



2057 Commerce Drive
Midland, TX 79703

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September 21, 2017

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

Shelly Tucker
Carlsbad Field Office
United States Department of the Interior
Bureau of Land Management
620 E. Greene Street
Carlsbad, New Mexico 88220

Re: Soil Investigation Summary and Proposed Remediation Workplan
Yellowstone 3 Federal #003 (2RP-3668)
GPS: N 32.0699768° W 104.3898697°
Unit Letter "L", Section 3, Township 26 South, Range 25 East
Eddy County, New Mexico

Dear Mr. Bratcher and Ms. Tucker,

TRC Environmental Corporation (TRC), on behalf of COG Operating, LLC (COG) has prepared this Soil Investigation Summary and Proposed Remediation Workplan (Workplan) for the Yellowstone 3 Federal #003 Release Site (Release Site). The purpose of this Workplan is to propose remediation activities designed to advance the Yellowstone 3 Federal #003 Release Site toward a New Mexico Oil Conservation Division (NMOCD) approved Site Closure Status. The legal description of the Release Site is Unit Letter "L", Section 3, Township 26 South, Range 25 East, in Eddy County, New Mexico. The GPS coordinates for the site are N 32.0699768° W 104.3898697°. The subject property is administered by the United States Bureau of Land Management (BLM). A Site Location Map and Site Map are provided as Figure 1 and Figure 2, respectively.

On April 12, 2016, COG discovered a produced water release from a hole in the load line. The release measured approximately 2,605 square feet in area. On April 28, 2016, submitted a Release Notification and Corrective Action (Form C-141) to the NMOCD. During initial response activities, COG dispatched a vacuum truck to remove all freestanding fluids. Approximately fifteen (15) barrels of fluid was released from the load line, with approximately twelve (12) barrels recovered. The Form C-141 is attached to this report.

A groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) did not identify any registered water wells in Section 3, Township 26 South, Range 25 East. A reference map utilized by the New Mexico Oil Conservation Division (NMOCD) Eddy District Office indicates groundwater should be encountered at approximately twenty five (25) feet below ground surface (bgs). Based on the NMOCD site classification system, twenty (20) points will be assigned to the subject area ranking as a result of this criterion.

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

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

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

On May 25, 2016, a COG representative collected twenty nine (29) delineation soil samples (S1-1', S1-2', S1-3', S1-4', S1-6', S1-8', S1-10', S1-12', S2-1', S2-2', S2-3', S2-3', S2-4', S2-6', S2-8', S2-10', S2-12', S3-Surface, S3-1', S3-2', S3-3', S3-4', S3-6', S3-8', S4-1', S4-2', S4-3', S4-4', S4-6', and S4-7') from the impacted area (see attached Figure 2 and Table 1 for sample locations and analytical results). The soil samples were submitted to Cardinal Laboratories in Hobbs, New Mexico for determination of chloride using Method SM 4500 Cl-B. Chloride concentrations ranged from less than the applicable laboratory Method Detection Limit (MDL) for soil samples S2-3', S2-4', S4-3', S4-4' and S4-6' to 36,800 mg/Kg for soil sample S3-Surface. A review of laboratory analytical results indicated chloride concentrations were below NMOCD regulatory guidelines for the submitted soil samples, with the exception of soil samples S1-3', S2-1', S2-2', S2-10', S2-12', S3-1', S3-Surface, S3-2', S4-1', and S4-2'.

On July 12, 2016, a COG representative advanced two (2) trenches and collected four (4) soil samples (BG1-8', BG2-1', BG2-8', and BG2-10') outside of the release area and submitted to the laboratory for chloride analysis. Laboratory analytical results indicated chloride concentrations ranged from less than the applicable laboratory MDL for soil sample BG2-1' to 176 mg/Kg for soil sample BG1-8', which are below NMOCD regulatory guidelines.

On January 10, 2017, a COG representative advanced one (1) trench in the vicinity of trench S1 and collected and submitted nine (9) soil samples (T1-1', T1-2', T1-3', T1-4', T1-5', T1-6', T1-8', T1-10', and T1-11') to the laboratory for BTEX analysis (Method SW 846-8021BM), TPH analysis (Method 846-8015M), and/or chloride analysis (Method SM 4500 CL-B). Laboratory analytical results indicated benzene, BTEX, and TPH concentrations for the submitted samples were less than the applicable laboratory MDL and NMOCD regulatory guidelines. Laboratory analytical results indicated chloride concentrations ranged from 144 mg/Kg for soil sample T1-3' to 1,600 mg/Kg for soil sample T1-1'. A review of laboratory analytical results indicated chloride concentrations were below NMOCD regulatory guidelines for soil samples T1-3' and T1-4'.

On March 7, 2017, a COG representative advanced one (1) trench in the vicinity of trenches S2 and S3 and collected and submitted three (3) soil samples (T2-12', T2-14', and T2-16') to the laboratory for chloride analysis. Laboratory analytical results indicated chloride concentrations for soil samples T2-12', T2-14', and T2-16' were 353 mg/Kg, 288 mg/Kg, and 416 mg/Kg, respectively, and above NMOCD regulatory guidelines.

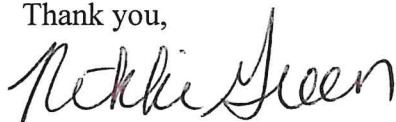
Based on the analytical results of the soil samples collected on March 25, 2016 through March 7, 2017, COG proposes the following field activities designed to remediate the Yellowstone 3 Federal #003:

- Utilizing a backhoe, excavate the Release Site to a depth of approximately three (3) feet bgs in the area represented by trench S1 and to approximately two (2) feet bgs in the areas represented by trenches S2, S3, and S4. The excavated soils will be stockpiled on a plastic liner adjacent to the excavation pending transportation to a NMOCD approved disposal facility.
- Following excavation activities, the excavation will be backfilled with locally purchased non-impacted "like" soil.
- The excavated soil will be transported under manifest to an NMOCD approved disposal facility.
- Prepare and submit a "Remediation Summary and Site Closure Request" to the NMOCD and NMSLO.

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

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

Thank you,



Nikki Green
Project Manager
TRC Environmental Corporation



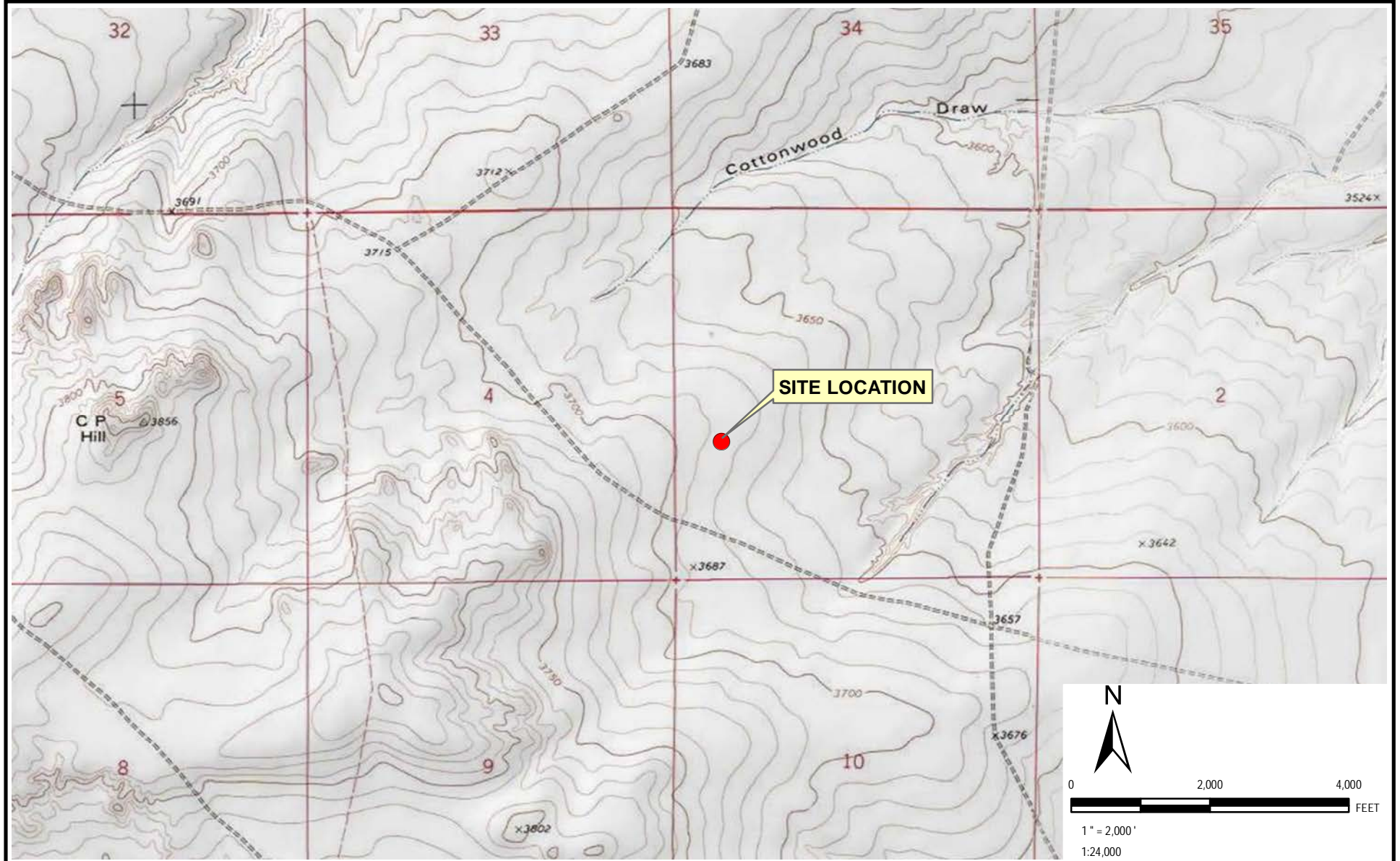
Jeffrey Kindley, PG
Senior Project Manager
TRC Environmental Corporation

Attachments:

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

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

File



2075 Commerce Drive
Midland, TX 79703
Phone: 432.520.770

TRC - GIS

TITLE:

FIGURE 1 SITE LOCATION MAP

PROJECT:

**YELLOWSTONE 3 FEDERAL #003
EDDY COUNTY, NEW MEXICO
COG OPERATING, LLC**

DRAWN BY: MLOVELACE

CHECKED BY: NGREEN

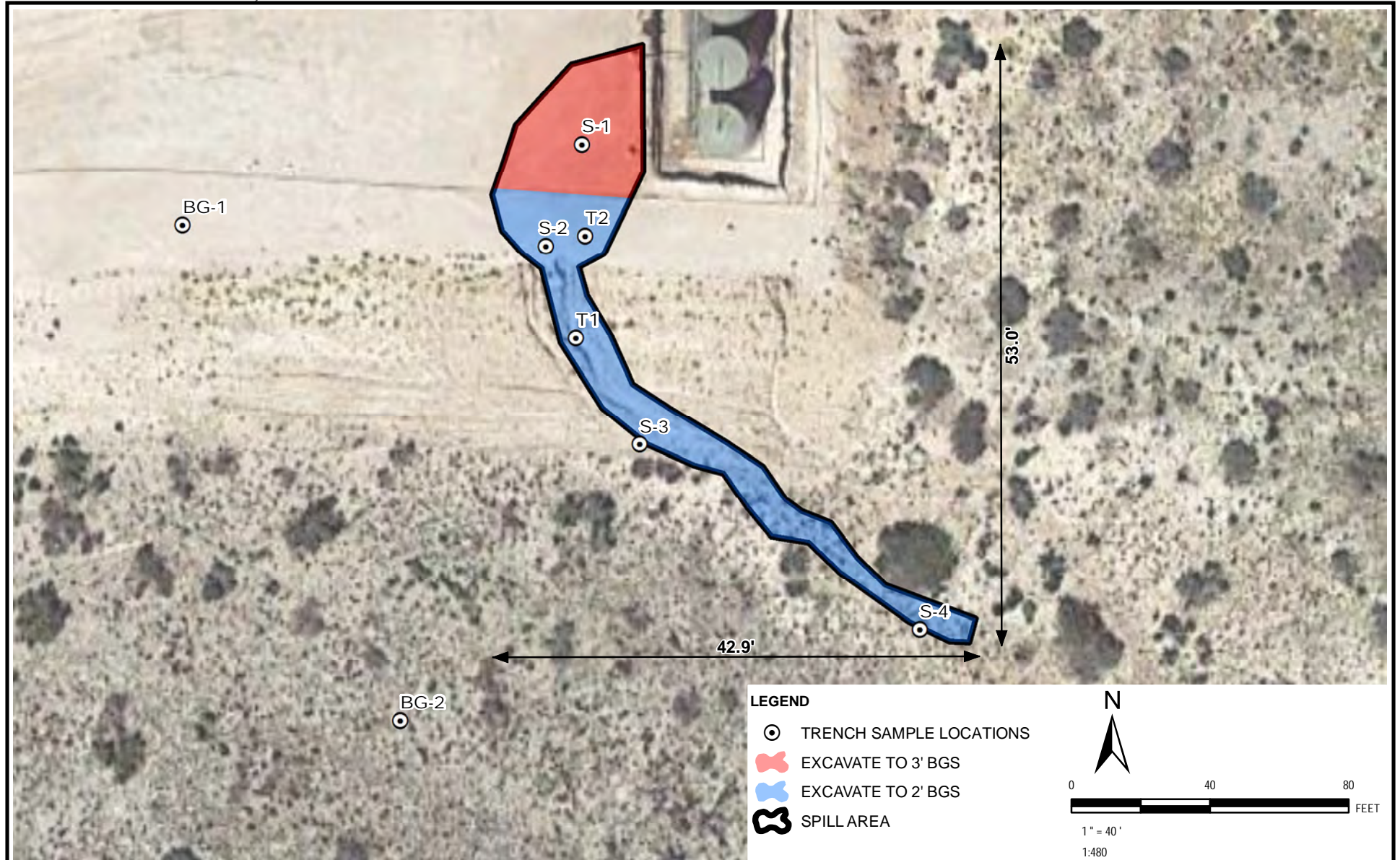
APPROVED BY: NGREEN

DATE: JULY 2017

PROJ. NO.: 279787

GPS: LAT. N 32.0699768, LONG. W 104.3898697

NW1/4 SW1/4 SEC 3 T26S R25E



2075 Commerce Drive
Midland, TX 79703
Phone: 432.520.770

TRC - GIS

TITLE:

FIGURE 2 SITE MAP

PROJECT:

**YELLOWSTONE 3 FEDERAL #003
EDDY COUNTY, NEW MEXICO
COG OPERATING, LLC**

DRAWN BY: MLOVELACE

CHECKED BY: NGREEN

APPROVED BY: NGREEN

DATE: SEPTEMBER 2017

PROJ. NO.: 279787

GPS: LAT. N 32.0699768, LONG. W 104.3898697

NW1/4 SW1/4 SEC 3 T26S R25E

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

COG Operating LLC
Yellowstone 3 Federal #3
EDDY COUNTY, NEW MEXICO

All concentrations are reported in mg/Kg

SAMPLE LOCATION	SAMPLE DATE	SOIL STATUS	METHODS: SW 846-8021b					METHOD: SW 8015M			SM4500Cl-B
			BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C ₆ -C ₁₀	TPH DRO C ₁₀ -C ₂₈	TOTAL TPH C ₆ -C ₂₈	CHLORIDE
NMOCD Site Classification Criteria			10				50			100	250
S1-1'	05/25/16	Trench									128
S1-2'	05/25/16	Trench									240
S1-3'	05/25/16	Trench									464
S1-4'	05/25/16	Trench									144
S1-6'	05/25/16	Trench									128
S1-8'	05/25/16	Trench									96.0
S1-10'	05/25/16	Trench									144
S1-12'	05/25/16	Trench									208
S2-1'	05/25/16	Trench									5,840
S2-2'	05/25/16	Trench									928
S2-3'	05/25/16	Trench									<16.0
S2-4'	05/25/16	Trench									<16.0
S2-6'	05/25/16	Trench									240
S2-8'	05/25/16	Trench									208
S2-10'	05/25/16	Trench									272
S2-12'	05/25/16	Trench									1,230
S3- Surface	05/25/16	Trench									36,800
S3-1'	05/25/16	Trench									9,730
S3-2'	05/25/16	Trench									8,260
S3-3'	05/25/16	Trench									128
S3-4'	05/25/16	Trench									48.0
S3-6'	05/25/16	Trench									240
S3-8'	05/25/16	Trench									208

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

COG Operating LLC
Yellowstone 3 Federal #3
EDDY COUNTY, NEW MEXICO

All concentrations are reported in mg/Kg

SAMPLE LOCATION	SAMPLE DATE	SOIL STATUS	METHODS: SW 846-8021b					METHOD: SW 8015M			SM4500Cl-B
			BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C ₆ -C ₁₀	TPH DRO C ₁₀ -C ₂₈	TOTAL TPH C ₆ -C ₂₈	CHLORIDE
NMOCD Site Classification Criteria			10				50			100	250
S4-1'	05/25/16	Trench									9,730
S4-2'	05/25/16	Trench									1,800
S4-3'	05/25/16	Trench									<16.0
S4-4'	05/25/16	Trench									<16.0
S4-6'	05/25/16	Trench									<16.0
S4-7'	05/25/16	Trench									160
BG1-8'	07/12/16	Trench									176
BG2-1'	07/12/16	Trench									<16.0
BG2-8'	07/12/16	Trench									128
BG2-10'	07/12/16	Trench									96.0
T1-1'	01/10/17	Trench	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	1,600
T1-2'	01/10/17	Trench	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	720
T1-3'	01/10/17	Trench	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	144
T1-4'	01/10/17	Trench	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	160
T1-5'	01/10/17	Trench	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	416
T1-6'	01/10/17	Trench	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	704
T1-8'	01/10/17	Trench	-	-	-	-	-	-	-	-	1,310
T1-10'	01/10/17	Trench	-	-	-	-	-	-	-	-	640
T1-11'	01/10/17	Trench	-	-	-	-	-	-	-	-	464
T2-12'	03/07/17	Trench	-	-	-	-	-	-	-	-	352
T2-14'	03/07/17	Trench	-	-	-	-	-	-	-	-	288
T2-16'	03/07/17	Trench	-	-	-	-	-	-	-	-	416



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

June 06, 2016

DAKOTA NEEL

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: YELLOWSTONE FEDERAL #3

Enclosed are the results of analyses for samples received by the laboratory on 06/01/16 11:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-15-7. 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.

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 black ink that reads "Coley D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	06/01/2016	Sampling Date:	05/25/2016
Reported:	06/06/2016	Sampling Type:	Soil
Project Name:	YELLOWSTONE FEDERAL #3	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: S1 - 1' (H601195-01)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	06/03/2016	ND	432	108	400	0.00	

Sample ID: S1 - 2' (H601195-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	06/03/2016	ND	432	108	400	0.00	

Sample ID: S1 - 3' (H601195-03)

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	06/03/2016	ND	432	108	400	0.00	

Sample ID: S1 - 4' (H601195-04)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	06/03/2016	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
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	06/01/2016	Sampling Date:	05/25/2016
Reported:	06/06/2016	Sampling Type:	Soil
Project Name:	YELLOWSTONE FEDERAL #3	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: S1 - 6' (H601195-05)

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	06/03/2016	ND	432	108	400	0.00	

Sample ID: S1 - 8' (H601195-06)

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	06/03/2016	ND	432	108	400	0.00	

Sample ID: S1 - 10' (H601195-07)

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	06/03/2016	ND	432	108	400	0.00	

Sample ID: S1 - 12' (H601195-08)

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	06/03/2016	ND	400	100	400	3.92	

Sample ID: S2 - 1' (H601195-09)

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5840	16.0	06/03/2016	ND	400	100	400	3.92	

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 06/01/2016
 Reported: 06/06/2016
 Project Name: YELLOWSTONE FEDERAL #3
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

 Sampling Date: 05/25/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S2 - 2' (H601195-10)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	928	16.0	06/03/2016	ND	400	100	400	3.92	

Sample ID: S2 - 3' (H601195-11)

Chloride, SM4500Cl-B			mg/kg Analyzed By: AP							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/03/2016	ND	400	100	400	3.92		

Sample ID: S2 - 4' (H601195-12)

Chloride, SM4500Cl-B			mg/kg Analyzed By: AP							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/03/2016	ND	400	100	400	3.92		

Sample ID: S2 - 6' (H601195-13)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	06/03/2016	ND	400	100	400	3.92		


Sample ID: S2 - 8' (H601195-14)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	06/03/2016	ND	400	100	400	3.92	

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 06/01/2016
 Reported: 06/06/2016
 Project Name: YELLOWSTONE FEDERAL #3
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

 Sampling Date: 05/25/2016
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: S2 - 10' (H601195-15)

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	06/03/2016	ND	400	100	400	3.92	

Sample ID: S2 - 12' (H601195-16)

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1230	16.0	06/03/2016	ND	400	100	400	3.92	

Sample ID: S3 - SURFACE (H601195-17)

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	36800	16.0	06/03/2016	ND	400	100	400	3.92	

Sample ID: S3 - 1' (H601195-18)

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9730	16.0	06/03/2016	ND	400	100	400	3.92	

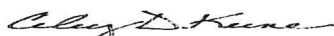
Sample ID: S3 - 2' (H601195-19)

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8260	16.0	06/03/2016	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
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 06/01/2016
Reported: 06/06/2016
Project Name: YELLOWSTONE FEDERAL #3
Project Number: NONE GIVEN
Project Location: NONE GIVEN

Sampling Date: 05/25/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: S3 - 3' (H601195-20)

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	06/03/2016	ND	400	100	400	3.92		

Sample ID: S3 - 4' (H601195-21)

Chloride, SM4500Cl-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	06/03/2016	ND	400	100	400	3.92	

Sample ID: S3 - 6' (H601195-22)

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	06/03/2016	ND	400	100	400	3.92	

Sample ID: S3 - 8' (H601195-23)

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	06/03/2016	ND	400	100	400	3.92	

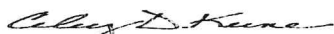
Sample ID: S4 - 1' (H601195-24)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9730	16.0	06/03/2016	ND	400	100	400	3.92	

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 DAKOTA NEEL
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

Received:	06/01/2016	Sampling Date:	05/25/2016
Reported:	06/06/2016	Sampling Type:	Soil
Project Name:	YELLOWSTONE FEDERAL #3	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NONE GIVEN		

Sample ID: S4 - 2' (H601195-25)

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1800	16.0	06/03/2016	ND	400	100	400	3.92	

Sample ID: S4 - 3' (H601195-26)

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/03/2016	ND	400	100	400	3.92	

Sample ID: S4 - 4' (H601195-27)

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/03/2016	ND	400	100	400	3.92	

Sample ID: S4 - 6' (H601195-28)

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/06/2016	ND	416	104	400	3.92	

Sample ID: S4 - 7' (H601195-29)

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	06/06/2016	ND	416	104	400	3.92	

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Celey D. Keene, Lab Director/Quality Manager

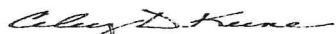
Notes and Definitions

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



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Page 9 of 12



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

20F4

Company Name: COG Operating LLC		BILL TO		ANALYSIS REQUEST											
Project Manager: Dakota Neel		P.O. #:													
Address: 2208 West Main		Company: COG Operating LLC													
City: Artesia		Attn: Robert McNeill													
Phone #: (575) 748-6930		Address: 600 W Illinois													
State: NM		City: Midland													
Zip: 88210		State: TX													
Project #: Project Owner:		Zip: 79701													
Project Location: Yellowstone Federal #3		Phone #: (432) 221-0388													
Sample Name: Dakota Neel		Fax #:													

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.		MATRIX					PRESERV.		SAMPLING													
		# CONTAINERS		GROUNDWATER					ACID/BASE:		DATE													
				WASTEWATER					ICE / COOL		TIME													
				SOIL									BTEX											
				OIL									TPH											
				SLUDGE									Chloride											
				OTHER :																				
9	S2-1'								x		5/25/16	10:00 AM	x											
10	S2-2'								x		5/25/16	10:00 AM	x											
11	S2-3'								x		5/25/16	10:00 AM	x											
12	S2-4'								x		5/25/16	10:00 AM	x											
13	S2-6'								x		5/25/16	10:00 AM	x											
14	S2-8'								x		5/25/16	10:00 AM	x											
15	S2-10'								x		5/25/16	10:00 AM	x											
16	S2-12'								x		5/25/16	10:00 AM	x											

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Relinquished By:	Date: 5/11/16	Received By: [Signature]	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
	Time: 11:00		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: dneel2@concho.com lcarrasco@concho.com atrujillo@concho.com	
	Time:			
Delivered By: (Circle One)		Sample Condition	CHECKED BY: [Signature]	
Sampler - UPS - Bus - Other: 5:20		<input checked="" type="checkbox"/> Cool <input type="checkbox"/> Intact		
		<input type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> Yes <input type="checkbox"/> No		



Company Name: COG Operating LLC

Project Manager: Dakota Neel

Address: 2208 West Main

City: Artesia

Phone #: (575) 748-6930

Project #:

Project Name: Yellowstone Federal #3

Project Location:

Sampler Name: Dakota Neel

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

S3-SURFACE

53-1

7-00

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2

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incidental or consequential

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5. Please fax written changes to 575-393-2476

Page 11 of 12

3 of 3



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

July 19, 2016

LUPE CARRASCO
COG Operating, LLC
500 W. ILLINOIS
Midland, TX 79701

RE: YELLOWSTONE 3 FEDERAL #3

Enclosed are the results of analyses for samples received by the laboratory on 07/13/16 10:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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.

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, LLC
LUPE CARRASCO
500 W. ILLINOIS
Midland TX, 79701
Fax To: None

Received: 07/13/2016
Reported: 07/19/2016
Project Name: YELLOWSTONE 3 FEDERAL #3
Project Number: NONE GIVEN
Project Location: NONE GIVEN

Sampling Date: 07/12/2016
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: BG1-8' (H601573-01)

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	07/15/2016	ND	400	100	400	0.00	

Sample ID: BG2-1' (H601573-02)

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/15/2016	ND	400	100	400	0.00	

Sample ID: BG2-8' (H601573-03)

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	07/15/2016	ND	400	100	400	0.00	

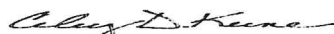
Sample ID: BG2-10' (H601573-04)

Chloride, SM4500CI-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	07/15/2016	ND	400	100	400	0.00	

Cardinal Laboratories

*—Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager


Notes and Definitions

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

Cardinal Laboratories

* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

January 24, 2017

AARON LIEB

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: YELLOWSTONE 3 FEDERAL #003

Enclosed are the results of analyses for samples received by the laboratory on 01/19/17 10:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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.

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
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 01/19/2017
Reported: 01/24/2017
Project Name: YELLOWSTONE 3 FEDERAL #003
Project Number: NONE GIVEN
Project Location: NONE GIVEN

Sampling Date: 01/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Angela Cabrera

Sample ID: T1 - 1' (H700131-01)

BTEx 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/20/2017	ND	1.79	89.3	2.00	0.878	
Toluene*	<0.050	0.050	01/20/2017	ND	1.76	88.1	2.00	0.639	
Ethylbenzene*	<0.050	0.050	01/20/2017	ND	1.82	90.8	2.00	1.11	
Total Xylenes*	<0.150	0.150	01/20/2017	ND	5.30	88.4	6.00	1.11	
Total BTEX	<0.300	0.300	01/20/2017	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 101 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1600	16.0	01/20/2017	ND	416	104	400	3.77	

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	01/19/2017	ND	190	95.1	200	0.847	
DRO >C10-C28	<10.0	10.0	01/19/2017	ND	197	98.5	200	2.76	

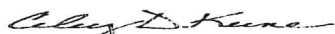
Surrogate: 1-Chlorooctane 71.9 % 35-147

Surrogate: 1-Chlorooctadecane 87.3 % 28-171

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 01/19/2017
Reported: 01/24/2017
Project Name: YELLOWSTONE 3 FEDERAL #003
Project Number: NONE GIVEN
Project Location: NONE GIVEN

Sampling Date: 01/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Angela Cabrera

Sample ID: T1 - 2' (H700131-02)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/20/2017	ND	1.79	89.3	2.00	0.878	
Toluene*	<0.050	0.050	01/20/2017	ND	1.76	88.1	2.00	0.639	
Ethylbenzene*	<0.050	0.050	01/20/2017	ND	1.82	90.8	2.00	1.11	
Total Xylenes*	<0.150	0.150	01/20/2017	ND	5.30	88.4	6.00	1.11	
Total BTEX	<0.300	0.300	01/20/2017	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 102 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	720	16.0	01/20/2017	ND	416	104	400	3.77	

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	01/19/2017	ND	190	95.1	200	0.847	
DRO >C10-C28	<10.0	10.0	01/19/2017	ND	197	98.5	200	2.76	

Surrogate: 1-Chlorooctane 68.7 % 35-147

Surrogate: 1-Chlorooctadecane 84.7 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 01/19/2017
Reported: 01/24/2017
Project Name: YELLOWSTONE 3 FEDERAL #003
Project Number: NONE GIVEN
Project Location: NONE GIVEN

Sampling Date: 01/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Angela Cabrera

Sample ID: T1 - 3' (H700131-03)

BTEX 8021B			mg/kg		Analyzed By: CK				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/20/2017	ND	1.79	89.3	2.00	0.878	
Toluene*	<0.050	0.050	01/20/2017	ND	1.76	88.1	2.00	0.639	
Ethylbenzene*	<0.050	0.050	01/20/2017	ND	1.82	90.8	2.00	1.11	
Total Xylenes*	<0.150	0.150	01/20/2017	ND	5.30	88.4	6.00	1.11	
Total BTEX	<0.300	0.300	01/20/2017	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 101 % 73.6-140

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	01/20/2017	ND	416	104	400	3.77		

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	01/20/2017	ND	190	95.1	200	0.847	
DRO >C10-C28	<10.0	10.0	01/20/2017	ND	197	98.5	200	2.76	


Surrogate: 1-Chlorooctane 79.6 % 35-147

Surrogate: 1-Chlorooctadecane 83.0 % 28-171

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 01/19/2017
Reported: 01/24/2017
Project Name: YELLOWSTONE 3 FEDERAL #003
Project Number: NONE GIVEN
Project Location: NONE GIVEN

Sampling Date: 01/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Angela Cabrera

Sample ID: T1 - 4' (H700131-04)

BTEX 8021B		mg/kg	Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/20/2017	ND	1.79	89.3	2.00	0.878	
Toluene*	<0.050	0.050	01/20/2017	ND	1.76	88.1	2.00	0.639	
Ethylbenzene*	<0.050	0.050	01/20/2017	ND	1.82	90.8	2.00	1.11	
Total Xylenes*	<0.150	0.150	01/20/2017	ND	5.30	88.4	6.00	1.11	
Total BTEX	<0.300	0.300	01/20/2017	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 102 % 73.6-140

Chloride, SM4500CI-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	01/20/2017	ND	416	104	400	3.77	

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	01/20/2017	ND	190	95.1	200	0.847	
DRO >C10-C28	<10.0	10.0	01/20/2017	ND	197	98.5	200	2.76	

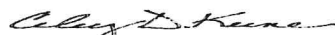
Surrogate: 1-Chlorooctane 78.0 % 35-147

Surrogate: 1-Chlorooctadecane 93.7 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 AARON LIEB
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 01/19/2017
 Reported: 01/24/2017
 Project Name: YELLOWSTONE 3 FEDERAL #003
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

 Sampling Date: 01/10/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Angela Cabrera

Sample ID: T1 - 5' (H700131-05)

BTEX 8021B			mg/kg		Analyzed By: CK				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/20/2017	ND	1.79	89.3	2.00	0.878	
Toluene*	<0.050	0.050	01/20/2017	ND	1.76	88.1	2.00	0.639	
Ethylbenzene*	<0.050	0.050	01/20/2017	ND	1.82	90.8	2.00	1.11	
Total Xylenes*	<0.150	0.150	01/20/2017	ND	5.30	88.4	6.00	1.11	
Total BTEX	<0.300	0.300	01/20/2017	ND					

Surrogate: 4-Bromofluorobenzene (PIB) 100 % 73.6-140

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	01/20/2017	ND	416	104	400	3.77	

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	01/20/2017	ND	190	95.1	200	0.847	
DRO >C10-C28	<10.0	10.0	01/20/2017	ND	197	98.5	200	2.76	


Surrogate: 1-Chlorooctane 80.8 % 35-147

Surrogate: 1-Chlorooctadecane 94.7 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 COG OPERATING
 AARON LIEB
 P. O. BOX 1630
 ARTESIA NM, 88210
 Fax To: NONE

 Received: 01/19/2017
 Reported: 01/24/2017
 Project Name: YELLOWSTONE 3 FEDERAL #003
 Project Number: NONE GIVEN
 Project Location: NONE GIVEN

 Sampling Date: 01/10/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Angela Cabrera

Sample ID: T1 - 6' (H700131-06)

BTEX 8021B		mg/kg		Analyzed By: CK					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/20/2017	ND	1.79	89.3	2.00	0.878	
Toluene*	<0.050	0.050	01/20/2017	ND	1.76	88.1	2.00	0.639	
Ethylbenzene*	<0.050	0.050	01/20/2017	ND	1.82	90.8	2.00	1.11	
Total Xylenes*	<0.150	0.150	01/20/2017	ND	5.30	88.4	6.00	1.11	
Total BTEX	<0.300	0.300	01/20/2017	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 102 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	704	16.0	01/20/2017	ND	416	104	400	3.77	

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	01/20/2017	ND	190	95.1	200	0.847	
DRO >C10-C28	<10.0	10.0	01/20/2017	ND	197	98.5	200	2.76	

Surrogate: 1-Chlorooctane 81.9 % 35-147

Surrogate: 1-Chlorooctadecane 96.1 % 28-171

Sample ID: T1 - 8' (H700131-07)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1310	16.0	01/20/2017	ND	416	104	400	3.77	

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received: 01/19/2017
Reported: 01/24/2017
Project Name: YELLOWSTONE 3 FEDERAL #003
Project Number: NONE GIVEN
Project Location: NONE GIVEN

Sampling Date: 01/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Angela Cabrera

Sample ID: T1 - 10' (H700131-08)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	640	16.0	01/20/2017	ND	416	104	400	3.77		

Sample ID: T1 - 11' (H700131-09)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	464	16.0	01/20/2017	ND	416	104	400	3.77	QM-07	

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Celey D. Keene, Lab Director/Quality Manager


Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

156

Company Name: COG Operating LLC		P.O. #:		BILL TO										ANALYSIS REQUEST									
Project Manager: Aaron Lieb		Company: COG Operating LLC																					
Address: 2407 Pecos Avenue		Attn: Robert McNeill																					
City: Artesia		Address: 600 W Illinois																					
State: NM		City: Midland																					
Zip: 88210		State: TX																					
Phone #: 575-748-1553		Zip: 79701																					
Fax #: 575-748-1553		Phone #: (432) 221-0388																					
Project #: Project Owner:		Fax #:																					
Project Name: YELLOWSTONE 3 FEDERAL #003																							
Project Location:																							
Sample Name: Aaron Lieb																							

Address: 2407 Pecos Avenue		Company: COG Operating LLC																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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Relinquished By: <i>[Signature]</i>	Date: 1-14-17	Received By: <i>[Signature]</i>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Time: 10:50 AM	Date: 1-14-17	Time:	Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Delivered By: (Circle One) <i>#75</i>	Sample Condition: <input checked="" type="checkbox"/> Cool <input type="checkbox"/> Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: <i>[Signature]</i>		
Sampler - UPS - Bus - Other: <i>#75</i>	1.1°			



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

March 16, 2017

DAKOTA NEEL

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: YELLOWSTONE 3 FEDERAL #003

Enclosed are the results of analyses for samples received by the laboratory on 03/09/17 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. 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.

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
DAKOTA NEEL
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONEReceived: 03/09/2017
Reported: 03/16/2017
Project Name: YELLOWSTONE 3 FEDERAL #003
Project Number: NONE GIVEN
Project Location: NONE GIVENSampling Date: 03/07/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker**Sample ID: T2 - 12' (H700624-01)**

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	03/14/2017	ND	448	112	400	3.64	

Sample ID: T2 - 14' (H700624-02)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	03/14/2017	ND	448	112	400	3.64	

Sample ID: T2 - 16' (H700624-03)

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	03/14/2017	ND	448	112	400	3.64	

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Celey D. Keene, Lab Director/Quality Manager

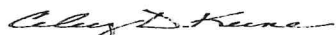
Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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

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

NAB/16/24292161 OPERATOR ☒ Initial Report ☐ Final Report

Name of Company: COG Operating LLC <i>229137</i>	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-230-0077
Facility Name: YELLOWSTONE 3 FEDERAL #003	Facility Type: Battery

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-39823
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	03	26S	25E	1980'	South	660'	West	Eddy

Latitude 32.0699768 Longitude -104.3898697

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 15 bbls PW	Volume Recovered: 12 bbls PW
Source of Release: Load line	Date and Hour of Occurrence: 4/12/2016 12:00 pm	Date and Hour of Discovery: 4/12/2016 12:00 pm
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

NM OIL CONSERVATION
ARTESIA DISTRICT
APR 28 2016

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
This release was caused by a hole in the load line. Vacuum trucks were dispatched to recover standing fluid.

RECEIVED

Describe Area Affected and Cleanup Action Taken.*
The majority of this release occurred on pad however a streamer ran off location to the southeast for 140'. 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.

OIL CONSERVATION DIVISION

Signature: <i>Robert Grubbs Jr.</i>	Approved by Environmental Specialist: <i>[Signature]</i>	
Printed Name: Robert Grubbs Jr.	Approval Date: <i>5/2/16</i>	Expiration Date: <i>N/A</i>
Title: Senior Environmental Coordinator	Conditions of Approval: Remediation per O.C.D. Rules & Guidelines	
E-mail Address: rgrubbs@concho.com	Attached <input type="checkbox"/>	
Date: April 28, 2016	Phone: 432-683-7443	

SUBMIT REMEDIATION PROPOSAL NO

LATER THAN:

06/3/16

2RP-30608

* Attach Additional Sheets If Necessary.

Patterson, Heather, EMNRD

From: Robert Grubbs <RGrubbs@concho.com>
Sent: Thursday, April 28, 2016 4:34 PM
To: Bratcher, Mike, EMNRD; Patterson, Heather, EMNRD; 'stucker@blm.gov'; 'james_amos@blm.gov' (james_amos@blm.gov)
Subject: (Notification/C-141 Initial/3160-5/ARC) YELLOWSTONE 3 FEDERAL #003 (30-015-39823)
Attachments: Form_3160-5 30-015-39823 4-12-2016.pdf; Yellowstone Site Map.jpg; 4-12-2016 Yellowstone 3Federal #003 TB Initial.pdf

MR. BRATCHER,

COG OPERATING LLC IS REPORTING A RELEASE ON THE YELLOWSTONE 3
FEDERAL #003 (30-015-39823)

SECTION 3 TOWNSHIP 26S RANGE 25E

THE RELEASE OCCURRED AT 12:00 PM ON 4/12/2016

RELEASED: 15 BBLS PW

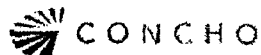
RECOVERED: 12 BBLS PW

THIS RELEASE WAS CAUSED BY A HOLE IN THE LOAD LINE. ATTACHED ARE A C-141, BLM FORM 3160-5, AND A MAP OF THE AREA FOR YOUR CONSIDERATION. I'D LIKE TO ALSO REQUEST ARC CLEARANCE FOR THIS LOCATION AT THIS TIME AS WELL. IF YOU HAVE ANY ADDITIONAL QUESTIONS PLEASE FEEL FREE TO CONTACT ME.

THANK YOU,

ROBERT GRUBBS JR.
SR. ENVIRONMENTAL COORDINATOR
432.683.7443 (MAIN)
432.818.2369 (DIRECT)
432.661.6601 (CELL)
432.221.0892 (FAX)
RGRUBBS@CONCHO.COM
MAILING ADDRESS:
ONE CONCHO CENTER
600 W. ILLINOIS AVENUE
MIDLAND, TEXAS 79701

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

FORM APPROVED
OMB No. 1004-0133
Expires: January 31, 2004

5. Lease Serial No.
NMI-108027

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

8. Well Name and No.
YELLOWSTONE 3 FEDERAL #003

9. API Well No.
30-015-39823

10. Field and Pool, or Exploratory Area

11. County or Parish, State
Eddy

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator
COG Operating LLC

3a. Address
600 West Illinois Avenue, Midland TX 79701

3b. Phone No. (include area code)
432-230-0077

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

1-03-26S-25E 1980 FSL 660 FVL
Lat/Long: 32.0699768, -104.3898697 NAD83

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/DIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The spill site will be accessed via lease road to pad and from the pad to the pasture. Please see attached map. Proposed sampling points are included on the map. Please review for Arch concerns, wildlife, or cave/karst.

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Robert Grubbs

Title Senior Environmental Coordinator

Signature

Robert Grubbs

Date

4-28-16

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Title

Date

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations, and reports of such operations when completed, as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this

form and the number of copies to be submitted, particularly with regard to local area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13 - Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or

present productive zones, or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to top of any left in the hole; method of closing top of well and date well site conditioned for final inspection looking to approval of the abandonment.

NOTICE

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

This information is being collected to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT

Public reporting burden for this form is estimated to average 25 minutes per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0135), Bureau Information Collection Clearance Officer, (WO-630), Mail Stop 401 LS, 1849 C St., N.W., Washington D.C. 20240