REMEDIATION SUMMARY AND

SOIL CLOSURE REQUEST

COG Operating, LLC
Yellowstone 3 Federal #003
Eddy County, New Mexico
Unit Letter "L", Section 3, Township 26 South, Range 25 East
GPS: N 32.0699768° W 104.3898697°
NMOCD Reference No. 2RP-3668

Prepared For:

COG Operating, LLC
600 W Illinois Avenue
Midland, Texas 79701

Prepared By:

TRC Environmental Corporation
10 Desta Drive, Suite 150E
Midland, Texas 79705

February 2018

Joel Lowry
Project Manager

Jeffrey Kindley, P.G.
Senior Project Manager

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INTRODUCTION & BACKGROUND INFORMATION

TRC Environmental Corporation (TRC), on behalf of COG Operating, LLC (COG), has prepared this *Remediation Summary and Soil Closure Request* for the release site known as the Yellowstone 3 Federal #003. 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 subject property is owned by the United States Department of the Interior and administered by the Bureau of Land Management (BLM). The GPS coordinates for the site are N 32.0699768° W 104.3898697°. A "Site Location Map" and "Site & Sample Location Map" are provided as Figure 1 and Figure 2, respectively.

On April 12, 2016, COG discovered a release at the Yellowstone 3 Federal #003. The release was attributed to the failure of a load line, resulting in the release of approximately fifteen (15) barrels (bbls) of produced water. During initial response activities, the release site was secured and a vacuum truck was utilized to recover approximately twelve (12) bbls of freestanding liquid. The initial Release Notification and Corrective Action (Form C-141) indicated that a majority of the release was confined to the caliche well pad affecting an area measuring approximately two thousand, six hundred (2,600) square feet (sq. ft.); a small streamer ran off location to the southeast for approximately one hundred forty (140) feet (ft.). A copy of the New Mexico Oil Conservation Division (NMOCD) Form C-141 is provided as Appendix C. General photographs of the site are provided as Appendix B.

NMOCD SITE CLASSIFICATION

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 NMOCD Artesia District Office indicates groundwater should be encountered at approximately twenty-five (25) ft. below ground surface (bgs). Based on the NMOCD site classification system, twenty (20) points will be assigned to the site as a result of this criterion.

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

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

The NMOCD guidelines indicate the Yellowstone 3 Federal #003 Release Site has a ranking score of twenty (20). Recommended Remediation Action Levels (RRAL) for a site with a ranking score of twenty (20) points are as follows:

- Benzene – 10 mg/kg
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) – 50 mg/kg
- Total Petroleum Hydrocarbons (TPH) – 100 mg/kg
- Chloride – 600 mg/kg

INITIAL INVESTIGATION AND PROPOSED REMEDIATION WORKPLAN

On May 25, 2016, COG representatives conducted an initial investigation at the site. During the initial investigation, 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') were collected from test trenches (S1 through S4) advanced within the affected area and submitted to Cardinal Laboratories of Hobbs, New Mexico for analysis of chloride concentrations 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 RRAL in each of the submitted soil samples, with the exception of soil samples S2-1' (5,840 mg/kg), S2-2' (928 mg/kg), S2-12' (1,230 mg/kg), S3-Surface (36,800 mg/kg), S3-1' (9,730 mg/kg), S3-2' (8,260 mg/kg), S4-1' (9,730 mg/kg), and S4-2' (1,800 mg/kg). Collection of soil samples from deeper intervals was precluded due to an impenetrable rock layer. A "Site & Sample Location Map" is provided as Figure 2. Laboratory analytical results are summarized in Table 2 "Concentrations of Benzene, BTEX, TPH and Chloride in Soil".

On January 10, 2017, COG representatives revisited the site. During the site visit, one (1) test trench (T1) was advanced within the narrow flowpath south of test trench S2. During the advancement of the test trench, nine (9) soil samples (T1-1', T1-2', T1-3', T1-4', T1-5', T1-6', T1-8', T1-10', and T1-11') were collected and submitted to the laboratory for analysis of BTEX (SW 846-8021B), TPH (Method 846-8015M) and chloride. Laboratory analytical results indicated benzene, BTEX, and TPH concentrations were less than the applicable laboratory MDL and NMOCD RRAL in each of the submitted soil samples. A review of laboratory analytical results indicated chloride concentrations were below NMOCD RRAL in each of the submitted soil samples, with the exception of soil samples T1-1' (1,600 mg/kg), T1-2' (720 mg/kg) T1-6' (704 mg/kg), T1-8' (1,310 mg/kg) and T1-10' (640 mg/kg). Collection of soil samples from deeper intervals was precluded due to an impenetrable rock layer.

On March 7, 2017, COG representatives revisited the site in an effort to achieve vertical delineation in the area represented by test trench S2. During the site visit, one (1) test trench (T2) was advanced in the vicinity of test trench S2. During the advancement of the test trench, three (3) soil samples (T2-12', T2-14', and T2-16') were collected and submitted to the laboratory for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from 288 mg/kg in soil sample T2-14' to 416 mg/kg in soil sample T2-16'. A review of laboratory analytical results indicated chloride concentrations were below NMOCD RRAL in each of the submitted soil samples.

On September 22, 2017, TRC submitted a *Soil Investigation Summary and Proposed Remediation Workplan (Workplan)* to the NMOCD and BLM, proposing the following field activities designed to advance the Yellowstone 3 Federal #003 toward and NMOCD and BLM approved closure:

- 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 BLM.

The *Workplan* was subsequently approved by the NMOCD and BLM with a stipulation from the BLM that field confirmation soil samples be collected.

SUMMARY OF SOIL REMEDIATION ACTIVITIES

On December 13, 2017, remediation activities commenced at the release site. As per the approved *Workplan,* impacted soil within the release margins was excavated and stockpiled on-site, atop a plastic liner pending final disposition. The floor and sidewalls of the excavation were advanced until chloride field test results suggested concentrations of chloride were below NMOCD RRAL. Upon advancing the floor and sidewalls of the excavation, fourteen (14) soil samples (BH-1 3.5', EW-1 1.5', WW-1 1.5', NW-1 1.5', BH-2 4', EW-2 2', WW-2 2', BH-3 3', NW-3 1.5', SW-3 1.5', BH-4 3', NW-4 1.5', EW-4 1.5' and SW-4 1.5') were collected from the floor and sidewalls of the excavated area and submitted to Xenco Laboratories of Midland, Texas for analysis of chloride concentrations. Laboratory analytical results indicated chloride concentrations ranged from less than the applicable MDL in soil samples BH-1 3.5', NW-1 1.5', EW-2 2', BH-3 3' and NW-4 1.5' to 451 mg/kg in soil sample BH-2 4'.

In addition, one (1) soil sample (T-BH-2 10') was collected from a test trench advanced in the area characterized by soil sample BH-2 4'and submitted to the laboratory for analysis of chloride concentrations, which were determined to be 107 mg/kg.

On January 16, 2018, TRC submitted a *Remediation Summary and Permission to Backfill Request (Backfill Request)* to the NMOCD and BLM, summarizing field activities conducted to date and laboratory analytical results. The *Backfill Request* was subsequently approved.

Beginning January 23, 2018, the excavated areas were backfilled with locally-sourced, non-impacted "like" material. Prior to backfilling, the final dimensions of the excavated area were approximately three hundred (300) ft. in length, ten (10) to sixty-five (65) ft. in width, and two (2) to three (3) ft. in depth.

Between January 23 and 26, 2018, approximately seven hundred and sixty (760) cubic yards (cy) of impacted soil was transported to R360 Environmental Solutions, LLC for disposal.

SITE CLOSURE REQUEST

Remediation activities were conducted in accordance with the NMOCD- and BLM-approved Work Plan. Excavated impacted material was transported to an approved disposal facility and the site was backfilled with imported, non-impacted "like" material. TRC on behalf of COG Operating, LLC respectfully requests the NMOCD and BLM grant closure approval for the Yellowstone 3 Federal #003 release that occurred on April 12, 2016.

LIMITATIONS

TRC has prepared this *Remediation Summary and Soil Closure Request* to the best of its ability. No other warranty, expressed or implied, is made or intended.

TRC has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. TRC has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. TRC has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. TRC also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of COG Operating, LLC. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of TRC and/or COG Operating, LLC.

DISTRIBUTION

Copy 1: Mike Bratcher
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District 2
811 S. First Street
Artesia, NM 88210

Copy 2: Shelly Tucker
Carlsbad Field Office
United States Department of the Interior
Bureau of Land Management
620 E. Greene Street
Carlsbad, New Mexico 88220

Copy 3: Rebecca Haskell
COG Operating, LLC
600 W. Illinois Avenue
Midland, Texas 79701

Copy 4: TRC Environmental Corporation
2057 Commerce Street
Midland, Texas 79703

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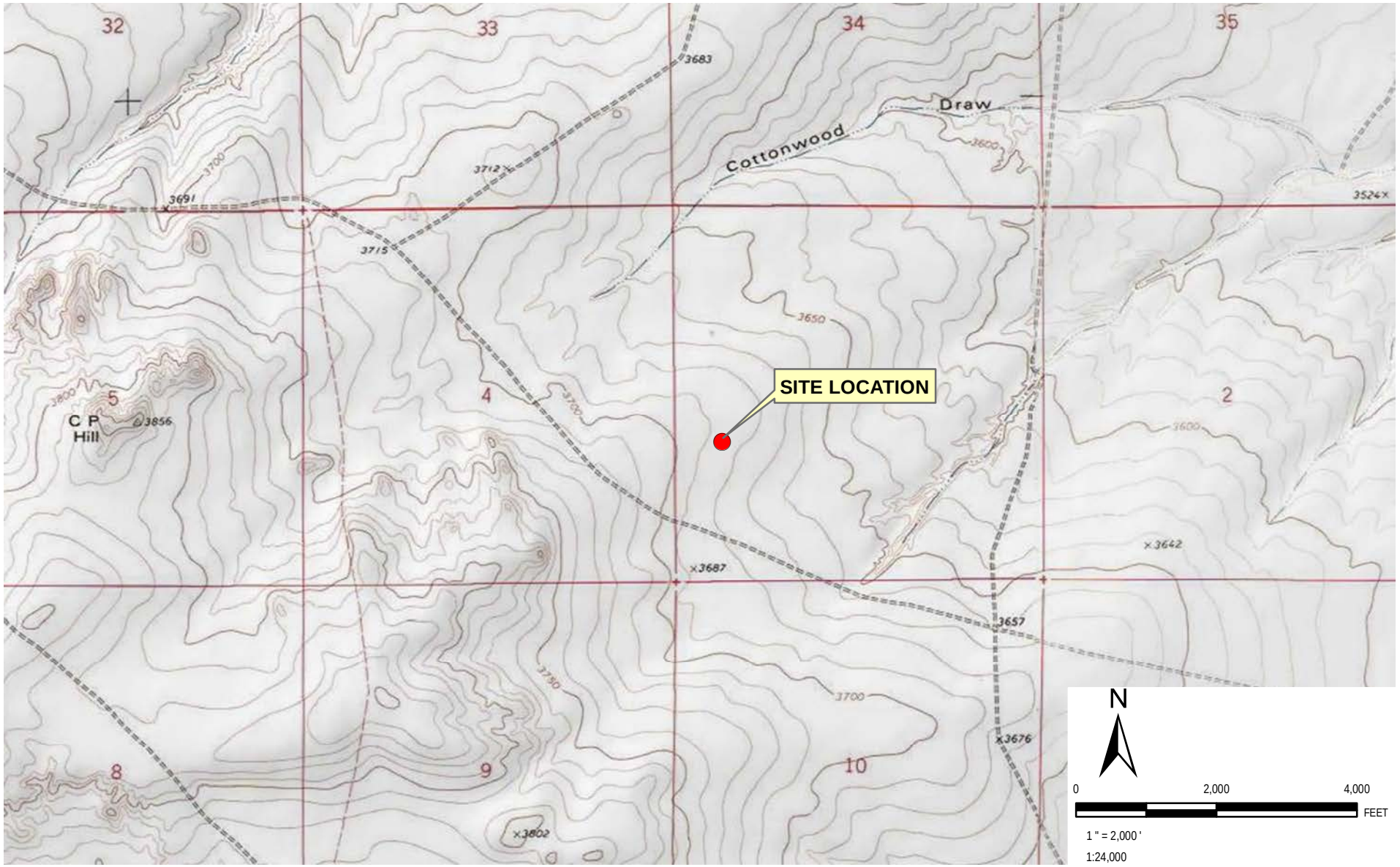


TRC

2075 Commerce Drive
Midland, TX 79703
Phone: 432.520.770

TRC - GIS

TITLE:

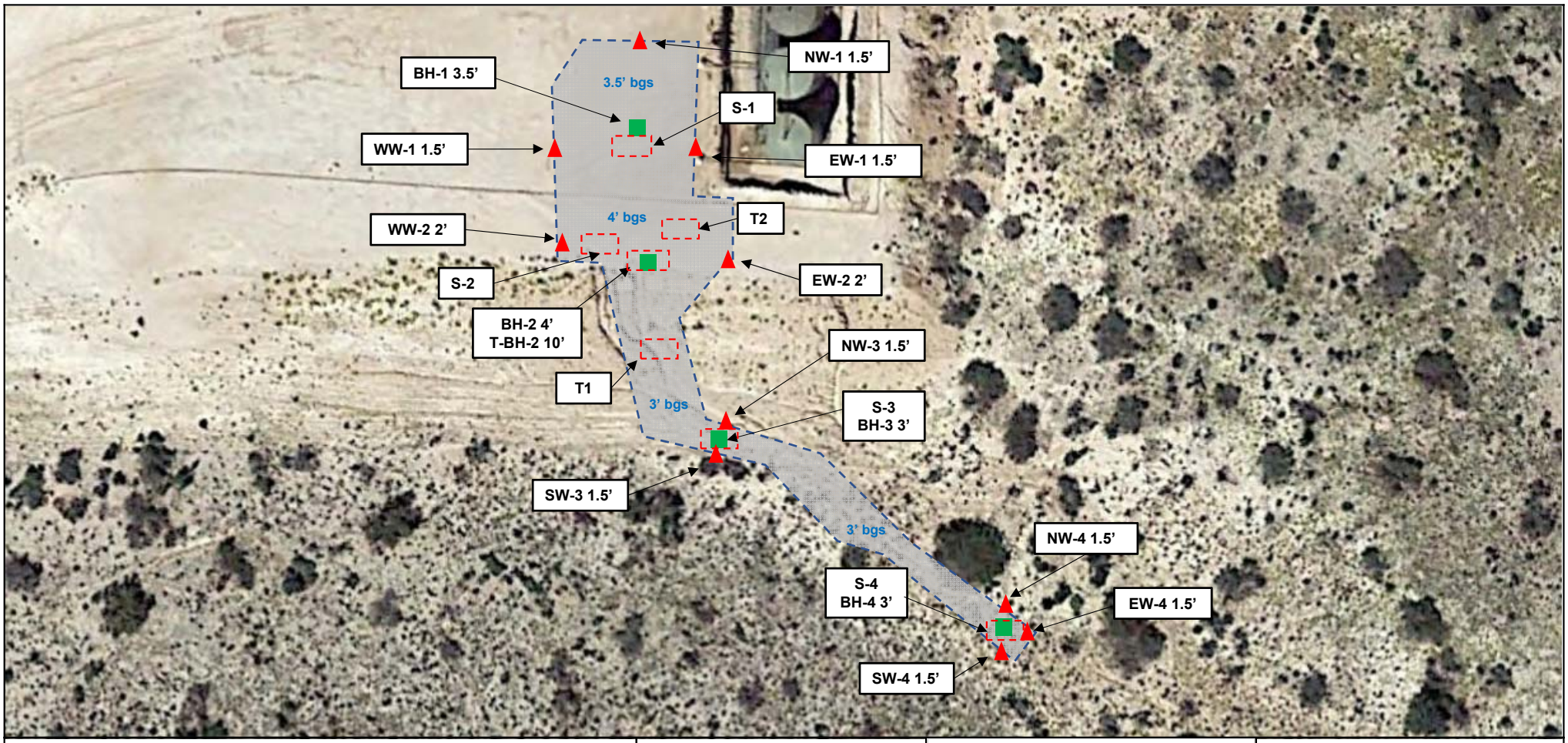
FIGURE 1
SITE LOCATION MAP

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



LEGEND:

- Excavated Area
- Test Trench
- Confirmation Floor Sample Location
- Confirmation Sidewall Sample Location

Figure 2
Site & Sample Location Map
COG Operating, LLC
Yellowstone 3 Federal #003
Eddy Co, New Mexico

Scale 1" = ~60'	
Drafted by: ZC	Checked by: JL
Draft: January 12, 2018	
Lat. N 32.06997 Long. W 104.38986	
UL "L", Sec. 03, T26S, R25E	
TRC Proj. No.: 279787	

TRC
Results you can rely on
2057 Commerce Drive
Midland, Texas 79703
432.520.7720

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

COG OPERATING, LLC
YELLOWSTONE 3 FEDERAL #003
EDDY COUNTY, NEW MEXICO
NMOCD REF # 2RP-3668

All concentrations are reported in mg/Kg

SAMPLE LOCATION	DEPTH	SAMPLE DATE	SOIL STATUS	METHODS: SW 846-8021b					METHOD: SW 8015M			SM4500Cl-B/ E300
				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
S1-1'	1'	05/25/16	Excavated	-	-	-	-	-	-	-	-	128
S1-2'	2'	05/25/16	Excavated	-	-	-	-	-	-	-	-	240
S1-3'	3'	05/25/16	Excavated	-	-	-	-	-	-	-	-	464
S1-4'	4'	05/25/16	In-Situ	-	-	-	-	-	-	-	-	144
S1-6'	6'	05/25/16	In-Situ	-	-	-	-	-	-	-	-	128
S1-8'	8'	05/25/16	In-Situ	-	-	-	-	-	-	-	-	96.0
S1-10'	10'	05/25/16	In-Situ	-	-	-	-	-	-	-	-	144
S1-12'	12'	05/25/16	In-Situ	-	-	-	-	-	-	-	-	208
S2-1'	1'	05/25/16	Excavated	-	-	-	-	-	-	-	-	**5,840**
S2-2'	2'	05/25/16	Excavated	-	-	-	-	-	-	-	-	**928**
S2-3'	3'	05/25/16	Excavated	-	-	-	-	-	-	-	-	<16.0
S2-4'	4'	05/25/16	Excavated	-	-	-	-	-	-	-	-	<16.0
S2-6'	6'	05/25/16	In-Situ	-	-	-	-	-	-	-	-	240
S2-8'	8'	05/25/16	In-Situ	-	-	-	-	-	-	-	-	208
S2-10'	10'	05/25/16	In-Situ	-	-	-	-	-	-	-	-	272
S2-12'	12'	05/25/16	In-Situ	-	-	-	-	-	-	-	-	**1,230**
S3- Surface	Surf.	05/25/16	Excavated	-	-	-	-	-	-	-	-	**36,800**
S3-1'	1'	05/25/16	Excavated	-	-	-	-	-	-	-	-	**9,730**
S3-2'	2'	05/25/16	Excavated	-	-	-	-	-	-	-	-	**8,260**
S3-3'	3'	05/25/16	In-Situ	-	-	-	-	-	-	-	-	128
S3-4'	4'	05/25/16	In-Situ	-	-	-	-	-	-	-	-	48.0
S3-6'	6'	05/25/16	In-Situ	-	-	-	-	-	-	-	-	240
S3-8'	8'	05/25/16	In-Situ	-	-	-	-	-	-	-	-	208
S4-1'	1'	05/25/16	Excavated	-	-	-	-	-	-	-	-	**9,730**
S4-2'	2'	05/25/16	Excavated	-	-	-	-	-	-	-	-	**1,800**
S4-3'	3'	05/25/16	Excavated	-	-	-	-	-	-	-	-	<16.0
S4-4'	4'	05/25/16	In-Situ	-	-	-	-	-	-	-	-	<16.0
S4-6'	6'	05/25/16	In-Situ	-	-	-	-	-	-	-	-	<16.0
S4-7'	7'	05/25/16	In-Situ	-	-	-	-	-	-	-	-	160
T1-1'	1'	01/10/17	Excavated	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	**1,600**
T1-2'	2'	01/10/17	Excavated	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	**720**
T1-3'	3'	01/10/17	Excavated	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	144
T1-4'	4'	01/10/17	Excavated	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	160
T1-5'	5'	01/10/17	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	416
T1-6'	6'	01/10/17	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.150	<10.0	<10.0	<10.0	**704**
T1-8'	8'	01/10/17	In-Situ	-	-	-	-	-	-	-	-	**1,310**
T1-10'	10'	01/10/17	In-Situ	-	-	-	-	-	-	-	-	**640**
T1-11'	11'	01/10/17	In-Situ	-	-	-	-	-	-	-	-	464
T2-12'	12'	03/07/17	In-Situ	-	-	-	-	-	-	-	-	352
T2-14'	14'	03/07/17	In-Situ	-	-	-	-	-	-	-	-	288
T2-16'	16'	03/07/17	In-Situ	-	-	-	-	-	-	-	-	416
BH-1 3.5'	3.5'	12/27/17	In-Situ	-	-	-	-	-	-	-	-	<49.4
EW-1 1.5'	1.5'	12/27/17	In-Situ	-	-	-	-	-	-	-	-	221
WW-1 1.5'	1.5'	12/27/17	In-Situ	-	-	-	-	-	-	-	-	274
NW-1 1.5'	1.5'	12/27/17	In-Situ	-	-	-	-	-	-	-	-	<49.9
BH-2 4'	4'	12/27/17	In-Situ	-	-	-	-	-	-	-	-	451
EW-2 2'	2'	12/27/17	In-Situ	-	-	-	-	-	-	-	-	<49.9
WW-2 2'	2'	12/27/17	In-Situ	-	-	-	-	-	-	-	-	76.8
BH-3 3'	3'	12/27/17	In-Situ	-	-	-	-	-	-	-	-	<49.1
NW-3 1.5'	1.5'	12/27/17	In-Situ	-	-	-	-	-	-	-	-	65.7
SW-3 1.5'	1.5'	12/27/17	In-Situ	-	-	-	-	-	-	-	-	168
BH-4 3'	3'	12/27/17	In-Situ	-	-	-	-	-	-	-	-	13.1
NW-4 1.5'	1.5'	12/27/17	In-Situ	-	-	-	-	-	-	-	-	<4.92
EW-4 1.5'	1.5'	12/27/17	In-Situ	-	-	-	-	-	-	-	-	225
SW-4 1.5'	1.5'	12/27/17	In-Situ	-	-	-	-	-	-	-	-	59.1
T-BH-2 10'	10'	12/27/17	In-Situ	-	-	-	-	-	-	-	-	107
NMOCD Recommended Remediation Action Levels				**10**	**-**	**-**	**-**	**50**	**-**	**-**	**100**	**600**

CARDINAL Laboratories

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 accreditated 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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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, 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 - 8' (H601195-06)

Chloride, SM4500Cl-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, 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	

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

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: S2 - 1' (H601195-09)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**5840**	16.0	06/03/2016	ND	400	100	400	3.92	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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: 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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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: S2 - 10' (H601195-15)

Chloride, SM4500Cl-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, SM4500Cl-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, SM4500Cl-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, 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	

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

Chloride, SM4500Cl-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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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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: 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

CARDINAL Laboratories

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

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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST										
Lab I.D.	**Sample I.D.**	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	**DATE**	**TIME**	BTEX	TPH	Chloride								
H601195																									
1	S1-1'										x		5/25/16	10:00 AM			x								
2	S1-2'										x		5/25/16	10:00 AM			x								
3	S1-3'										x		5/25/16	10:00 AM			x								
4	S1-4'										x		5/25/16	10:00 AM			x								
5	S1-6'										x		5/25/16	10:00 AM			x								
6	S1-8'										x		5/25/16	10:00 AM			x								
7	S1-10'										x		5/25/16	10:00 AM			x								
8	S1-12'										x		5/25/16	10:00 AM			x								

Relinquished By:	**Date:** 6/1/16	**Received By:** Jodi Henson	
	Time: 11:00		
Relinquished By:	**Date:**	**Received By:**	
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: 5.2°C

Sample Condition
Cool: ☑ Yes ☐ No
Intact: ☑ Yes ☐ No

CHECKED BY: (Initials)

Phone Result:	☐ Yes	☐ No	**Add'l Phone #:**
Fax Result:	☐ Yes	☐ No	**Add'l Fax #:**

REMARKS:
dneel2@concho.com
lcarrasco@concho.com
atrujillo@concho.com

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

#54 15

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

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

Relinquished By:	**Date:** 6/1/16	**Received By:** Jodi Henson	
	Time: 11:00		
Relinquished By:	**Date:**	**Received By:**	
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: 5.2°c

Sample Condition Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No

CHECKED BY: (Initials)

#75

Phone Result:	☐ Yes	☐ No	**Add'l Phone #:**
Fax Result:	☐ Yes	☐ No	**Add'l Fax #:**

REMARKS:
dneel2@concho.com
lcarrasco@concho.com
atrujillo@concho.com

FORM-006 R 2.0

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

3 of

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST										
Lab I.D.	**Sample I.D.**	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	**DATE**	**TIME**	BTEX	TPH	Chloride								
17	S3-SURFACE										x		5/25/16	10:00 AM			x								
18	S3-1'										x		5/25/16	10:00 AM			x								
19	S3-2'										x		5/25/16	10:00 AM			x								
20	S3-3'										x		5/25/16	10:00 AM			x								
21	S3-4'										x		5/25/16	10:00 AM			x								
22	S3-6'										x		5/25/16	10:00 AM			x								
23	S3-8'										x		5/25/16	10:00 AM			x								

Relinquished By:	**Date:** 6/1/16	**Received By:**	
	Time: 11:00	Jodi Henson	
Relinquished By:	**Date:**	**Received By:**	
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: 5.2°C

Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No

CHECKED BY: (Initials)

Phone Result:	☐ Yes	☐ No	**Add'l Phone #:**
Fax Result:	☐ Yes	☐ No	**Add'l Fax #:**

REMARKS:
dneel2@concho.com
lcarrasco@concho.com
atrujillo@concho.com

FORM-006 R 2.0

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

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CARDINAL Laboratories

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

4 of 6

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

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST										
Lab I.D.	**Sample I.D.**	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	**DATE**	**TIME**	BTEX	TPH	Chloride								
24	S4-1'										x		5/25/16	10:00 AM			x								
25	S4-2'										x		5/25/16	10:00 AM			x								
26	S4-3'										x		5/25/16	10:00 AM			x								
27	S4-4'										x		5/25/16	10:00 AM			x								
28	S4-6'										x		5/25/16	10:00 AM			x								
29	S4-7'										x		5/25/16	10:00 AM			x								

Relinquished By:	**Date:** 6/1/16 **Time:** 11:00	**Received By:** Jodi Henson	
Relinquished By:	**Date:** **Time:**	**Received By:**	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 5.2°C	**Sample Condition** Cool ☑ Yes ☐ No / Intact ☑ Yes ☐ No	**CHECKED BY: (Initials)** JH	

Phone Result:	☐ Yes	☐ No	**Add'l Phone #:**
Fax Result:	☐ Yes	☐ No	**Add'l Fax #:**

REMARKS:
dneel2@concho.com
lcarrasco@concho.com
atrujillo@concho.com

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

#75

CARDINAL Laboratories

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 accreditated 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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	01/19/2017	Sampling Date:	01/10/2017
Reported:	01/24/2017	Sampling Type:	Soil
Project Name:	YELLOWSTONE 3 FEDERAL #003	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Angela Cabrera
Project Location:	NONE GIVEN		

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 (PID *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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	01/19/2017	Sampling Date:	01/10/2017
Reported:	01/24/2017	Sampling Type:	Soil
Project Name:	YELLOWSTONE 3 FEDERAL #003	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Angela Cabrera
Project Location:	NONE GIVEN		

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 (PID *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*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	01/19/2017	Sampling Date:	01/10/2017
Reported:	01/24/2017	Sampling Type:	Soil
Project Name:	YELLOWSTONE 3 FEDERAL #003	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Angela Cabrera
Project Location:	NONE GIVEN		

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 (PID *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

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	01/19/2017	Sampling Date:	01/10/2017
Reported:	01/24/2017	Sampling Type:	Soil
Project Name:	YELLOWSTONE 3 FEDERAL #003	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Angela Cabrera
Project Location:	NONE GIVEN		

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 (PID *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	**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*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	01/19/2017	Sampling Date:	01/10/2017
Reported:	01/24/2017	Sampling Type:	Soil
Project Name:	YELLOWSTONE 3 FEDERAL #003	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Angela Cabrera
Project Location:	NONE GIVEN		

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 (PID *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*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	01/19/2017	Sampling Date:	01/10/2017
Reported:	01/24/2017	Sampling Type:	Soil
Project Name:	YELLOWSTONE 3 FEDERAL #003	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Angela Cabrera
Project Location:	NONE GIVEN		

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 (PID *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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	01/19/2017	Sampling Date:	01/10/2017
Reported:	01/24/2017	Sampling Type:	Soil
Project Name:	YELLOWSTONE 3 FEDERAL #003	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Angela Cabrera
Project Location:	NONE GIVEN		

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

CARDINAL Laboratories

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

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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST											
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	BTEX	TPH	Chloride									
H700131																										
1	T1-1'										X		1/10/17	10:30AM	X	X	X									
2	T1-2'										X		1/10/17	10:30AM	X	X	X									
3	T1-3'										X		1/10/17	10:30AM	X	X	X									
4	T1-4'										X		1/10/17	10:30AM	X	X	X									
5	T1-5'										X		1/10/17	10:30AM	X	X	X									
6	T1-6'										X		1/10/17	10:30AM	X	X	X									
7	T1-8'										X		1/10/17	10:30AM			X									
8	T1-10'										X		1/10/17	10:30AM			X									
9	T1-11'										X		1/10/17	10:30AM			X									

Relinquished By:	**Date:** 1-19-17	**Received By:**	
	Time: 10:50 AM		
Relinquished By:	**Date:**	**Received By:**	
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: #75 1.1°C

Sample Condition		CHECKED BY: (Initials)
Cool	Intact	
☑ Yes ☐ No	☑ Yes ☐ No	

Phone Result:	☐ Yes	☐ No	**Add'l Phone #:**
Fax Result:	☐ Yes	☐ No	**Add'l Fax #:**

REMARKS:
dneel2@concho.com
alieb@concho.com
rgrubbs@concho.com
rhaskell@concho.com

CARDINAL Laboratories

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 accreditated 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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	03/09/2017	Sampling Date:	03/07/2017
Reported:	03/16/2017	Sampling Type:	Soil
Project Name:	YELLOWSTONE 3 FEDERAL #003	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

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	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

1 of

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	COG Operating LLC	**BILL TO**	
Project Manager:	Dakota Neel	**P.O. #:**	
Address:	2208 West Main	**Company:**	COG Operating LLC
City:	Artesia **State:** NM **Zip** 88210	**Attn:**	Robert McNeill
Phone #:	432-215-2783 **Fax #:**	**Address:**	600 W Illinois
Project #:	**Project Owner:**	**City:**	Midland
Project Name:	Yellowstone 3 Federal #3	**State:** TX **Zip:**	79701
Project Location:		**Phone #:**	(432) 221-0388
Sampler Name:	Dakota Neel	**Fax #:**	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST										
Lab I.D.	**Sample I.D.**	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	**DATE**	**TIME**	BTEX	TPH	Chloride									
H700624																									
1	T2-12'												3/7/17	10:00 AM			x								
2	T2-14'																								
3	T2-16'																								

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

Relinquished By:	**Date:** 3-9-17 **Time:** 11:35 AM	**Received By:**	
Relinquished By:	**Date:** 3-9-17 **Time:** 11:40	**Received By:**	Tamara Oldaker
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	4.9° C	**Sample Condition** Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	**CHECKED BY: (Initials)** TO. #15

Phone Result:	☐ Yes	☐ No	**Add'l Phone #:**
Fax Result:	☐ Yes	☐ No	**Add'l Fax #:**
REMARKS:			

dneel2@concho.com
alieb@concho.com
rhaskell@concho.com

FORM-006 R 2.0

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

Certificate of Analysis Summary 572382

TRC Solutions, Inc, Midland, TX

Project Name: YellowStone 3 Federal #3 (4-12-16)

Project Id: 8021
Contact: Joel Lowry
Project Location: Eddy County, NM

Date Received in Lab: Tue Jan-02-18 10:25 am
Report Date: 16-JAN-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	572382-001		572382-002		572382-003		572382-004		572382-005		572382-006	
	Field Id:	BH-1 3.5'		EW-1 1.5'		WW-1 1.5'		NW-1 1.5'		BH-2 4'		EW-2 2'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Dec-27-17 13:00		Dec-27-17 13:10		Dec-27-17 13:05		Dec-27-17 13:10		Dec-27-17 13:20		Dec-27-17 13:25	
Chloride by EPA 300	***Extracted:***	Jan-03-18 11:00		Jan-03-18 11:00		Jan-03-18 11:00		Jan-03-18 11:00		Jan-03-18 11:00		Jan-03-18 11:00	
	Analyzed:	Jan-03-18 11:30		Jan-03-18 11:37		Jan-03-18 11:44		Jan-03-18 11:51		Jan-03-18 12:12		Jan-03-18 12:19	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<49.4	49.4	221	49.6	274	49.5	<49.9	49.9	451	49.5	<49.9	49.9

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 572382

TRC Solutions, Inc, Midland, TX

Project Name: YellowStone 3 Federal #3 (4-12-16)

Project Id: 8021
Contact: Joel Lowry
Project Location: Eddy County, NM

Date Received in Lab: Tue Jan-02-18 10:25 am
Report Date: 16-JAN-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	572382-007		572382-008		572382-009		572382-010		572382-011		572382-012	
	Field Id:	WW-2 2'		T-BH-2 10'		BH-3 3'		NW-3 1.5'		SW-3 1.5'		BH-4 3'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Dec-27-17 13:30		Dec-27-17 13:35		Dec-27-17 13:40		Dec-27-17 13:45		Dec-27-17 13:50		Dec-27-17 13:55	
Chloride by EPA 300	***Extracted:***	Jan-03-18 11:00		Jan-03-18 11:00		Jan-03-18 11:00		Jan-03-18 11:00		Jan-11-18 17:00		Jan-11-18 17:00	
	Analyzed:	Jan-03-18 12:26		Jan-03-18 12:33		Jan-03-18 12:40		Jan-03-18 13:08		Jan-12-18 12:07		Jan-12-18 12:14	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		76.8	49.9	107	49.0	<49.1	49.1	65.7	49.6	168	4.99	13.1	4.95

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 572382

TRC Solutions, Inc, Midland, TX

Project Name: YellowStone 3 Federal #3 (4-12-16)

Project Id: 8021
Contact: Joel Lowry
Project Location: Eddy County, NM

Date Received in Lab: Tue Jan-02-18 10:25 am
Report Date: 16-JAN-18
Project Manager: Kelsey Brooks

Analysis Requested											
	Lab Id:	572382-013		572382-014		572382-015					
	Field Id:	NWW-4 1.5'		EW-4 1.5		SW-4 1.5'					
	Depth:										
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Dec-27-17 14:00		Dec-27-17 14:05		Dec-27-17 14:10					
Chloride by EPA 300	***Extracted:***	Jan-11-18 17:00		Jan-11-18 17:00		Jan-11-18 17:00					
	Analyzed:	Jan-12-18 12:21		Jan-11-18 23:23		Jan-12-18 12:28					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		<4.92	4.92	225	49.3	59.1	5.00				

Kelsey Brooks
Project Manager

Analytical Report 572382

for

TRC Solutions, Inc

Project Manager: Joel Lowry

YellowStone 3 Federal #3 (4-12-16)

16-JAN-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

16-JAN-18

Project Manager: **Joel Lowry**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **572382**
YellowStone 3 Federal #3 (4-12-16)
Project Address: Eddy County, NM

Joel Lowry:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 572382. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 572382 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 572382

TRC Solutions, Inc, Midland, TX

YellowStone 3 Federal #3 (4-12-16)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH-1 3.5'	S	12-27-17 13:00		572382-001
EW-1 1.5'	S	12-27-17 13:10		572382-002
WW-1 1.5'	S	12-27-17 13:05		572382-003
NW-1 1.5'	S	12-27-17 13:10		572382-004
BH-2 4'	S	12-27-17 13:20		572382-005
EW-2 2'	S	12-27-17 13:25		572382-006
WW-2 2'	S	12-27-17 13:30		572382-007
T-BH-2 10'	S	12-27-17 13:35		572382-008
BH-3 3'	S	12-27-17 13:40		572382-009
NW-3 1.5'	S	12-27-17 13:45		572382-010
SW-3 1.5'	S	12-27-17 13:50		572382-011
BH-4 3'	S	12-27-17 13:55		572382-012
NWW-4 1.5'	S	12-27-17 14:00		572382-013
EW-4 1.5	S	12-27-17 14:05		572382-014
SW-4 1.5'	S	12-27-17 14:10		572382-015

Client Name: TRC Solutions, Inc

Project Name: YellowStone 3 Federal #3 (4-12-16)

Project ID: *8021*
Work Order Number(s): *572382*

Report Date: *16-JAN-18*
Date Received: *01/02/2018*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analytical Results 572382

TRC Solutions, Inc, Midland, TX

YellowStone 3 Federal #3 (4-12-16)

Sample Id:	**BH-1 3.5'**	Matrix:	Soil	Date Received:	01.02.18 10.25
Lab Sample Id:	572382-001	Date Collected:	12.27.17 13.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	LRI	Date Prep:	01.03.18 11.00	Basis:	Wet Weight
Seq Number:	3037363				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<49.4	49.4	mg/kg	01.03.18 11.30	U	10

Certificate of Analytical Results 572382

TRC Solutions, Inc, Midland, TX

YellowStone 3 Federal #3 (4-12-16)

Sample Id:	**EW-1 1.5'**	Matrix:	Soil	Date Received:	01.02.18 10.25
Lab Sample Id:	572382-002	Date Collected:	12.27.17 13.10		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	LRI	Date Prep:	01.03.18 11.00	Basis:	Wet Weight
Seq Number:	3037363				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**221**	49.6	mg/kg	01.03.18 11.37		10

Certificate of Analytical Results 572382

TRC Solutions, Inc, Midland, TX

YellowStone 3 Federal #3 (4-12-16)

Sample Id:	**WW-1 1.5'**	Matrix:	Soil	Date Received:	01.02.18 10.25
Lab Sample Id:	572382-003	Date Collected:	12.27.17 13.05		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	LRI	Date Prep:	01.03.18 11.00	Basis:	Wet Weight
Seq Number:	3037363				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**274**	49.5	mg/kg	01.03.18 11.44		10

Certificate of Analytical Results 572382

TRC Solutions, Inc, Midland, TX

YellowStone 3 Federal #3 (4-12-16)

Sample Id:	**NW-1 1.5'**	Matrix:	Soil	Date Received:	01.02.18 10.25
Lab Sample Id:	572382-004	Date Collected:	12.27.17 13.10		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	LRI	Date Prep:	01.03.18 11.00	Basis:	Wet Weight
Seq Number:	3037363				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<49.9	49.9	mg/kg	01.03.18 11.51	U	10

Certificate of Analytical Results 572382

TRC Solutions, Inc, Midland, TX

YellowStone 3 Federal #3 (4-12-16)

Sample Id:	**BH-2 4'**	Matrix:	Soil	Date Received:	01.02.18 10.25
Lab Sample Id:	572382-005	Date Collected:	12.27.17 13.20		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	LRI	Date Prep:	01.03.18 11.00	Basis:	Wet Weight
Seq Number:	3037363				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**451**	49.5	mg/kg	01.03.18 12.12		10

Certificate of Analytical Results 572382

TRC Solutions, Inc, Midland, TX

YellowStone 3 Federal #3 (4-12-16)

Sample Id:	**EW-2 2'**	Matrix:	Soil	Date Received:	01.02.18 10.25
Lab Sample Id:	572382-006	Date Collected:	12.27.17 13.25		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	LRI	Date Prep:	01.03.18 11.00	Basis:	Wet Weight
Seq Number:	3037363				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<49.9	49.9	mg/kg	01.03.18 12.19	U	10

Certificate of Analytical Results 572382

TRC Solutions, Inc, Midland, TX

YellowStone 3 Federal #3 (4-12-16)

Sample Id:	**WW-2 2'**	Matrix:	Soil	Date Received:	01.02.18 10.25
Lab Sample Id:	572382-007	Date Collected:	12.27.17 13.30		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	LRI	Date Prep:	01.03.18 11.00	Basis:	Wet Weight
Seq Number:	3037363				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**76.8**	49.9	mg/kg	01.03.18 12.26		10

Certificate of Analytical Results 572382

TRC Solutions, Inc, Midland, TX

YellowStone 3 Federal #3 (4-12-16)

Sample Id:	**T-BH-2 10'**	Matrix:	Soil	Date Received:	01.02.18 10.25
Lab Sample Id:	572382-008	Date Collected:	12.27.17 13.35		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	LRI	Date Prep:	01.03.18 11.00	Basis:	Wet Weight
Seq Number:	3037363				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**107**	49.0	mg/kg	01.03.18 12.33		10

Certificate of Analytical Results 572382

TRC Solutions, Inc, Midland, TX

YellowStone 3 Federal #3 (4-12-16)

Sample Id:	**BH-3 3'**	Matrix:	Soil	Date Received:	01.02.18 10.25
Lab Sample Id:	572382-009	Date Collected:	12.27.17 13.40		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	LRI	Date Prep:	01.03.18 11.00	Basis:	Wet Weight
Seq Number:	3037363				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<49.1	49.1	mg/kg	01.03.18 12.40	U	10

Certificate of Analytical Results 572382

TRC Solutions, Inc, Midland, TX

YellowStone 3 Federal #3 (4-12-16)

Sample Id:	**NW-3 1.5'**	Matrix:	Soil	Date Received:	01.02.18 10.25
Lab Sample Id:	572382-010	Date Collected:	12.27.17 13.45		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	LRI			% Moisture:	
Analyst:	LRI	Date Prep:	01.03.18 11.00	Basis:	Wet Weight
Seq Number:	3037363				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**65.7**	49.6	mg/kg	01.03.18 13.08		10

Certificate of Analytical Results 572382

TRC Solutions, Inc, Midland, TX

YellowStone 3 Federal #3 (4-12-16)

Sample Id:	**SW-3 1.5'**	Matrix:	Soil	Date Received:	01.02.18 10.25
Lab Sample Id:	572382-011	Date Collected:	12.27.17 13.50		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	01.11.18 17.00	Basis:	Wet Weight
Seq Number:	3038148				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**168**	4.99	mg/kg	01.12.18 12.07		1

Certificate of Analytical Results 572382

TRC Solutions, Inc, Midland, TX

YellowStone 3 Federal #3 (4-12-16)

Sample Id:	**BH-4 3'**	Matrix:	Soil	Date Received:	01.02.18 10.25
Lab Sample Id:	572382-012	Date Collected:	12.27.17 13.55		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	01.11.18 17.00	Basis:	Wet Weight
Seq Number:	3038148				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**13.1**	4.95	mg/kg	01.12.18 12.14		1

Certificate of Analytical Results 572382

TRC Solutions, Inc, Midland, TX

YellowStone 3 Federal #3 (4-12-16)

Sample Id:	**NWW-4 1.5'**	Matrix:	Soil	Date Received:	01.02.18 10.25
Lab Sample Id:	572382-013	Date Collected:	12.27.17 14.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	01.11.18 17.00	Basis:	Wet Weight
Seq Number:	3038148				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.92	4.92	mg/kg	01.12.18 12.21	U	1

Certificate of Analytical Results 572382

TRC Solutions, Inc, Midland, TX

YellowStone 3 Federal #3 (4-12-16)

Sample Id:	**EW-4 1.5**	Matrix:	Soil	Date Received:	01.02.18 10.25
Lab Sample Id:	572382-014	Date Collected:	12.27.17 14.05		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	01.11.18 17.00	Basis:	Wet Weight
Seq Number:	3038148				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**225**	49.3	mg/kg	01.11.18 23.23		10

Certificate of Analytical Results 572382

TRC Solutions, Inc, Midland, TX

YellowStone 3 Federal #3 (4-12-16)

Sample Id:	**SW-4 1.5'**	Matrix:	Soil	Date Received:	01.02.18 10.25
Lab Sample Id:	572382-015	Date Collected:	12.27.17 14.10		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	01.11.18 17.00	Basis:	Wet Weight
Seq Number:	3038148				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**59.1**	5.00	mg/kg	01.12.18 12.28		1

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 572382

TRC Solutions, Inc

YellowStone 3 Federal #3 (4-12-16)

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3037363 Matrix: Solid Date Prep: 01.03.18
MB Sample Id: 7636873-1-BLK LCS Sample Id: 7636873-1-BKS LCSD Sample Id: 7636873-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	236	94	234	94	90-110	1	20	mg/kg	01.03.18 10:47	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3038148 Matrix: Solid Date Prep: 01.11.18
MB Sample Id: 7637366-1-BLK LCS Sample Id: 7637366-1-BKS LCSD Sample Id: 7637366-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	244	98	244	98	90-110	0	20	mg/kg	01.11.18 20:14	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3037363 Matrix: Soil Date Prep: 01.03.18
Parent Sample Id: 572383-001 MS Sample Id: 572383-001 S MSD Sample Id: 572383-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	19.8	246	269	101	270	102	90-110	0	20	mg/kg	01.03.18 12:54	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3037363 Matrix: Soil Date Prep: 01.03.18
Parent Sample Id: 572416-006 MS Sample Id: 572416-006 S MSD Sample Id: 572416-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.90	245	241	98	241	98	90-110	0	20	mg/kg	01.03.18 11:16	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3038148 Matrix: Soil Date Prep: 01.11.18
Parent Sample Id: 573353-002 MS Sample Id: 573353-002 S MSD Sample Id: 573353-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	418	246	666	101	639	90	90-110	4	20	mg/kg	01.11.18 20:35	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 572382

TRC Solutions, Inc

YellowStone 3 Federal #3 (4-12-16)

Analytical Method: **Chloride by EPA 300** Prep Method: E300P

Seq Number: 3038148 Matrix: Soil Date Prep: 01.11.18

Parent Sample Id: 573353-011 MS Sample Id: 573353-011 S MSD Sample Id: 573353-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	293	246	505	86	504	86	90-110	0	20	mg/kg	01.11.18 22:13	X

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery

[D] = 100*(C-A) / B
RPD = 200* | (C-E) / (C+E) |
[D] = 100 * (C) / [B]

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

CHAIN OF CUSTODY

Page 1 Of 2

XENCO LABORATORIES

Setting the Standard since 1990

Stafford,Texas (281-240-4200)

Dallas Texas (214-902-0300)

San Antonio, Texas (210-509-3334)

Midland, Texas (432-704-5251)

www.xenco.com

Phoenix, Arizona (480-355-0900)

Xenco Quote #

Xenco Job # 572382

Client / Reporting Information

Company Name / Branch: TRC

Company Address: 2057 Commerce Drive, Midland, Texas 79703

Email: jlowry@trcsolutions.com; ahunnicutt@trcsolutions.com

Phone No: 432-466-4450

Project Contact: Nikki Green

Samplers's Name: Nikki Green

Project Information

Project Name/Number: Yellowstone 3 Federal #3 (4-12-16)

Project Location: Eddy County, NM

Invoice To: Rebecca Haskell with COG Operating LLC rhaskell@concho.com
600 W Illinois Avenue | Midland, TX 79701
Direct: 432-818-2372 | Main: 432.683.7443

PO Number:

Analytical Information

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH 8015M EXT 36	BTEX 8021B	Chloride E300.0	Field Comments
1	BH-1 3.5'		27-Dec	1300	S	1								x			x	
2	EW-1 1.5'		27-Dec	1310	S	1								x			x	
3	WW-1 1.5'		27-Dec	1305	S	1								x			x	
4	NW-1 1.5'		27-Dec	1310	S	1								x			x	
5	BH-2 4'		27-Dec	1320	S	1								x			x	
6	EW-2 2'		27-Dec	1325	S	1								x			x	
7	WW-2 2'		27-Dec	1330	S	1								x			x	
8	T-BH-2 10'		27-Dec	1335	S	1								x			x	
9	BH-3 3'		27-Dec	1340	S	1								x			x	
10	NW-3 1.5'		27-Dec	1345	S	1								x			x	

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [x] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [x] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

Temp: 1.8°c IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 1.6°c

FED-EX / UPS: Tracking

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by Sampler: 1	Date Time: 1/2/18 9:33	Received By: 1	Relinquished By: 2	Date Time: 1/2/18 10:25	Received By: 2
Relinquished by: 3	Date Time: 1-2-18 10:25	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor

CHAIN OF CUSTODY

Page 2 Of 2

XENCO LABORATORIES

Setting the Standard since 1990

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Phoenix, Arizona (480-355-0900)

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Xenco Quote #

Xenco Job # 572382

Client / Reporting Information

Company Name / Branch: TRC

Company Address: 2057 Commerce Drive, Midland, Texas 79703

Email: jlowry@trcsolutions.com; ahunnicutt@trcsolutions.com

Phone No: 432-466-4450

Project Contact: Nikki Green

Samplers's Name: Nikki Green

Project Information

Project Name/Number: Yellowstone 3 Federal #3 (4-12-16)

Project Location: Eddy County, NM

Invoice To: Rebecca Haskell with COG Operating LLC rhaskell@concho.com
600 W Illinois Avenue | Midland, TX 79701
Direct: 432-818-2372 | Main: 432.683.7443

PO Number:

Analytical Information

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH 8015M EXT 36	BTEX 8021B	Chloride E300.0								
1	SW-3 1.5'		27-Dec	1350	S	1								x			x								
2	BH-4 3'		27-Dec	1355	S	1								x			x								
3	NW-4 1.5'		27-Dec	1400	S	1								x			x								
4	EW-4 1.5'		27-Dec	1405	S	1								x			x								
5	SW-4 1.5'		27-Dec	1410	S	1								x			x								
6																									
7																									
8																									
9																									
10																									

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

Field Comments

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [X] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [X] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

Temp: 1.8°c - IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 1.6°c

FED-EX / UPS Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by Sampler: 1 Nikki Green	Date Time: 12/18 9:33	Received By: 1	Relinquished By: 2	Date Time: 12/18 1005	Received By: 2
Relinquished by: 3	Date Time: 12-8 10:25	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 01/02/2018 10:25:00 AM

Work Order #: 572382

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.6
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Shawnee Smith Date: 01/02/2018
Shawnee Smith

Checklist reviewed by: Kelsey Brooks Date: 01/02/2018
Kelsey Brooks

Photographic Documentation

Client: COG Operating, LLC
Project Name: Yellowstone 3 Federal #003

Prepared by: TRC Environmental Corp.
Location: Eddy County, NM

Figure 1 – View of the affected area before remediation activities, facing South.

Photographic Documentation

Client: COG Operating, LLC
Project Name: Yellowstone 3 Federal #003

Prepared by: TRC Environmental Corp.
Location: Eddy County, NM

Figure 2 – View of the affected area before remediation activities, facing Southeast.

Photographic Documentation

Client: COG Operating, LLC
Project Name: Yellowstone 3 Federal #003

Prepared by: TRC Environmental Corp.
Location: Eddy County, NM

Figure 3 – View of portion of the excavated area, facing East.

Photographic Documentation

Client: COG Operating, LLC
Project Name: Yellowstone 3 Federal #003

Prepared by: TRC Environmental Corp.
Location: Eddy County, NM

Figure 4 – View of portion of the excavated area, facing North.

Photographic Documentation

Client: COG Operating, LLC
Project Name: Yellowstone 3 Federal #003

Prepared by: TRC Environmental Corp.
Location: Eddy County, NM

Figure 5 – View of the affected area after remediation activities, facing Southeast.

Photographic Documentation

Client: COG Operating, LLC
Project Name: Yellowstone 3 Federal #003

Prepared by: TRC Environmental Corp.
Location: Eddy County, NM

Figure 6 – View of the affected area after remediation activities, facing North.

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

nAB1612429261 229137

OPERATOR

☒ Initial Report ☐ Final Report

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

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

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? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

NM OIL CONSERVATION
ARTESIA DISTRICT
APR 28 2016
RECEIVED

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.

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.

Signature: Robert Grubbs Jr.

Printed Name: Robert Grubbs Jr.

Title: Senior Environmental Coordinator

E-mail Address: rgrubbs@concho.com

Date: April 28, 2016 Phone: 432-683-7443

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: 5/2/16 Expiration Date: N/A

Conditions of Approval: Attached ☐
Remediation per O.C.D. Rules & Guidelines
SUBMIT REMEDIATION PROPOSAL NO LATER THAN: 6/3/16

2RP-3608

* Attach Additional Sheets If Necessary