Linear

*Parent material:* Residuum weathered from gypsum

##### Properties and qualities

*Slope:* 0 to 1 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Well drained

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 25 percent

*Gypsum, maximum content:* 80 percent

*Maximum salinity:* Nonsaline to slightly saline (2.0 to 8.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 4.0

*Available water capacity:* Low (about 4.3 inches)

##### Interpretive groups

*Farmland classification:* Not prime farmland

*Land capability classification (irrigated):* 3s

*Land capability (nonirrigated):* 7s

*Hydrologic Soil Group:* B

*Ecological site:* Loamy (R042XC007NM)

##### Typical profile

*0 to 8 inches:* Loam

*8 to 32 inches:* Clay loam

*32 to 60 inches:* Gypsiferous material

## Description of Reagan

### Setting

*Landform:* Fan remnants, alluvial fans  
*Landform position (three-dimensional):* Rise  
*Down-slope shape:* Convex, linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium and/or eolian deposits

### Properties and qualities

*Slope:* 0 to 3 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water*  
*(Ksat):* Moderately high to high (0.60 to 2.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 50 percent  
*Maximum salinity:* Nonsaline to slightly saline (2.0 to 8.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 15.0  
*Available water capacity:* Moderate (about 8.2 inches)

### Interpretive groups

*Farmland classification:* Not prime farmland  
*Land capability classification (irrigated):* 2e  
*Land capability (nonirrigated):* 6e  
*Hydrologic Soil Group:* B  
*Ecological site:* Loamy (R042XC007NM)

### Typical profile

*0 to 8 inches:* Loam  
*8 to 30 inches:* Loam  
*30 to 82 inches:* Clay loam

## Data Source Information

Soil Survey Area: Eddy Area, New Mexico  
Survey Area Data: Version 10, Dec 17, 2013

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
100 Rio Brazos Road, Aztec, NM 87410  
District IV  
20 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

**RECEIVED**  
MAR 27 2014  
**NMOCD ARTESIA**

Form C-141  
Revised October 10, 2003  
Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**Release Notification and Corrective Action**

*nHP 1409041462* OPERATOR  Initial Report  Final Report

Name of Company	COG OPERATING LLC <i>229137</i>	Contact	Pat Ellis
Address	600 West Illinois Avenue, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Myox 32 State #001H	Facility Type	Flowline
Surface Owner State	Mineral Owner	Lease No. (API#) 30-015-41641	

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	32S	25	28E					Eddy
				Latitude 32 04.729		Longitude 104 06.475		

**NATURE OF RELEASE**

Type of Release Produced water	Volume of Release 22bbbls	Volume Recovered 0bbbls
Source of Release Polyline	Date and Hour of Occurrence 03-12-2014	Date and Hour of Discovery 03-12-2014 4:00pm
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

Was a Watercourse Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*  
A valve was left open at the SWD 101 to an open-ended line. Closed the valve the SWD and placed a transition valves on all open-ended lines.

Describe Area Affected and Cleanup Action Taken.\*  
Initially 30bbbls of produced water were released. We were unable to recover any of produced water. All free fluids have been recovered. 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: <i>Robert Grubbs Jr.</i>		<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Robert Grubbs Jr.		Approved by District Supervisor: <i>[Signature]</i>	
Title: Senior Environmental Coordinator		Approval Date: <i>3-31-14</i>	Expiration Date: <i>NA</i>
E-mail Address: rgrubbs@concho.com		Conditions of Approval:	
Date: 03-27-2014 Phone: 432-661-6601		Attached <input type="checkbox"/>	

Attach Additional Sheets If Necessary

Remediation per OCD Rule &  
Guidelines. **SUBMIT REMEDIATION  
PROPOSAL NO LATER THAN:**

5-1-14

*2RP-2236*