

SITE INFORMATION

Report Type: Closure Report 2RP-4245

General Site Information:

Site:	Reposado 2 State #001H					
Company:	COG Operating LLC					
Section, Township and Range	Unit B	Sec. 02	T 26S	R 29E		
Lease Number:	API No. 30-015-36774					
County:	Eddy County					
GPS:	32.07801822° N			103.9527893° W		
Surface Owner:	State					
Mineral Owner:	State					
Directions:	285 S to state line, left at 725-mm4, cross river left after cattle guard in front of compressor station, left at 725 intersction, left at first road to left, battery is frist one on right					

Release Data:

Date Released:	6/6/2017
Type Release:	Produced Water and Oil
Source of Contamination:	Gasket failure on FWKO
Fluid Released:	30 bbls PW, and 4 bbls Oil
Fluids Recovered:	10 bbls PW, bbls Oil

Official Communication:

Name:	Robert McNeil	Ike Tavaréz
Company:	COG Operating, LLC	Tetra Tech
Address:	One Concho Center 600 W. Illinois Ave.	4000 N. Big Spring Ste 401
City:	Midland Texas, 79701	Midland, Texas
Phone number:	(432) 683-7443	(432) 687-8110
Fax:	(432) 684-7137	
Email:	rmcneil@conchoresources.com	Ike.Tavaréz@tetrattech.com

Ranking Criteria

Depth to Groundwater:	Ranking Score	Site Data
<50 ft	20	
50-99 ft	10	
>100 ft.	0	150'
WellHead Protection:	Ranking Score	Site Data
Water Source <1,000 ft., Private <200 ft.	20	
Water Source >1,000 ft., Private >200 ft.	0	0
Surface Body of Water:	Ranking Score	Site Data
<200 ft.	20	
200 ft - 1,000 ft.	10	
>1,000 ft.	0	0
Total Ranking Score:		0

Acceptable Soil RRAL (mg/kg)		
Benzene	Total BTEX	TPH
10	50	5,000



December 27, 2017

Mr. Mike Bratcher
Environmental Engineer Specialist
Oil Conservation Division, District 2
811 S. First Street
Artesia, New Mexico 88210

Re: Closure Report for the COG Operating LLC, Reposado 2 State #001H, Unit B, Section 02, Township 26 South, Range 29 East, Eddy County, New Mexico. 2RP-4245

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC., (COG) to assess a spill from the Reposado 2 State #001H, Unit B, Section 02, Township 26 South, Range 29 East, Eddy County, New Mexico. The spill site coordinates are N 32.0780182 °, W 103.9527893 °. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on June 6, 2017, and released approximately thirty (30) barrels of produced water and four (4) barrels of oil due to a gasket failure on a free water knockout. Approximately ten (10) barrels of produced water was recovered and none of the oil was recovered. The release occurred within the bermed facility and an overspray impacted an area in the adjacent pasture. The release are measured approximately 25' x 60' inside the berm and the overspray area in the pasture measures approximately 55' x 90'. The initial C-141 form is included in Appendix A

Groundwater

No water wells were listed within Section 02 on the New Mexico Office of the State Engineer's website. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in this area is between 150' and 175' below surface. The groundwater data is shown in Appendix B.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram



(mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 5,000 mg/kg.

Soil Assessment and Analytical Results

Pasture Area Assessment

On June 6, 2017, COG personnel were onsite to evaluate and sample the overspray area in the pasture. Two (2) sample trenches (T-1 and T-2) were installed in the overspray area, to total depths of 12.0' and 14.0' below surface using a backhoe. Additionally, four (4) trenches were installed around the perimeter of the spill (North, South, East, and West) to a total depth of 1.0' below surface for horizontal extents. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The trench locations are shown in Figure 3.

Referring to Table 1, none of the collected samples exceeded the RRALs for TPH, benzene or total BTEX. The areas of trenches (T-1, T-2, North, South, East, and West) showed TPH highs of 2,620 mg/kg, 2,630 mg/kg, 91.0 mg/kg, <15.0 mg/kg, 1,190 mg/kg, and 39.8 mg/kg, at surface, respectively. The TPH concentrations further declined with depth and showed bottom trench concentrations ranging from <15.0 mg/kg to 231 mg/kg.

All the areas sampled showed results below the laboratory reporting limit for benzene. A trace of BTEX concentrations were detected at the surface with concentrations of 0.587 mg/kg (T-1) and 1.34 mg/kg (T-2). The samples collected at trenches (North, South, East, and West) showed total BTEX concentrations below laboratory reporting limit. Additionally, the areas of trenches (T-1 and T-2) did not show a significant chloride impact to the soils with chloride highs of 413 mg/kg (10') and 836 mg/kg (surface), respectively. Trenches (North, South, East, and West) also showed minimal chloride concentrations ranging from 4.87 mg/kg to 219 mg/kg.

Inside Facility Berm

On November 20, 2017, Tetra Tech personnel returned to the site to evaluate and sample the impacted area inside the facility berm. Numerous above ground lines, as well as equipment, is located inside the berm causing access issues. Due to safety concerns, one borehole (BH-1) was installed along the interior edge of the berm to a total depth of 24'-25' below surface. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The borehole location is shown on Figure 3.

Referring to Table 1, the area of borehole (BH-1) showed a TPH concentration below the RRALs of 1,030 mg/kg at 0'-1', which declined with depth below the laboratory reporting limit at 14'-15' below surface. Additionally, none of the samples analyzed showed benzene or total BTEX concentrations above the laboratory reporting limits. In addition, the area of borehole (BH-1) showed minimal chloride concentrations in the shallow soils, with a chloride high of 1,410 mg/kg at 2'-3'. The chlorides declined with depth to 432 mg/kg at 4'-5' and showed a bottom hole concentration of 271 mg/kg at 24'-25' below surface.



Conclusion and Recommendations

According to Chevron trend map, the depth to groundwater in the area is approximately 150' to 175' below surface. The areas of trenches (T-1 and T-2) and borehole (BH-1) showed TPH, benzene, and total BTEX concentrations below the RRLs. Additionally, no significant chloride concentrations were detected in the areas of trenches (T-1 and T-2). The area of borehole (BH-1) showed minimal chloride concentrations to the shallow soils, with a chloride high of 1,410 mg/kg at 2'-3' below surface, which does not appear to be an environmental concern.

Based on the results, safety concerns and limited access, COG requests closure of this spill issue. The final C-141 is enclosed in Appendix A. If you have any questions or comments concerning the assessment activities for this site, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

A handwritten signature in blue ink, appearing to read 'Ike Tavarez'.

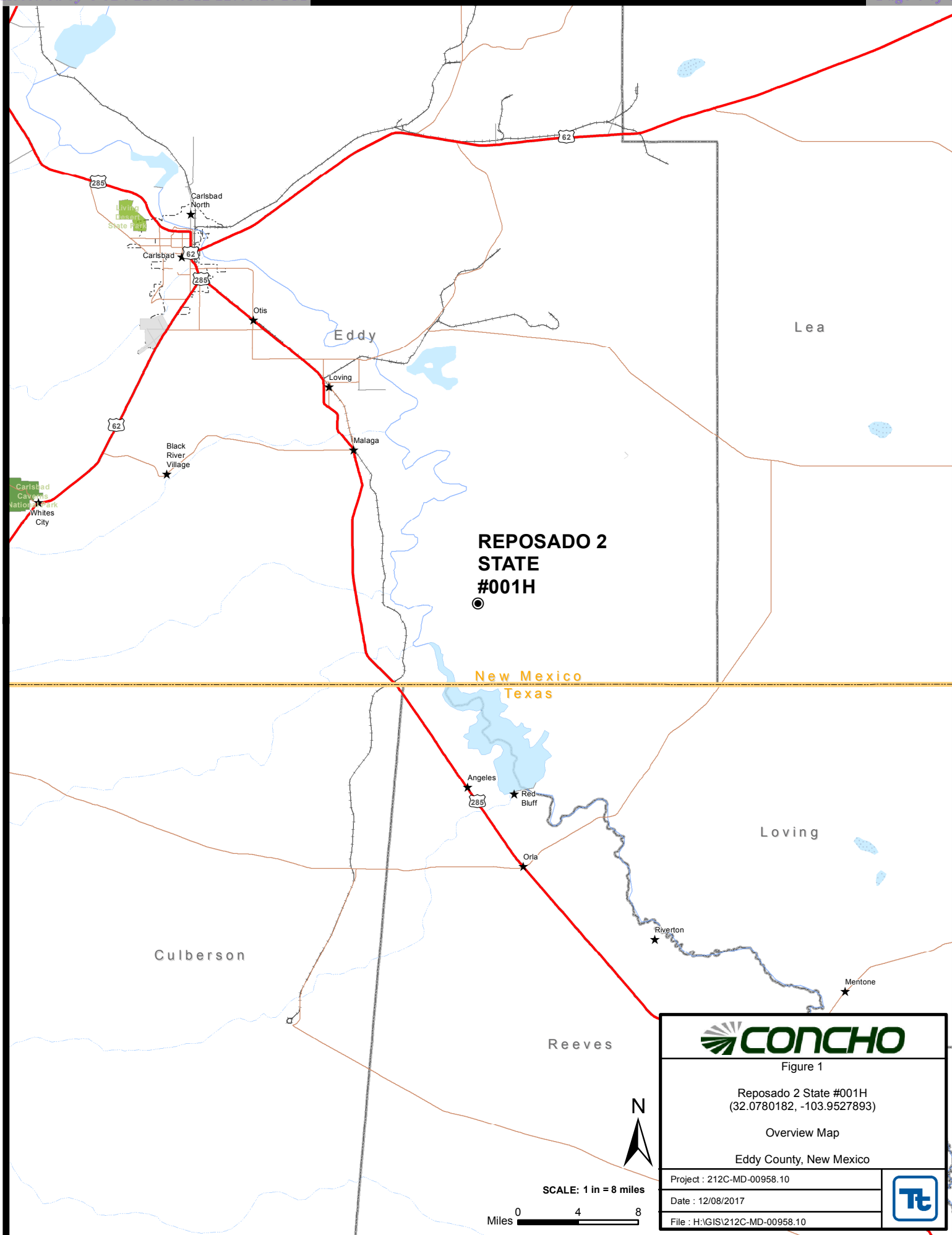
Ike Tavarez, PG
Senior Project Manager

A handwritten signature in blue ink, appearing to read 'Clair Gonzales'.

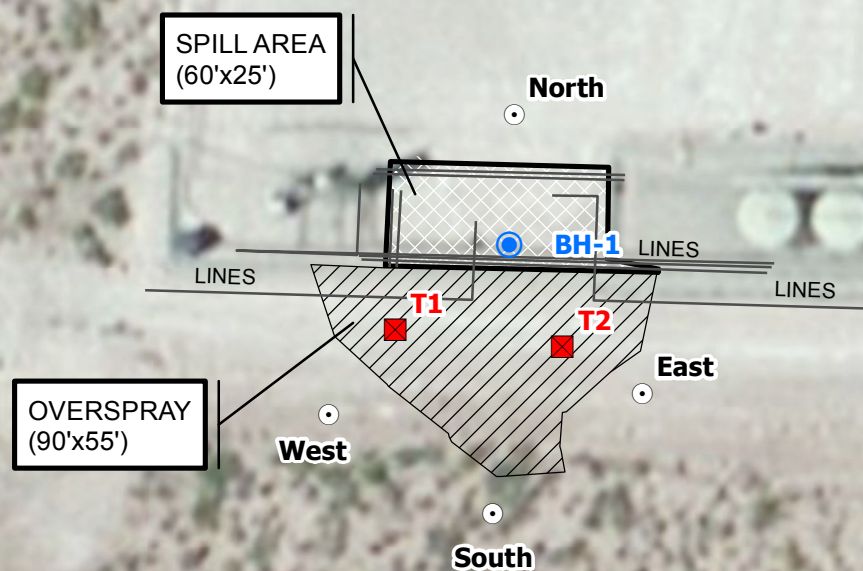
Clair Gonzales,
Geologist I

cc: Robert McNeill – COG
Dakota Neel – COG
Amber Groves- SLO

Figures





**EXPLANATION**

- BORE HOLE SAMPLE LOCATION
- SAMPLE LOCATIONS
- TRENCH SAMPLE LOCATIONS
- SPILL AREA



Esri, HERE, DeLorme, Mapmy
HERE, DeLorme, Mapmy
U: 0 25 50
Feet 0 25 50
C:\ESRI\MapServer\styles\img



Figure 3

Reposado 2 State #001H
(32.0780182, -103.9527893)

Spill Assessment Map

Eddy County, New Mexico

Project : 212C-MD-00958.10

Date : 12/08/2017

File : H:\GIS\212C-MD-00958.10



Tables

Table 1
COG Operating LLC.
Reposado 2 State #1H
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	C6-C10	C10-C28	C28-C35	Total						
T-1	6/29/2017	Surface	X		607	1840	171	2620	<0.00201	0.00639	0.0368	0.544	0.587	141
	"	1	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	5.88
	"	2	X		<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	6.87
	"	3	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	91.4
	"	5	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	407
	"	10	X		-	-	-	-	-	-	-	-	-	413
	"	12	X		-	-	-	-	-	-	-	-	-	350
	"	14	X		<15.0	22.4	<15.0	22.4	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	341
T-2	6/29/2017	Surface	X		742	1710	173	2630	<0.00201	0.0886	0.136	1.12	1.34	836
	"	1	X		52.7	187	<15.0	240	<0.00198	0.00480	0.00962	0.132	0.147	71.0
	"	2	X		<15.0	<15.0	<15.0	<15.0	<0.00202	<0.00202	<0.00202	0.0134	0.0134	8.30
	"	3	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	5.06
	"	4	X		<15.0	<15.0	<15.0	<15.0	<0.00200	0.00342	<0.00200	0.0139	0.0173	77.5
	"	5	X		-	-	-	-	-	-	-	-	-	30.2
	"	10	X		-	-	-	-	-	-	-	-	-	233
	"	12	X		33.4	198	<15.0	231	<0.00201	0.00203	<0.00201	0.00709	0.00912	406
BH-1	11/20/2017	0-1	X		73.7	958	<25.0	1,030	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	969
	"	2-3	X		-	-	-	-	-	-	-	-	-	1,410
	"	4-5	X		-	-	-	-	-	-	-	-	-	432
	"	6-7	X		-	-	-	-	-	-	-	-	-	240
	"	9-10	X		-	-	-	-	-	-	-	-	-	197
	"	14-15	X		<25.0	<25.0	<25.0	<25.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	321
	"	19-20	X		-	-	-	-	-	-	-	-	-	314
	"	24-25	X		-	-	-	-	-	-	-	-	-	271
North	6/29/2017	Surface	X		<15.0	91.0	<15.0	91.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	124
	"	1	X		<14.9	<14.9	<14.9	<14.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	219
South	6/29/2017	Surface	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	33.3
	"	1	X		<14.9	<14.9	<14.9	<14.9	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	8.75
East	6/29/2017	Surface	X		108	981	97.3	1190	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	8.33
	"	1	X		<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<4.87
West	6/29/2017	Surface	X		<15.0	39.8	<15.0	39.8	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<24.4
	"	1	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	5.11

Appendix A

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011
Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: COG Operating LLC OGRID# [229137]	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-683-7443
Facility Name: REPOSADO 2 STATE #001H	Facility Type: Battery
Surface Owner: State	Mineral Owner: State
API No. 30-015-36774	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	02	26S	29E	330'	North	1980'	East	Eddy

Latitude 32.0780182 Longitude -103.9527893

NATURE OF RELEASE

Type of Release: Produced Water & Oil	Volume of Release: 30 bbls PW, 4 bbls Oil	Volume Recovered: 10 bbls PW, 0 bbls Oil
Source of Release: FWKO	Date and Hour of Occurrence: 6/6/2017 7:00 pm	Date and Hour of Discovery: 6/6/2017 7:00 pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Ms. Weaver – NMOCD / Ms. Groves - SLO	
By Whom? Dakota Neel	Date and Hour: 6/7/2017 11:25 AM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The release was due to a gasket failure on the free water knockout inside the battery. The gasket has been replaced.

Describe Area Affected and Cleanup Action Taken.*

This release occurred within the bermed area of the battery and an overspray impacted the pasture. A vacuum truck was dispatched to remove all freestanding fluids. 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: 	<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Dakota Neel		
Title: HSE Coordinator	Approval Date:	Expiration Date:
E-mail Address: dneel@concho.com	Conditions of Approval:	Attached ☐
Date: June 9, 2017 Phone: 575-746-2010		

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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 October 10, 2003

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company COG Operating LLC OGRID(229137)	Contact Robert McNeil
Address 600 West Illinois Ave. Midland, Texas 79701	Telephone No. (432) 683-7443
Facility Name Reposado 2 State #001H	Facility Type Battery
Surface Owner: State	Mineral Owner: State
API No. 30-015-36774	

LOCATION OF RELEASE

Unit Letter B	Section 02	Township 26S	Range 29E	Feet from the 330'	North/South Line North	Feet from the 1980'	East/West Line East	County Eddy
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Latitude N 32.0780182° Longitude W -103.9527893°

NATURE OF RELEASE

Type of Release: Produced Water & Oil	Volume of Release 30 bbls PW, 4bbls Oil	Volume Recovered: 10 bbls PW, 0 bbls Oil
Source of Release:FWKO	Date and Hour of Occurrence 6/6/2017 7:00pm	Date and Hour of Discovery 6/6/17 7:00pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Ms. Weaver- NMOCD/ Ms. Groves- SLO	
By Whom? Josh Russo	Date and Hour 6/7/17 11:25 a.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	
If a Watercourse was Impacted, Describe Fully.* N/A		
Describe Cause of Problem and Remedial Action Taken.* The cause of the release was due to a gasket failure on the free water knockout inside the battery. The gasket has been replaced.		
Describe Area Affected and Cleanup Action Taken.* The release occurred inside the berm area of the battery and an overspray impacted the pasture. There was a vacuum truck that dispatched and removed all the free standing liquids. Concho inspected site and collected samples to define spills extent. No soil exceeded RRAL. Tetra Tech prepared closure report and submitted to NMOCD for review.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		
Signature:		OIL CONSERVATION DIVISION
Printed Name: Ike Tavarez	Approved by District Supervisor: <i>Ashley Maxwell</i>	
Title: Project Manager	Approval Date: 11/30/2022	Expiration Date:
E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval:	Attached ☐
Date:	Phone: (432) 682-4559	

* Attach Additional Sheets If Necessary

Appendix B



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,
O=orphaned,
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 01337	C	ED		2	1	30	25S	29E		591926	3552642*	180	30	150
C 01880	C	ED		3	3	2	06	25S	29E	592161	3558605*	85	40	45
C 02371	C	ED		2	3	15	25S	29E		596741	3555106*	200	60	140
C 02459	C	ED		4	4	1	02	25S	29E	598422	3558663*	150		
C 02518	C	ED		3	4	08	25S	29E		593895	3556300*	462		
C 02680	C	ED		2	3	15	25S	29E		596741	3555106*	200		
RA 07162 EXP2		ED		1	3	1	10	25S	29E	596214	3557222*	55	40	15

Average Depth to Water: **42 feet**

Minimum Depth: **30 feet**

Maximum Depth: **60 feet**

Record Count: 7

PLSS Search:

Township: 25S

Range: 29E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

12/7/17 10:06 AM

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WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,
O=orphaned,
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(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 01337	C	ED		2	1	30	25S	29E		591926	3552642*	180	30	150
C 01880	C	ED		3	3	2	06	25S	29E	592161	3558605*	85	40	45
C 02371	C	ED		2	3	15	25S	29E		596741	3555106*	200	60	140
C 02459	C	ED		4	4	1	02	25S	29E	598422	3558663*	150		
C 02518	C	ED		3	4	08	25S	29E		593895	3556300*	462		
C 02680	C	ED		2	3	15	25S	29E		596741	3555106*	200		
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PLSS Search:

Township: 25S

Range: 29E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

12/7/17 10:06 AM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER

Appendix C

Photos



Certificate of Analysis Summary 556913

COG Operating LLC, Artesia, NM

Project Name: Reposado 2 State #001



Project Id:

Contact: Aaron Lieb

Project Location:

Date Received in Lab: Wed Jul-05-17 11:45 am

Report Date: 12-JUL-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	556913-001	556913-002	556913-003	556913-004	556913-005	556913-006
	<i>Field Id:</i>	T1-Surface	T1-1'	T1-2'	T1-3'	T1-5'	T1-10'
	<i>Depth:</i>		1- ft	2- ft	3- ft	5- ft	10- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-29-17 10:00	Jun-29-17 10:00	Jun-29-17 10:00	Jun-29-17 10:00	Jun-29-17 10:00	Jun-29-17 10:00
BTEX by EPA 8021B	<i>Extracted:</i>	Jul-07-17 16:30	Jul-07-17 16:30	Jul-07-17 16:30	Jul-07-17 16:30	Jul-07-17 16:45	
	<i>Analyzed:</i>	Jul-08-17 18:09	Jul-08-17 17:20	Jul-08-17 17:53	Jul-08-17 15:58	Jul-08-17 23:31	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	
Toluene		0.00639 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	
Ethylbenzene		0.0368 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	
m_p-Xylenes		0.346 0.00402	<0.00401 0.00401	<0.00398 0.00398	<0.00399 0.00399	<0.00401 0.00401	
o-Xylene		0.198 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	
Total Xylenes		0.544 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	
Total BTEX		0.587 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	
Chloride by EPA 300	<i>Extracted:</i>	Jul-11-17 17:20	Jul-11-17 17:20	Jul-11-17 17:20	Jul-11-17 17:20	Jul-11-17 17:20	Jul-11-17 17:20
	<i>Analyzed:</i>	Jul-11-17 21:27	Jul-11-17 22:06	Jul-11-17 22:14	Jul-11-17 22:37	Jul-11-17 22:44	Jul-11-17 22:52
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		141 4.96	5.88 4.99	6.87 4.98	91.4 4.91	407 5.00	413 24.6
TPH By SW8015 Mod	<i>Extracted:</i>	Jul-06-17 15:00	Jul-06-17 15:00	Jul-06-17 15:00	Jul-06-17 15:00	Jul-06-17 15:00	
	<i>Analyzed:</i>	Jul-07-17 00:24	Jul-07-17 00:45	Jul-07-17 01:47	Jul-07-17 02:09	Jul-07-17 02:30	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		607 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	
Diesel Range Organics (DRO)		1840 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	
Oil Range Hydrocarbons (ORO)		171 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	
Total TPH		2620 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	

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Mike Kimmel
Client Services Manager



Certificate of Analysis Summary 556913

COG Operating LLC, Artesia, NM

Project Name: Reposado 2 State #001



Project Id:

Contact: Aaron Lieb

Project Location:

Date Received in Lab: Wed Jul-05-17 11:45 am

Report Date: 12-JUL-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	556913-007	556913-008	556913-009	556913-010	556913-011	556913-012
	<i>Field Id:</i>	T1-12'	T1-14'	T2-Surface	T2-1'	T2-2'	T2-3'
	<i>Depth:</i>	12- ft	14- ft		1- ft	2- ft	3- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-29-17 10:00	Jun-29-17 10:00	Jun-29-17 11:00	Jun-29-17 11:00	Jun-29-17 11:00	Jun-29-17 11:00
BTEX by EPA 8021B	<i>Extracted:</i>		Jul-07-17 16:30	Jul-07-17 16:30	Jul-07-17 16:30	Jul-07-17 16:30	Jul-07-17 16:30
	<i>Analyzed:</i>		Jul-08-17 17:04	Jul-08-17 18:57	Jul-08-17 19:13	Jul-08-17 16:14	Jul-08-17 16:29
	<i>Units/RL:</i>		mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene			<0.00200 0.00200	<0.00201 0.00201	<0.00198 0.00198	<0.00202 0.00202	<0.00200 0.00200
Toluene			<0.00200 0.00200	0.0886 0.00201	0.00480 0.00198	<0.00202 0.00202	<0.00200 0.00200
Ethylbenzene			<0.00200 0.00200	0.136 0.00201	0.00962 0.00198	<0.00202 0.00202	<0.00200 0.00200
m_p-Xylenes			<0.00401 0.00401	0.746 0.00402	0.0867 0.00397	0.00753 0.00404	<0.00399 0.00399
o-Xylene			<0.00200 0.00200	0.372 0.00201	0.0456 0.00198	0.00591 0.00202	<0.00200 0.00200
Total Xylenes			<0.00200 0.00200	1.12 0.00201	0.132 0.00198	0.0134 0.00202	<0.00200 0.00200
Total BTEX			<0.00200 0.00200	1.34 0.00201	0.147 0.00198	0.0134 0.00202	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	Jul-11-17 17:20	Jul-11-17 17:20	Jul-11-17 17:20	Jul-11-17 17:20	Jul-11-17 17:20	Jul-11-17 17:20
	<i>Analyzed:</i>	Jul-11-17 23:00	Jul-11-17 23:07	Jul-11-17 23:15	Jul-11-17 23:38	Jul-11-17 23:46	Jul-12-17 00:09
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		350 24.9	341 24.9	836 4.97	71.0 4.97	8.30 4.98	5.06 4.97
TPH By SW8015 Mod	<i>Extracted:</i>		Jul-06-17 15:00	Jul-06-17 15:00	Jul-06-17 15:00	Jul-06-17 15:00	Jul-06-17 15:00
	<i>Analyzed:</i>		Jul-07-17 02:51	Jul-07-17 03:12	Jul-07-17 03:34	Jul-07-17 03:55	Jul-07-17 04:16
	<i>Units/RL:</i>		mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)			<15.0 15.0	742 14.9	52.7 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)			22.4 15.0	1710 14.9	187 15.0	<15.0 15.0	<15.0 15.0
Oil Range Hydrocarbons (ORO)			<15.0 15.0	173 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH			22.4 15.0	2630 14.9	240 15.0	<15.0 15.0	<15.0 15.0

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Mike Kimmel
Client Services Manager



Certificate of Analysis Summary 556913

COG Operating LLC, Artesia, NM

Project Name: Reposado 2 State #001



Project Id:

Contact: Aaron Lieb

Project Location:

Date Received in Lab: Wed Jul-05-17 11:45 am

Report Date: 12-JUL-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	556913-013	556913-014	556913-015	556913-016		
	<i>Field Id:</i>	T2-4'	T2-5'	T2-10'	T2-12'		
	<i>Depth:</i>	4- ft	5- ft	10- ft	12- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Jun-29-17 11:00	Jun-29-17 11:00	Jun-29-17 11:00	Jun-29-17 11:00		
BTEX by EPA 8021B	<i>Extracted:</i>	Jul-07-17 16:30			Jul-07-17 16:30		
	<i>Analyzed:</i>	Jul-08-17 16:45			Jul-08-17 15:41		
	<i>Units/RL:</i>	mg/kg RL			mg/kg RL		
Benzene		<0.00200 0.00200			<0.00201 0.00201		
Toluene		0.00342 0.00200			0.00203 0.00201		
Ethylbenzene		<0.00200 0.00200			<0.00201 0.00201		
m_p-Xylenes		0.00952 0.00399			0.00709 0.00402		
o-Xylene		0.00436 0.00200			<0.00201 0.00201		
Total Xylenes		0.0139 0.00200			0.00709 0.00201		
Total BTEX		0.0173 0.00200			0.00912 0.00201		
Chloride by EPA 300	<i>Extracted:</i>	Jul-11-17 17:20	Jul-11-17 17:20	Jul-11-17 17:20	Jul-11-17 17:20		
	<i>Analyzed:</i>	Jul-12-17 00:16	Jul-12-17 00:24	Jul-12-17 00:32	Jul-12-17 00:39		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		77.5 4.95	30.2 4.94	233 24.9	406 24.7		
TPH By SW8015 Mod	<i>Extracted:</i>	Jul-06-17 15:00			Jul-06-17 15:00		
	<i>Analyzed:</i>	Jul-07-17 05:21			Jul-07-17 05:42		
	<i>Units/RL:</i>	mg/kg RL			mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0			33.4 15.0		
Diesel Range Organics (DRO)		<15.0 15.0			198 15.0		
Oil Range Hydrocarbons (ORO)		<15.0 15.0			<15.0 15.0		
Total TPH		<15.0 15.0			231 15.0		

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Mike Kimmel
Client Services Manager

Analytical Report 556913

for
COG Operating LLC

Project Manager: Aaron Lieb

Reposado 2 State #001

12-JUL-17

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)

Xenco-San Antonio: Texas (T104704534)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



12-JUL-17

Project Manager: **Aaron Lieb**

COG Operating LLC

2407 Pecos Avenue

Artesia, NM 88210

Reference: XENCO Report No(s): **556913**

Reposado 2 State #001

Project Address:

Aaron Lieb:

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) 556913. 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. 556913 will be filed for 60 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,

A handwritten signature in black ink, appearing to read 'Mike Kimmel', written over a horizontal line.

Mike Kimmel

Client Services Manager

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Sample Cross Reference 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T1-Surface	S	06-29-17 10:00		556913-001
T1-1'	S	06-29-17 10:00	1 ft	556913-002
T1-2'	S	06-29-17 10:00	2 ft	556913-003
T1-3'	S	06-29-17 10:00	3 ft	556913-004
T1-5'	S	06-29-17 10:00	5 ft	556913-005
T1-10'	S	06-29-17 10:00	10 ft	556913-006
T1-12'	S	06-29-17 10:00	12 ft	556913-007
T1-14'	S	06-29-17 10:00	14 ft	556913-008
T2-Surface	S	06-29-17 11:00		556913-009
T2-1'	S	06-29-17 11:00	1 ft	556913-010
T2-2'	S	06-29-17 11:00	2 ft	556913-011
T2-3'	S	06-29-17 11:00	3 ft	556913-012
T2-4'	S	06-29-17 11:00	4 ft	556913-013
T2-5'	S	06-29-17 11:00	5 ft	556913-014
T2-10'	S	06-29-17 11:00	10 ft	556913-015
T2-12'	S	06-29-17 11:00	12 ft	556913-016

**CASE NARRATIVE****Client Name: COG Operating LLC****Project Name: Reposado 2 State #001**

Project ID:
Work Order Number(s): 556913

Report Date: 12-JUL-17
Date Received: 07/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3021836 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Lab Sample ID 556913-016 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, m_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Toluene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 556913-001, -002, -003, -004, -008, -009, -010, -011, -012, -013, -016.

The Laboratory Control Sample for Toluene, Ethylbenzene, m_p-Xylenes, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3021840 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3022031 Chloride by EPA 300

Lab Sample ID 556913-009 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 556913-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: **T1-Surface**

Matrix: Soil

Date Received: 07.05.17 11.45

Lab Sample Id: 556913-001

Date Collected: 06.29.17 10.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MGO

% Moisture:

Analyst: MGO

Date Prep: 07.11.17 17.20

Basis: Wet Weight

Seq Number: 3022031

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	141	4.96	mg/kg	07.11.17 21.27		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.06.17 15.00

Basis: Wet Weight

Seq Number: 3021793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	607	15.0	mg/kg	07.07.17 00.24		1
Diesel Range Organics (DRO)	C10C28DRO	1840	15.0	mg/kg	07.07.17 00.24		1
Oil Range Hydrocarbons (ORO)	PHCG2835	171	15.0	mg/kg	07.07.17 00.24		1
Total TPH	PHC635	2620	15.0	mg/kg	07.07.17 00.24		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	96	%	70-135	07.07.17 00.24		
o-Terphenyl	84-15-1	83	%	70-135	07.07.17 00.24		



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: **T1-Surface**

Matrix: Soil

Date Received: 07.05.17 11.45

Lab Sample Id: 556913-001

Date Collected: 06.29.17 10.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.07.17 16.30

Basis: Wet Weight

Seq Number: 3021836

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.08.17 18.09	U	1
Toluene	108-88-3	0.00639	0.00201	mg/kg	07.08.17 18.09		1
Ethylbenzene	100-41-4	0.0368	0.00201	mg/kg	07.08.17 18.09		1
m_p-Xylenes	179601-23-1	0.346	0.00402	mg/kg	07.08.17 18.09		1
o-Xylene	95-47-6	0.198	0.00201	mg/kg	07.08.17 18.09		1
Total Xylenes	1330-20-7	0.544	0.00201	mg/kg	07.08.17 18.09		1
Total BTEX		0.587	0.00201	mg/kg	07.08.17 18.09		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	80-120	07.08.17 18.09		
1,4-Difluorobenzene	540-36-3	82	%	80-120	07.08.17 18.09		



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T1-1'
Lab Sample Id: 556913-002

Matrix: Soil
Date Collected: 06.29.17 10.00

Date Received: 07.05.17 11.45
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: MGO

Analyst: MGO

Seq Number: 3022031

Date Prep: 07.11.17 17.20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5.88	4.99	mg/kg	07.11.17 22.06		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3021793

Date Prep: 07.06.17 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.07.17 00.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.07.17 00.45	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.07.17 00.45	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.07.17 00.45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	109	%	70-135	07.07.17 00.45		
o-Terphenyl	84-15-1	110	%	70-135	07.07.17 00.45		



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T1-1'
Lab Sample Id: 556913-002

Matrix: Soil
Date Collected: 06.29.17 10.00

Date Received: 07.05.17 11.45
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.07.17 16.30

Basis: Wet Weight

Seq Number: 3021836

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.08.17 17.20	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.08.17 17.20	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.08.17 17.20	U	1
m_p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.08.17 17.20	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.08.17 17.20	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.08.17 17.20	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.08.17 17.20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	83	%	80-120	07.08.17 17.20		
4-Bromofluorobenzene	460-00-4	92	%	80-120	07.08.17 17.20		



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T1-2'
Lab Sample Id: 556913-003

Matrix: Soil
Date Collected: 06.29.17 10.00

Date Received: 07.05.17 11.45
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MGO

Analyst: MGO

Seq Number: 3022031

Date Prep: 07.11.17 17.20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.87	4.98	mg/kg	07.11.17 22.14		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3021793

Date Prep: 07.06.17 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.07.17 01.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.07.17 01.47	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.07.17 01.47	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.07.17 01.47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	114	%	70-135	07.07.17 01.47		
o-Terphenyl	84-15-1	112	%	70-135	07.07.17 01.47		



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T1-2'
Lab Sample Id: 556913-003

Matrix: Soil
Date Collected: 06.29.17 10.00

Date Received: 07.05.17 11.45
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.07.17 16.30

Basis: Wet Weight

Seq Number: 3021836

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.08.17 17.53	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.08.17 17.53	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.08.17 17.53	U	1
m_p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.08.17 17.53	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.08.17 17.53	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.08.17 17.53	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.08.17 17.53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	80-120	07.08.17 17.53		
4-Bromofluorobenzene	460-00-4	98	%	80-120	07.08.17 17.53		



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T1-3'
Lab Sample Id: 556913-004

Matrix: Soil
Date Collected: 06.29.17 10.00

Date Received: 07.05.17 11.45
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: MGO

Analyst: MGO

Seq Number: 3022031

Date Prep: 07.11.17 17.20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	91.4	4.91	mg/kg	07.11.17 22.37		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3021793

Date Prep: 07.06.17 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.07.17 02.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.07.17 02.09	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.07.17 02.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.07.17 02.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	115	%	70-135	07.07.17 02.09		
o-Terphenyl	84-15-1	113	%	70-135	07.07.17 02.09		



Certificate of Analytical Results 556913

COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T1-3'
Lab Sample Id: 556913-004

Matrix: Soil
Date Collected: 06.29.17 10.00

Date Received: 07.05.17 11.45
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.07.17 16.30

Basis: Wet Weight

Seq Number: 3021836

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.08.17 15.58	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.08.17 15.58	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.08.17 15.58	U	1
m_p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.08.17 15.58	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.08.17 15.58	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.08.17 15.58	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.08.17 15.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	80-120	07.08.17 15.58		
1,4-Difluorobenzene	540-36-3	95	%	80-120	07.08.17 15.58		



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T1-5'
Lab Sample Id: 556913-005

Matrix: Soil
Date Collected: 06.29.17 10.00

Date Received: 07.05.17 11.45
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MGO

% Moisture:

Analyst: MGO

Date Prep: 07.11.17 17.20

Basis: Wet Weight

Seq Number: 3022031

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	407	5.00	mg/kg	07.11.17 22.44		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.06.17 15.00

Basis: Wet Weight

Seq Number: 3021793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.07.17 02.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.07.17 02.30	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.07.17 02.30	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.07.17 02.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	116	%	70-135	07.07.17 02.30		
o-Terphenyl	84-15-1	117	%	70-135	07.07.17 02.30		



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COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T1-5'
Lab Sample Id: 556913-005

Matrix: Soil
Date Collected: 06.29.17 10.00

Date Received: 07.05.17 11.45
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.07.17 16.45

Basis: Wet Weight

Seq Number: 3021840

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.08.17 23.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.08.17 23.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.08.17 23.31	U	1
m_p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.08.17 23.31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.08.17 23.31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.08.17 23.31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.08.17 23.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	96	%	80-120	07.08.17 23.31		
4-Bromofluorobenzene	460-00-4	107	%	80-120	07.08.17 23.31		



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T1-10'
Lab Sample Id: 556913-006

Matrix: Soil
Date Collected: 06.29.17 10.00

Date Received: 07.05.17 11.45
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MGO

% Moisture:

Analyst: MGO

Date Prep: 07.11.17 17.20

Basis: Wet Weight

Seq Number: 3022031

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	413	24.6	mg/kg	07.11.17 22.52		5



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COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T1-12'
Lab Sample Id: 556913-007

Matrix: Soil
Date Collected: 06.29.17 10.00

Date Received: 07.05.17 11.45
Sample Depth: 12 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MGO

% Moisture:

Analyst: MGO

Date Prep: 07.11.17 17.20

Basis: Wet Weight

Seq Number: 3022031

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	350	24.9	mg/kg	07.11.17 23.00		5



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: **T1-14'**
Lab Sample Id: 556913-008

Matrix: Soil
Date Collected: 06.29.17 10.00

Date Received: 07.05.17 11.45
Sample Depth: 14 ft

Analytical Method: Chloride by EPA 300

Tech: MGO

Analyst: MGO

Seq Number: 3022031

Date Prep: 07.11.17 17.20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	341	24.9	mg/kg	07.11.17 23.07		5

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3021793

Date Prep: 07.06.17 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.07.17 02.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	22.4	15.0	mg/kg	07.07.17 02.51		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.07.17 02.51	U	1
Total TPH	PHC635	22.4	15.0	mg/kg	07.07.17 02.51		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	109	%	70-135	07.07.17 02.51		
o-Terphenyl	84-15-1	108	%	70-135	07.07.17 02.51		



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: **T1-14'**
Lab Sample Id: 556913-008

Matrix: Soil
Date Collected: 06.29.17 10.00

Date Received: 07.05.17 11.45
Sample Depth: 14 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3021836

Date Prep: 07.07.17 16.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.08.17 17.04	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.08.17 17.04	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.08.17 17.04	U	1
m_p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.08.17 17.04	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.08.17 17.04	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.08.17 17.04	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.08.17 17.04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	91	%	80-120	07.08.17 17.04		
1,4-Difluorobenzene	540-36-3	92	%	80-120	07.08.17 17.04		



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: **T2-Surface**

Matrix: Soil

Date Received: 07.05.17 11.45

Lab Sample Id: 556913-009

Date Collected: 06.29.17 11.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MGO

% Moisture:

Analyst: MGO

Date Prep: 07.11.17 17.20

Basis: Wet Weight

Seq Number: 3022031

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	836	4.97	mg/kg	07.11.17 23.15		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.06.17 15.00

Basis: Wet Weight

Seq Number: 3021793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	742	14.9	mg/kg	07.07.17 03.12		1
Diesel Range Organics (DRO)	C10C28DRO	1710	14.9	mg/kg	07.07.17 03.12		1
Oil Range Hydrocarbons (ORO)	PHCG2835	173	14.9	mg/kg	07.07.17 03.12		1
Total TPH	PHC635	2630	14.9	mg/kg	07.07.17 03.12		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	109	%	70-135	07.07.17 03.12		
o-Terphenyl	84-15-1	102	%	70-135	07.07.17 03.12		



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: **T2-Surface**

Matrix: Soil

Date Received: 07.05.17 11.45

Lab Sample Id: 556913-009

Date Collected: 06.29.17 11.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.07.17 16.30

Basis: Wet Weight

Seq Number: 3021836

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.08.17 18.57	U	1
Toluene	108-88-3	0.0886	0.00201	mg/kg	07.08.17 18.57		1
Ethylbenzene	100-41-4	0.136	0.00201	mg/kg	07.08.17 18.57		1
m_p-Xylenes	179601-23-1	0.746	0.00402	mg/kg	07.08.17 18.57		1
o-Xylene	95-47-6	0.372	0.00201	mg/kg	07.08.17 18.57		1
Total Xylenes	1330-20-7	1.12	0.00201	mg/kg	07.08.17 18.57		1
Total BTEX		1.34	0.00201	mg/kg	07.08.17 18.57		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	81	%	80-120	07.08.17 18.57		
4-Bromofluorobenzene	460-00-4	100	%	80-120	07.08.17 18.57		



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T2-1' Matrix: Soil Date Received: 07.05.17 11.45
 Lab Sample Id: 556913-010 Date Collected: 06.29.17 11.00 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MGO % Moisture:
 Analyst: MGO Date Prep: 07.11.17 17.20 Basis: Wet Weight
 Seq Number: 3022031

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	71.0	4.97	mg/kg	07.11.17 23.38		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 07.06.17 15.00 Basis: Wet Weight
 Seq Number: 3021793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	52.7	15.0	mg/kg	07.07.17 03.34		1
Diesel Range Organics (DRO)	C10C28DRO	187	15.0	mg/kg	07.07.17 03.34		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.07.17 03.34	U	1
Total TPH	PHC635	240	15.0	mg/kg	07.07.17 03.34		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	105	%	70-135	07.07.17 03.34		
o-Terphenyl	84-15-1	107	%	70-135	07.07.17 03.34		



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T2-1'
Lab Sample Id: 556913-010

Matrix: Soil
Date Collected: 06.29.17 11.00

Date Received: 07.05.17 11.45
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.07.17 16.30

Basis: Wet Weight

Seq Number: 3021836

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.08.17 19.13	U	1
Toluene	108-88-3	0.00480	0.00198	mg/kg	07.08.17 19.13		1
Ethylbenzene	100-41-4	0.00962	0.00198	mg/kg	07.08.17 19.13		1
m_p-Xylenes	179601-23-1	0.0867	0.00397	mg/kg	07.08.17 19.13		1
o-Xylene	95-47-6	0.0456	0.00198	mg/kg	07.08.17 19.13		1
Total Xylenes	1330-20-7	0.132	0.00198	mg/kg	07.08.17 19.13		1
Total BTEX		0.147	0.00198	mg/kg	07.08.17 19.13		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110		%	80-120	07.08.17 19.13	
1,4-Difluorobenzene	540-36-3	92		%	80-120	07.08.17 19.13	



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T2-2'
Lab Sample Id: 556913-011

Matrix: Soil
Date Collected: 06.29.17 11.00

Date Received: 07.05.17 11.45
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MGO

% Moisture:

Analyst: MGO

Date Prep: 07.11.17 17.20

Basis: Wet Weight

Seq Number: 3022031

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.30	4.98	mg/kg	07.11.17 23.46		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.06.17 15.00

Basis: Wet Weight

Seq Number: 3021793

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.07.17 03.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.07.17 03.55	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.07.17 03.55	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.07.17 03.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	121	%	70-135	07.07.17 03.55		
o-Terphenyl	84-15-1	118	%	70-135	07.07.17 03.55		



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T2-2'
Lab Sample Id: 556913-011

Matrix: Soil
Date Collected: 06.29.17 11.00

Date Received: 07.05.17 11.45
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.07.17 16.30

Basis: Wet Weight

Seq Number: 3021836

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.08.17 16.14	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.08.17 16.14	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.08.17 16.14	U	1
m_p-Xylenes	179601-23-1	0.00753	0.00404	mg/kg	07.08.17 16.14		1
o-Xylene	95-47-6	0.00591	0.00202	mg/kg	07.08.17 16.14		1
Total Xylenes	1330-20-7	0.0134	0.00202	mg/kg	07.08.17 16.14		1
Total BTEX		0.0134	0.00202	mg/kg	07.08.17 16.14		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	93		%	80-120	07.08.17 16.14	
4-Bromofluorobenzene	460-00-4	89		%	80-120	07.08.17 16.14	



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T2-3'
Lab Sample Id: 556913-012

Matrix: Soil
Date Collected: 06.29.17 11.00

Date Received: 07.05.17 11.45
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: MGO

Analyst: MGO

Seq Number: 3022031

Date Prep: 07.11.17 17.20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5.06	4.97	mg/kg	07.12.17 00.09		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3021793

Date Prep: 07.06.17 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.07.17 04.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.07.17 04.16	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.07.17 04.16	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.07.17 04.16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	109	%	70-135	07.07.17 04.16		
o-Terphenyl	84-15-1	110	%	70-135	07.07.17 04.16		



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T2-3'
Lab Sample Id: 556913-012

Matrix: Soil
Date Collected: 06.29.17 11.00

Date Received: 07.05.17 11.45
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.07.17 16.30

Basis: Wet Weight

Seq Number: 3021836

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.08.17 16.29	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.08.17 16.29	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.08.17 16.29	U	1
m_p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.08.17 16.29	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.08.17 16.29	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.08.17 16.29	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.08.17 16.29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	80-120	07.08.17 16.29		
1,4-Difluorobenzene	540-36-3	103	%	80-120	07.08.17 16.29		



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T2-4'
Lab Sample Id: 556913-013

Matrix: Soil
Date Collected: 06.29.17 11.00

Date Received: 07.05.17 11.45
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MGO

Analyst: MGO

Seq Number: 3022031

Date Prep: 07.11.17 17.20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	77.5	4.95	mg/kg	07.12.17 00.16		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3021793

Date Prep: 07.06.17 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.07.17 05.21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.07.17 05.21	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.07.17 05.21	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.07.17 05.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	110	%	70-135	07.07.17 05.21		
o-Terphenyl	84-15-1	110	%	70-135	07.07.17 05.21		



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T2-4'
Lab Sample Id: 556913-013

Matrix: Soil
Date Collected: 06.29.17 11.00

Date Received: 07.05.17 11.45
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.07.17 16.30

Basis: Wet Weight

Seq Number: 3021836

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.08.17 16.45	U	1
Toluene	108-88-3	0.00342	0.00200	mg/kg	07.08.17 16.45		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.08.17 16.45	U	1
m_p-Xylenes	179601-23-1	0.00952	0.00399	mg/kg	07.08.17 16.45		1
o-Xylene	95-47-6	0.00436	0.00200	mg/kg	07.08.17 16.45		1
Total Xylenes	1330-20-7	0.0139	0.00200	mg/kg	07.08.17 16.45		1
Total BTEX		0.0173	0.00200	mg/kg	07.08.17 16.45		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	80-120	07.08.17 16.45		
4-Bromofluorobenzene	460-00-4	105	%	80-120	07.08.17 16.45		



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T2-5'
Lab Sample Id: 556913-014

Matrix: Soil
Date Collected: 06.29.17 11.00

Date Received: 07.05.17 11.45
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MGO

% Moisture:

Analyst: MGO

Date Prep: 07.11.17 17.20

Basis: Wet Weight

Seq Number: 3022031

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	30.2	4.94	mg/kg	07.12.17 00.24		1



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T2-10'
Lab Sample Id: 556913-015

Matrix: Soil
Date Collected: 06.29.17 11.00

Date Received: 07.05.17 11.45
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MGO

% Moisture:

Analyst: MGO

Date Prep: 07.11.17 17.20

Basis: Wet Weight

Seq Number: 3022031

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	233	24.9	mg/kg	07.12.17 00.32		5



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T2-12'
Lab Sample Id: 556913-016

Matrix: Soil
Date Collected: 06.29.17 11.00

Date Received: 07.05.17 11.45
Sample Depth: 12 ft

Analytical Method: Chloride by EPA 300

Tech: MGO

Analyst: MGO

Seq Number: 3022031

Date Prep: 07.11.17 17.20

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	406	24.7	mg/kg	07.12.17 00.39		5

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3021793

Date Prep: 07.06.17 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	33.4	15.0	mg/kg	07.07.17 05.42		1
Diesel Range Organics (DRO)	C10C28DRO	198	15.0	mg/kg	07.07.17 05.42		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.07.17 05.42	U	1
Total TPH	PHC635	231	15.0	mg/kg	07.07.17 05.42		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	118	%	70-135	07.07.17 05.42		
o-Terphenyl	84-15-1	115	%	70-135	07.07.17 05.42		



Certificate of Analytical Results 556913



COG Operating LLC, Artesia, NM

Reposado 2 State #001

Sample Id: T2-12'
Lab Sample Id: 556913-016

Matrix: Soil
Date Collected: 06.29.17 11.00

Date Received: 07.05.17 11.45
Sample Depth: 12 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.07.17 16.30

Basis: Wet Weight

Seq Number: 3021836

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.08.17 15.41	U	1
Toluene	108-88-3	0.00203	0.00201	mg/kg	07.08.17 15.41		1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.08.17 15.41	U	1
m_p-Xylenes	179601-23-1	0.00709	0.00402	mg/kg	07.08.17 15.41		1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.08.17 15.41	U	1
Total Xylenes	1330-20-7	0.00709	0.00201	mg/kg	07.08.17 15.41		1
Total BTEX		0.00912	0.00201	mg/kg	07.08.17 15.41		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	92	%	80-120	07.08.17 15.41		
1,4-Difluorobenzene	540-36-3	94	%	80-120	07.08.17 15.41		



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 **SQL** 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

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(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	



COG Operating LLC

Reposado 2 State #001

Analytical Method: Chloride by EPA 300

Seq Number: 3022031

MB Sample Id: 727502-1-BLK

Matrix: Solid

LCS Sample Id: 727502-1-BKS

Prep Method: E300P

Date Prep: 07.11.17

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Chloride	<5.00	250	273	109	90-110	mg/kg	07.11.17 21:20	

Analytical Method: Chloride by EPA 300

Seq Number: 3022031

Parent Sample Id: 556913-001

Matrix: Soil

MS Sample Id: 556913-001 S

Prep Method: E300P

Date Prep: 07.11.17

MSD Sample Id: 556913-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	141	248	426	115	422	113	90-110	1	20	mg/kg	07.11.17 21:35	X

Analytical Method: Chloride by EPA 300

Seq Number: 3022031

Parent Sample Id: 556913-009

Matrix: Soil

MS Sample Id: 556913-009 S

Prep Method: E300P

Date Prep: 07.11.17

MSD Sample Id: 556913-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	836	249	1070	94	1080	98	90-110	1	20	mg/kg	07.11.17 23:23	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3021793

MB Sample Id: 727360-1-BLK

Matrix: Solid

LCS Sample Id: 727360-1-BKS

Prep Method: TX1005P

Date Prep: 07.06.17

LCSD Sample Id: 727360-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	991	99	1000	100	70-135	1	35	mg/kg	07.06.17 23:42	
Diesel Range Organics (DRO)	<15.0	1000	1000	100	991	99	70-135	1	35	mg/kg	07.06.17 23:42	

Surrogate

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		117		113		70-135	%	07.06.17 23:42
o-Terphenyl	130		117		111		70-135	%	07.06.17 23:42



COG Operating LLC

Reposado 2 State #001

Analytical Method: TPH By SW8015 Mod

Seq Number: 3021793

Parent Sample Id: 556913-002

Matrix: Soil

MS Sample Id: 556913-002 S

Prep Method: TX1005P

Date Prep: 07.06.17

MSD Sample Id: 556913-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	998	990	99	999	100	70-135	1	35	mg/kg	07.07.17 01:05	
Diesel Range Organics (DRO)	<15.0	998	968	97	974	97	70-135	1	35	mg/kg	07.07.17 01:05	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		103		70-135	%	07.07.17 01:05
o-Terphenyl	112		101		70-135	%	07.07.17 01:05

Analytical Method: BTEX by EPA 8021B

Seq Number: 3021836

MB Sample Id: 727363-1-BLK

Matrix: Solid

LCS Sample Id: 727363-1-BKS

Prep Method: SW5030B

Date Prep: 07.07.17

LCSD Sample Id: 727363-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.115	115	0.112	112	70-130	3	35	mg/kg	07.08.17 14:04	
Toluene	<0.00199	0.0996	0.112	112	0.0996	100	70-130	12	35	mg/kg	07.08.17 14:04	
Ethylbenzene	<0.00199	0.0996	0.109	109	0.103	103	71-129	6	35	mg/kg	07.08.17 14:04	
m_p-Xylenes	<0.00398	0.199	0.200	101	0.185	93	70-135	8	35	mg/kg	07.08.17 14:04	
o-Xylene	<0.00199	0.0996	0.106	106	0.109	109	71-133	3	35	mg/kg	07.08.17 14:04	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		87		81		80-120	%	07.08.17 14:04
4-Bromofluorobenzene	106		97		93		80-120	%	07.08.17 14:04

Analytical Method: BTEX by EPA 8021B

Seq Number: 3021840

MB Sample Id: 727364-1-BLK

Matrix: Solid

LCS Sample Id: 727364-1-BKS

Prep Method: SW5030B

Date Prep: 07.07.17

LCSD Sample Id: 727364-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.120	120	0.120	119	70-130	0	35	mg/kg	07.08.17 21:54	
Toluene	<0.00201	0.100	0.107	107	0.106	105	70-130	1	35	mg/kg	07.08.17 21:54	
Ethylbenzene	<0.00201	0.100	0.112	112	0.109	108	71-129	3	35	mg/kg	07.08.17 21:54	
m_p-Xylenes	<0.00402	0.201	0.200	100	0.196	97	70-135	2	35	mg/kg	07.08.17 21:54	
o-Xylene	<0.00201	0.100	0.105	105	0.109	108	71-133	4	35	mg/kg	07.08.17 21:54	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		93		85		80-120	%	07.08.17 21:54
4-Bromofluorobenzene	106		107		83		80-120	%	07.08.17 21:54



COG Operating LLC

Reposado 2 State #001

Analytical Method: BTEX by EPA 8021B

Seq Number: 3021836

Parent Sample Id: 556913-016

Matrix: Soil

MS Sample Id: 556913-016 S

Prep Method: SW5030B

Date Prep: 07.07.17

MSD Sample Id: 556913-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0969	97	0.0931	93	70-130	4	35	mg/kg	07.08.17 14:37	
Toluene	0.00203	0.0994	0.0798	78	0.0706	69	70-130	12	35	mg/kg	07.08.17 14:37	X
Ethylbenzene	<0.00199	0.0994	0.0649	65	0.0503	50	71-129	25	35	mg/kg	07.08.17 14:37	X
m_p-Xylenes	0.00709	0.199	0.114	54	0.0981	46	70-135	15	35	mg/kg	07.08.17 14:37	X
o-Xylene	<0.00199	0.0994	0.0617	62	0.0620	62	71-133	0	35	mg/kg	07.08.17 14:37	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		105		80-120	%	07.08.17 14:37
4-Bromofluorobenzene	100		115		80-120	%	07.08.17 14:37

Analytical Method: BTEX by EPA 8021B

Seq Number: 3021840

Parent Sample Id: 556913-005

Matrix: Soil

MS Sample Id: 556913-005 S

Prep Method: SW5030B

Date Prep: 07.07.17

MSD Sample Id: 556913-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.105	105	0.101	101	70-130	4	35	mg/kg	07.08.17 22:27	
Toluene	<0.00199	0.0996	0.0955	96	0.0918	92	70-130	4	35	mg/kg	07.08.17 22:27	
Ethylbenzene	<0.00199	0.0996	0.0982	99	0.0937	94	71-129	5	35	mg/kg	07.08.17 22:27	
m_p-Xylenes	<0.00398	0.199	0.175	88	0.172	86	70-135	2	35	mg/kg	07.08.17 22:27	
o-Xylene	<0.00199	0.0996	0.103	103	0.0954	95	71-133	8	35	mg/kg	07.08.17 22:27	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		85		80-120	%	07.08.17 22:27
4-Bromofluorobenzene	104		86		80-120	%	07.08.17 22:27

Phoenix, Arizona (480-355-0900)

Page 1 of 2

Xenco Quote #

Xenco Job # 5560913

Client / Reporting Information				Project Information				Xenoco Quote #		Xenoco Job #											
Company Name / Branch: COG Operating LLC				Project Name/Number: Reposado 2 State #001				Xenoco Quote #		Xenoco Job #											
Company Address: 2401 PECOS Avenue Artesia NM 88210				Project Location: Reposado 2 State #																	
Email: aliebh@concho.com dnee12@concho.com thaskell@concho.com				Invoice To: COG Operating LLC																	
Project Contact: Aaron Lieb				Attn: Robert McNeill																	
Phone No: 575-748-1553				600 W. Illinois																	
PO Number: Midland TX 79701																					
Samplers Name- Aaron Lieb																					
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MeOH	NONE	TPH/ EXTENDED	BTEX	Chloride	Analytical Information		Matrix Codes	
1	T1 - Surf	Surf	6/29/17	10:00 AM	S	1									X	X	X				
2	T1 - 1'	1				1									X	X	X				
3	T1 - 2'	2				1									X	X	X				
4	T1 - 3'	3				1									X	X	X				
5	T1 - 5'	5				1									X	X	X				
6	T1 - 10'	10				1									X	X	X				
7	T1 - 12'	12				1									X	X	X				
8	T1 - 14'	14				1									X	X	X				
9																					
10																					
Turnaround Time (Business days)								Data Deliverable Information								N					
Same Day TAT				☐ 5 Day TAT				Level II Std QC				☐ Level IV (Full Data Pkg / raw data)									
Next Day EMERGENCY				☐ 7 Day TAT				Level III Std QC+ Forms				☐ TRRP Level IV									
2 Day EMERGENCY				☐ Contract TAT				Level 3 (CLP Forms)				☐ UST / RG-411									
3 Day EMERGENCY								☐ TRRP Checklist													
TAT Starts Day received by Lab, if received by 5:00 pm																		FED-EX / UPS: Tracking #			
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																					
Relinquished by Sampler:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:	
1		7/5/17 AM		1		7-5-17		2		7-5-17		3		7-5-17		4		7-5-17		5	
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:	
3		7/5/17 AM		3		7-5-17		4		7-5-17		5		7-5-17		6		7-5-17		7	
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:	
5		7/5/17 AM		5		7-5-17		6		7-5-17		7		7-5-17		8		7-5-17		9	
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:	
5		7/5/17 AM		5		7-5-17		6		7-5-17		7		7-5-17		8		7-5-17		9	
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:	
5		7/5/17 AM		5		7-5-17		6		7-5-17		7		7-5-17		8		7-5-17		9	
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:	
5		7/5/																			

CHAIN OF CUSTODY

Phoenix, Arizona (480-355-0900)

Xenco Quote #

Xenco Job #

[illegible]



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: COG Operating LLC

Date/ Time Received: 07/05/2017 11:45:00 AM

Work Order #: 556913

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)?	4.9
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seal present on shipping container/ cooler?	Yes
#5 *Custody Seals intact on shipping container/ cooler?	Yes
#6 Custody Seals intact on sample bottles?	Yes
#7 *Custody Seals Signed and dated?	Yes
#8 *Chain of Custody present?	Yes
#9 Sample instructions complete on Chain of Custody?	Yes
#10 Any missing/extra samples?	No
#11 Chain of Custody signed when relinquished/ received?	Yes
#12 Chain of Custody agrees with sample label(s)?	Yes
#13 Container label(s) legible and intact?	Yes
#14 Sample matrix/ properties agree with Chain of Custody?	Yes
#15 Samples in proper container/ bottle?	Yes
#16 Samples properly preserved?	Yes
#17 Sample container(s) intact?	Yes
#18 Sufficient sample amount for indicated test(s)?	Yes
#19 All samples received within hold time?	Yes
#20 Subcontract of sample(s)?	No
#21 VOC samples have zero headspace?	N/A

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

Analyst: ss

PH Device/Lot#:

Checklist completed by:

Shawnee Smith

Date: 07/06/2017

Checklist reviewed by:

Kelsey Brooks

Date: 07/06/2017



Certificate of Analysis Summary 556914

COG Operating LLC, Artesia, NM

Project Name: Reposado 2 State #00



Project Id:

Contact: Aaron Lieb

Project Location:

Date Received in Lab: Wed Jul-05-17 11:45 am

Report Date: 12-JUL-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	556914-001	556914-002	556914-003	556914-004	556914-005	556914-006
	<i>Field Id:</i>	North - Surf	North - 1'	South - Surf	South - 1'	East - Surf	East - 1'
	<i>Depth:</i>		1 ft		1 ft		1 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-29-17 12:15	Jun-29-17 12:15	Jun-29-17 12:15	Jun-29-17 12:15	Jun-29-17 12:15	Jun-29-17 12:15
BTEX by EPA 8021B	<i>Extracted:</i>	Jul-10-17 08:00	Jul-07-17 16:45	Jul-07-17 16:45	Jul-07-17 16:45	Jul-07-17 16:45	Jul-07-17 16:45
	<i>Analyzed:</i>	Jul-10-17 09:09	Jul-09-17 01:40	Jul-09-17 01:56	Jul-09-17 02:45	Jul-09-17 03:01	Jul-09-17 03:17
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199
Toluene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199
Ethylbenzene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199
m_p-Xylenes		<0.00402 0.00402	<0.00398 0.00398	<0.00399 0.00399	<0.00404 0.00404	<0.00402 0.00402	<0.00398 0.00398
o-Xylene		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199
Total Xylenes		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199
Total BTEX		<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00199 0.00199
Chloride by EPA 300	<i>Extracted:</i>	Jul-11-17 18:00	Jul-11-17 18:00	Jul-11-17 18:00	Jul-11-17 18:00	Jul-11-17 18:00	Jul-11-17 18:00
	<i>Analyzed:</i>	Jul-12-17 01:26	Jul-12-17 01:49	Jul-12-17 01:56	Jul-12-17 02:04	Jul-12-17 02:12	Jul-12-17 02:35
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		124 4.91	219 4.94	33.3 5.00	8.75 4.95	8.33 5.00	<4.87 4.87
TPH By SW8015 Mod	<i>Extracted:</i>	Jul-06-17 11:00	Jul-06-17 11:00	Jul-06-17 11:00	Jul-06-17 11:00	Jul-06-17 11:00	Jul-06-17 11:00
	<i>Analyzed:</i>	Jul-06-17 16:32	Jul-06-17 16:53	Jul-06-17 17:13	Jul-06-17 17:34	Jul-06-17 17:54	Jul-06-17 18:14
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<14.9 14.9	108 15.0	<15.0 15.0
Diesel Range Organics (DRO)		91.0 15.0	<14.9 14.9	<15.0 15.0	<14.9 14.9	981 15.0	<15.0 15.0
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<14.9 14.9	97.3 15.0	<15.0 15.0
Total TPH		91.0 15.0	<14.9 14.9	<15.0 15.0	<14.9 14.9	1190 15.0	<15.0 15.0

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.9%

Mike Kimmel
Client Services Manager



Certificate of Analysis Summary 556914

COG Operating LLC, Artesia, NM

Project Name: Reposado 2 State #00



Project Id:

Contact: Aaron Lieb

Project Location:

Date Received in Lab: Wed Jul-05-17 11:45 am

Report Date: 12-JUL-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	556914-007	556914-008				
	Field Id:	West - Surf	West - 1'				
	Depth:		1 ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Jun-29-17 12:15	Jun-29-17 12:15				
BTEX by EPA 8021B	Extracted:	Jul-07-17 16:45	Jul-07-17 16:45				
	Analyzed:	Jul-09-17 03:33	Jul-09-17 03:49				
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		<0.00200 0.00200	<0.00200 0.00200				
Toluene		<0.00200 0.00200	<0.00200 0.00200				
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200				
m_p-Xylenes		<0.00399 0.00399	<0.00401 0.00401				
o-Xylene		<0.00200 0.00200	<0.00200 0.00200				
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200				
Total BTEX		<0.00200 0.00200	<0.00200 0.00200				
Chloride by EPA 300	Extracted:	Jul-11-17 18:00	Jul-11-17 18:00				
	Analyzed:	Jul-12-17 02:42	Jul-12-17 02:50				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		<24.4 24.4	5.11 4.96				
TPH By SW8015 Mod	Extracted:	Jul-06-17 11:00	Jul-06-17 11:00				
	Analyzed:	Jul-06-17 19:16	Jul-06-17 19:36				
	Units/RL:	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0				
Diesel Range Organics (DRO)		39.8 15.0	<15.0 15.0				
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0				
Total TPH		39.8 15.0	<15.0 15.0				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.0%

Mike Kimmel
Client Services Manager

Analytical Report 556914

for
COG Operating LLC

Project Manager: Aaron Lieb

Reposado 2 State #00

12-JUL-17

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)



12-JUL-17

Project Manager: **Aaron Lieb**

COG Operating LLC

2407 Pecos Avenue

Artesia, NM 88210

Reference: XENCO Report No(s): **556914**

Reposado 2 State #00

Project Address:

Aaron Lieb:

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) 556914. 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. 556914 will be filed for 60 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,

A handwritten signature in black ink, appearing to read 'Mike Kimmel', written over a horizontal line.

Mike Kimmel

Client Services Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 556914****COG Operating LLC, Artesia, NM**

Reposado 2 State #00

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
North - Surf	S	06-29-17 12:15		556914-001
North - 1'	S	06-29-17 12:15	- 1 ft	556914-002
South - Surf	S	06-29-17 12:15		556914-003
South - 1'	S	06-29-17 12:15	- 1 ft	556914-004
East - Surf	S	06-29-17 12:15		556914-005
East - 1'	S	06-29-17 12:15	- 1 ft	556914-006
West - Surf	S	06-29-17 12:15		556914-007
West - 1'	S	06-29-17 12:15	- 1 ft	556914-008



CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: Reposado 2 State #00

Project ID:

Work Order Number(s): 556914

Report Date: 12-JUL-17

Date Received: 07/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3021840 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3021854 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analytical Results 556914



COG Operating LLC, Artesia, NM

Reposado 2 State #00

Sample Id: **North - Surf**

Matrix: Soil

Date Received: 07.05.17 11.45

Lab Sample Id: 556914-001

Date Collected: 06.29.17 12.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MGO

% Moisture:

Analyst: MGO

Date Prep: 07.11.17 18.00

Basis: Wet Weight

Seq Number: 3022034

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	124	4.91	mg/kg	07.12.17 01.26		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.06.17 11.00

Basis: Wet Weight

Seq Number: 3021792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.06.17 16.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	91.0	15.0	mg/kg	07.06.17 16.32		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.06.17 16.32	U	1
Total TPH	PHC635	91.0	15.0	mg/kg	07.06.17 16.32		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	07.06.17 16.32	
o-Terphenyl	84-15-1	112	%	70-135	07.06.17 16.32	



Certificate of Analytical Results 556914



COG Operating LLC, Artesia, NM

Reposado 2 State #00

Sample Id: **North - Surf**

Matrix: Soil

Date Received: 07.05.17 11.45

Lab Sample Id: 556914-001

Date Collected: 06.29.17 12.15

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.10.17 08.00

Basis: Wet Weight

Seq Number: 3021854

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.10.17 09.09	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.10.17 09.09	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.10.17 09.09	U	1
m_p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.10.17 09.09	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.10.17 09.09	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.10.17 09.09	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.10.17 09.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	116	%	80-120	07.10.17 09.09		
4-Bromofluorobenzene	460-00-4	116	%	80-120	07.10.17 09.09		



Certificate of Analytical Results 556914



COG Operating LLC, Artesia, NM

Reposado 2 State #00

Sample Id: **North - 1'**

Matrix: Soil

Date Received: 07.05.17 11.45

Lab Sample Id: 556914-002

Date Collected: 06.29.17 12.15

Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MGO

% Moisture:

Analyst: MGO

Date Prep: 07.11.17 18.00

Basis: Wet Weight

Seq Number: 3022034

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	219	4.94	mg/kg	07.12.17 01.49		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.06.17 11.00

Basis: Wet Weight

Seq Number: 3021792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.06.17 16.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.06.17 16.53	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	07.06.17 16.53	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.06.17 16.53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	115	%	70-135	07.06.17 16.53		
o-Terphenyl	84-15-1	119	%	70-135	07.06.17 16.53		



Certificate of Analytical Results 556914



COG Operating LLC, Artesia, NM

Reposado 2 State #00

Sample Id: **North - 1'**

Matrix: Soil

Date Received: 07.05.17 11.45

Lab Sample Id: 556914-002

Date Collected: 06.29.17 12.15

Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.07.17 16.45

Basis: Wet Weight

Seq Number: 3021840

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.09.17 01.40	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.09.17 01.40	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.09.17 01.40	U	1
m_p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.09.17 01.40	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.09.17 01.40	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.09.17 01.40	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.09.17 01.40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	80	%	80-120	07.09.17 01.40		
4-Bromofluorobenzene	460-00-4	85	%	80-120	07.09.17 01.40		



Certificate of Analytical Results 556914



COG Operating LLC, Artesia, NM

Reposado 2 State #00

Sample Id: **South - Surf**

Matrix: Soil

Date Received: 07.05.17 11.45

Lab Sample Id: 556914-003

Date Collected: 06.29.17 12.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MGO

% Moisture:

Analyst: MGO

Date Prep: 07.11.17 18.00

Basis: Wet Weight

Seq Number: 3022034

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	33.3	5.00	mg/kg	07.12.17 01.56		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.06.17 11.00

Basis: Wet Weight

Seq Number: 3021792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.06.17 17.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.06.17 17.13	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.06.17 17.13	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.06.17 17.13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	103	%	70-135	07.06.17 17.13		
o-Terphenyl	84-15-1	99	%	70-135	07.06.17 17.13		



Certificate of Analytical Results 556914



COG Operating LLC, Artesia, NM

Reposado 2 State #00

Sample Id: **South - Surf**

Matrix: Soil

Date Received: 07.05.17 11.45

Lab Sample Id: 556914-003

Date Collected: 06.29.17 12.15

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.07.17 16.45

Basis: Wet Weight

Seq Number: 3021840

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.09.17 01.56	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.09.17 01.56	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.09.17 01.56	U	1
m_p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.09.17 01.56	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.09.17 01.56	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.09.17 01.56	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.09.17 01.56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	96	%	80-120	07.09.17 01.56		
4-Bromofluorobenzene	460-00-4	98	%	80-120	07.09.17 01.56		



Certificate of Analytical Results 556914



COG Operating LLC, Artesia, NM

Reposado 2 State #00

Sample Id: **South - 1'**

Matrix: Soil

Date Received: 07.05.17 11.45

Lab Sample Id: 556914-004

Date Collected: 06.29.17 12.15

Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MGO

% Moisture:

Analyst: MGO

Date Prep: 07.11.17 18.00

Basis: Wet Weight

Seq Number: 3022034

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.75	4.95	mg/kg	07.12.17 02.04		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.06.17 11.00

Basis: Wet Weight

Seq Number: 3021792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.06.17 17.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.06.17 17.34	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	07.06.17 17.34	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.06.17 17.34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	114	%	70-135	07.06.17 17.34		
o-Terphenyl	84-15-1	114	%	70-135	07.06.17 17.34		



Certificate of Analytical Results 556914



COG Operating LLC, Artesia, NM

Reposado 2 State #00

Sample Id: **South - 1'**
Lab Sample Id: 556914-004

Matrix: Soil
Date Collected: 06.29.17 12.15

Date Received: 07.05.17 11.45
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3021840

Date Prep: 07.07.17 16.45

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.09.17 02.45	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.09.17 02.45	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.09.17 02.45	U	1
m_p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	07.09.17 02.45	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.09.17 02.45	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.09.17 02.45	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.09.17 02.45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	90	%	80-120	07.09.17 02.45		
1,4-Difluorobenzene	540-36-3	89	%	80-120	07.09.17 02.45		



Certificate of Analytical Results 556914



COG Operating LLC, Artesia, NM

Reposado 2 State #00

Sample Id: **East - Surf**

Matrix: Soil

Date Received: 07.05.17 11.45

Lab Sample Id: 556914-005

Date Collected: 06.29.17 12.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MGO

% Moisture:

Analyst: MGO

Date Prep: 07.11.17 18.00

Basis: Wet Weight

Seq Number: 3022034

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.33	5.00	mg/kg	07.12.17 02.12		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.06.17 11.00

Basis: Wet Weight

Seq Number: 3021792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	108	15.0	mg/kg	07.06.17 17.54		1
Diesel Range Organics (DRO)	C10C28DRO	981	15.0	mg/kg	07.06.17 17.54		1
Oil Range Hydrocarbons (ORO)	PHCG2835	97.3	15.0	mg/kg	07.06.17 17.54		1
Total TPH	PHC635	1190	15.0	mg/kg	07.06.17 17.54		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	119	%	70-135	07.06.17 17.54		
o-Terphenyl	84-15-1	118	%	70-135	07.06.17 17.54		



Certificate of Analytical Results 556914

COG Operating LLC, Artesia, NM

Reposado 2 State #00

Sample Id: **East - Surf**

Matrix: Soil

Date Received: 07.05.17 11.45

Lab Sample Id: 556914-005

Date Collected: 06.29.17 12.15

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.07.17 16.45

Basis: Wet Weight

Seq Number: 3021840

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.09.17 03.01	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.09.17 03.01	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.09.17 03.01	U	1
m_p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.09.17 03.01	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.09.17 03.01	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.09.17 03.01	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.09.17 03.01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	80-120	07.09.17 03.01		
1,4-Difluorobenzene	540-36-3	103	%	80-120	07.09.17 03.01		



Certificate of Analytical Results 556914



COG Operating LLC, Artesia, NM

Reposado 2 State #00

Sample Id: **East - 1'**
Lab Sample Id: 556914-006

Matrix: Soil
Date Collected: 06.29.17 12.15

Date Received: 07.05.17 11.45
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: MGO

Analyst: MGO

Seq Number: 3022034

Date Prep: 07.11.17 18.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.87	4.87	mg/kg	07.12.17 02.35	U	1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3021792

Date Prep: 07.06.17 11.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.06.17 18.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.06.17 18.14	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.06.17 18.14	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.06.17 18.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	07.06.17 18.14	
o-Terphenyl	84-15-1	115	%	70-135	07.06.17 18.14	



Certificate of Analytical Results 556914



COG Operating LLC, Artesia, NM

Reposado 2 State #00

Sample Id: **East - 1'**
Lab Sample Id: 556914-006

Matrix: Soil
Date Collected: 06.29.17 12.15

Date Received: 07.05.17 11.45
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.07.17 16.45

Basis: Wet Weight

Seq Number: 3021840

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.09.17 03.17	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.09.17 03.17	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.09.17 03.17	U	1
m_p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.09.17 03.17	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.09.17 03.17	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.09.17 03.17	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.09.17 03.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	91	%	80-120	07.09.17 03.17		
1,4-Difluorobenzene	540-36-3	93	%	80-120	07.09.17 03.17		



Certificate of Analytical Results 556914



COG Operating LLC, Artesia, NM

Reposado 2 State #00

Sample Id: **West - Surf**

Matrix: Soil

Date Received: 07.05.17 11.45

Lab Sample Id: 556914-007

Date Collected: 06.29.17 12.15

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MGO

% Moisture:

Analyst: MGO

Date Prep: 07.11.17 18.00

Basis: Wet Weight

Seq Number: 3022034

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<24.4	24.4	mg/kg	07.12.17 02.42	U	5

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 07.06.17 11.00

Basis: Wet Weight

Seq Number: 3021792

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.06.17 19.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	39.8	15.0	mg/kg	07.06.17 19.16		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.06.17 19.16	U	1
Total TPH	PHC635	39.8	15.0	mg/kg	07.06.17 19.16		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	07.06.17 19.16	
o-Terphenyl	84-15-1	116	%	70-135	07.06.17 19.16	



Certificate of Analytical Results 556914



COG Operating LLC, Artesia, NM

Reposado 2 State #00

Sample Id: **West - Surf**

Matrix: Soil

Date Received: 07.05.17 11.45

Lab Sample Id: 556914-007

Date Collected: 06.29.17 12.15

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.07.17 16.45

Basis: Wet Weight

Seq Number: 3021840

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.09.17 03.33	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.09.17 03.33	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.09.17 03.33	U	1
m_p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.09.17 03.33	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.09.17 03.33	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.09.17 03.33	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.09.17 03.33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	80-120	07.09.17 03.33		
1,4-Difluorobenzene	540-36-3	104	%	80-120	07.09.17 03.33		



Certificate of Analytical Results 556914



COG Operating LLC, Artesia, NM

Reposado 2 State #00

Sample Id: **West - 1'**
Lab Sample Id: 556914-008

Matrix: Soil
Date Collected: 06.29.17 12.15

Date Received: 07.05.17 11.45
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300
Tech: MGO
Analyst: MGO
Seq Number: 3022034

Date Prep: 07.11.17 18.00

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5.11	4.96	mg/kg	07.12.17 02.50		1

Analytical Method: TPH By SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3021792

Date Prep: 07.06.17 11.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.06.17 19.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.06.17 19.36	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	07.06.17 19.36	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.06.17 19.36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	113	%	70-135	07.06.17 19.36		
o-Terphenyl	84-15-1	115	%	70-135	07.06.17 19.36		



Certificate of Analytical Results 556914



COG Operating LLC, Artesia, NM

Reposado 2 State #00

Sample Id: **West - 1'**
Lab Sample Id: 556914-008

Matrix: Soil
Date Collected: 06.29.17 12.15

Date Received: 07.05.17 11.45
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 07.07.17 16.45

Basis: Wet Weight

Seq Number: 3021840

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.09.17 03.49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.09.17 03.49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.09.17 03.49	U	1
m_p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.09.17 03.49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.09.17 03.49	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.09.17 03.49	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.09.17 03.49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	80-120	07.09.17 03.49		
1,4-Difluorobenzene	540-36-3	96	%	80-120	07.09.17 03.49		



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

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COG Operating LLC

Reposado 2 State #00

Analytical Method: Chloride by EPA 300

Seq Number: 3022034

MB Sample Id: 727504-1-BLK

Matrix: Solid

LCS Sample Id: 727504-1-BKS

Prep Method: E300P

Date Prep: 07.11.17

LCSD Sample Id: 727504-1-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	269	108	268	107	90-110	0	20	mg/kg	07.12.17 01:10	

Analytical Method: Chloride by EPA 300

Seq Number: 3022034

Parent Sample Id: 556914-001

Matrix: Soil

MS Sample Id: 556914-001 S

Prep Method: E300P

Date Prep: 07.11.17

MSD Sample Id: 556914-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	124	246	389	108	383	105	90-110	2	20	mg/kg	07.12.17 01:33	

Analytical Method: Chloride by EPA 300

Seq Number: 3022034

Parent Sample Id: 556915-003

Matrix: Soil

MS Sample Id: 556915-003 S

Prep Method: E300P

Date Prep: 07.11.17

MSD Sample Id: 556915-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	51.3	249	321	108	317	107	90-110	1	20	mg/kg	07.12.17 03:21	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3021792

MB Sample Id: 727359-1-BLK

Matrix: Solid

LCS Sample Id: 727359-1-BKS

Prep Method: TX1005P

Date Prep: 07.06.17

LCSD Sample Id: 727359-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1030	103	1040	104	70-135	1	35	mg/kg	07.06.17 13:50	
Diesel Range Organics (DRO)	<15.0	1000	1030	103	1060	106	70-135	3	35	mg/kg	07.06.17 13:50	

Surrogate

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	117		128		120		70-135	%	07.06.17 13:50
o-Terphenyl	124		128		119		70-135	%	07.06.17 13:50



COG Operating LLC

Reposado 2 State #00

Analytical Method: TPH By SW8015 Mod

Seq Number: 3021792

Parent Sample Id: 556810-006

Matrix: Soil

MS Sample Id: 556810-006 S

Prep Method: TX1005P

Date Prep: 07.06.17

MSD Sample Id: 556810-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	44.3	997	1080	104	1080	104	70-135	0	35	mg/kg	07.06.17 14:50	
Diesel Range Organics (DRO)	323	997	1380	106	1350	103	70-135	2	35	mg/kg	07.06.17 14:50	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		110		70-135	%	07.06.17 14:50
o-Terphenyl	100		106		70-135	%	07.06.17 14:50

Analytical Method: BTEX by EPA 8021B

Seq Number: 3021840

MB Sample Id: 727364-1-BLK

Matrix: Solid

LCS Sample Id: 727364-1-BKS

Prep Method: SW5030B

Date Prep: 07.07.17

LCSD Sample Id: 727364-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.120	120	0.120	119	70-130	0	35	mg/kg	07.08.17 21:54	
Toluene	<0.00201	0.100	0.107	107	0.106	105	70-130	1	35	mg/kg	07.08.17 21:54	
Ethylbenzene	<0.00201	0.100	0.112	112	0.109	108	71-129	3	35	mg/kg	07.08.17 21:54	
m_p-Xylenes	<0.00402	0.201	0.200	100	0.196	97	70-135	2	35	mg/kg	07.08.17 21:54	
o-Xylene	<0.00201	0.100	0.105	105	0.109	108	71-133	4	35	mg/kg	07.08.17 21:54	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		93		85		80-120	%	07.08.17 21:54
4-Bromofluorobenzene	106		107		83		80-120	%	07.08.17 21:54

Analytical Method: BTEX by EPA 8021B

Seq Number: 3021854

MB Sample Id: 727410-1-BLK

Matrix: Solid

LCS Sample Id: 727410-1-BKS

Prep Method: SW5030B

Date Prep: 07.10.17

LCSD Sample Id: 727410-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.109	108	0.114	114	70-130	4	35	mg/kg	07.10.17 07:26	
Toluene	<0.00201	0.101	0.0959	95	0.105	105	70-130	9	35	mg/kg	07.10.17 07:26	
Ethylbenzene	<0.00201	0.101	0.103	102	0.103	103	71-129	0	35	mg/kg	07.10.17 07:26	
m_p-Xylenes	<0.00402	0.201	0.181	90	0.185	92	70-135	2	35	mg/kg	07.10.17 07:26	
o-Xylene	<0.00201	0.101	0.104	103	0.100	100	71-133	4	35	mg/kg	07.10.17 07:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		86		85		80-120	%	07.10.17 07:26
4-Bromofluorobenzene	96		101		87		80-120	%	07.10.17 07:26



COG Operating LLC

Reposado 2 State #00

Analytical Method: BTEX by EPA 8021B

Seq Number: 3021840

Parent Sample Id: 556913-005

Matrix: Soil

MS Sample Id: 556913-005 S

Prep Method: SW5030B

Date Prep: 07.07.17

MSD Sample Id: 556913-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.105	105	0.101	101	70-130	4	35	mg/kg	07.08.17 22:27	
Toluene	<0.00199	0.0996	0.0955	96	0.0918	92	70-130	4	35	mg/kg	07.08.17 22:27	
Ethylbenzene	<0.00199	0.0996	0.0982	99	0.0937	94	71-129	5	35	mg/kg	07.08.17 22:27	
m_p-Xylenes	<0.00398	0.199	0.175	88	0.172	86	70-135	2	35	mg/kg	07.08.17 22:27	
o-Xylene	<0.00199	0.0996	0.103	103	0.0954	95	71-133	8	35	mg/kg	07.08.17 22:27	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		85		80-120	%	07.08.17 22:27
4-Bromofluorobenzene	104		86		80-120	%	07.08.17 22:27

Analytical Method: BTEX by EPA 8021B

Seq Number: 3021854

Parent Sample Id: 556914-001

Matrix: Soil

MS Sample Id: 556914-001 S

Prep Method: SW5030B

Date Prep: 07.10.17

MSD Sample Id: 556914-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.106	106	0.102	102	70-130	4	35	mg/kg	07.10.17 08:04	
Toluene	<0.00200	0.0998	0.0863	86	0.0932	93	70-130	8	35	mg/kg	07.10.17 08:04	
Ethylbenzene	<0.00200	0.0998	0.0928	93	0.0971	97	71-129	5	35	mg/kg	07.10.17 08:04	
m_p-Xylenes	<0.00399	0.200	0.162	81	0.167	84	70-135	3	35	mg/kg	07.10.17 08:04	
o-Xylene	<0.00200	0.0998	0.0860	86	0.0965	97	71-133	12	35	mg/kg	07.10.17 08:04	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	112		98		80-120	%	07.10.17 08:04
4-Bromofluorobenzene	106		108		80-120	%	07.10.17 08:04



Setting the Standard since 1990
Stafford, Texas (281-240-4200)
Dallas, Texas (214-902-0300)

CHAIN OF CUSTODY

Page 1 of 1

San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

www.xenco.com

Xenco Quote #

Xenco Job #

55069114

Matrix Codes

Analytical Information

Project Information

Client / Reporting Information

Company Name / Branch:

COG Operating LLC

Company Address:

2407 PECOS Avenue Artesia NM 88210

Email: alibb@concho.com Phone No: 575-748-1553

dneal2@concho.com thaskell@concho.com

Project Contact: Aaron Lieb

Samplers Name: Aaron Lieb

Project Name/Number:

Reposado 2 State #001

Project Location:

Reposado 2 State #

Invoice To: COG Operating LLC

Attn: Robert McNeill

600 W. Illinois

Midland TX 79701

Po Number:

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

TPH/ EXTENDED

BTEX

Chloride



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: COG Operating LLC

Date/ Time Received: 07/05/2017 11:45:00 AM

Work Order #: 556914

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)?	4.9
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seal present on shipping container/ cooler?	Yes
#5 *Custody Seals intact on shipping container/ cooler?	Yes
#6 Custody Seals intact on sample bottles?	Yes
#7 *Custody Seals Signed and dated?	Yes
#8 *Chain of Custody present?	Yes
#9 Sample instructions complete on Chain of Custody?	Yes
#10 Any missing/extra samples?	No
#11 Chain of Custody signed when relinquished/ received?	Yes
#12 Chain of Custody agrees with sample label(s)?	Yes
#13 Container label(s) legible and intact?	Yes
#14 Sample matrix/ properties agree with Chain of Custody?	Yes
#15 Samples in proper container/ bottle?	Yes
#16 Samples properly preserved?	Yes
#17 Sample container(s) intact?	Yes
#18 Sufficient sample amount for indicated test(s)?	Yes
#19 All samples received within hold time?	Yes
#20 Subcontract of sample(s)?	No
#21 VOC samples have zero headspace?	N/A

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

Analyst: ss

PH Device/Lot#:

Checklist completed by:

Shawnee Smith

Date: 07/06/2017

Checklist reviewed by:

Kelsey Brooks

Date: 07/06/2017

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 162634

CONDITIONS

Operator: COG PRODUCTION, LLC 600 W. Illinois Ave Midland, TX 79701	OGRID: 217955
	Action Number: 162634
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
amaxwell	None	11/30/2022