

March 5, 2018

Olivia Yu
Oil Conservation Division
District 1 – Hobbs
1625 N. French Dr.
Hobbs, NM 88240

Mark Naranjo
New Mexico State Land Office
Field Operations Division
1001 S. Atkinson
Roswell, NM 88203

Re: Work Plan
Jazzmaster 17 State #004H
API #: 30-025-41329
RP#: 1RP-4795 & 1RP-4594
Unit Letter A Section 17, Township 23S, Range 33E
Lea County, NM

APPROVED

By Olivia Yu at 10:52 am, Apr 03, 2018

NMOCD approves of the delineation completed and proposed remediation for 1RP-4594 and 1RP-4795 with one condition: confirmation sidewall samples (TPH extended and chlorides) for the excavated area represented by T-1. Mark confirmation sample locations on a scaled map with GPS coordinates.

Ms. Yu/Mr. Naranjo,

COG Operating, LLC (COG) is pleased to submit for your consideration the following remediation work plan for the Jazzmaster 17 State #004H. This plan is in response to two oil and produced water releases that occurred on February 4, 2017 and again on August 22, 2017. A C-141 initial report was submitted to the New Mexico Oil Conservation Division (NMOCD) subsequent to each release.

BACKGROUND

On February 2, 2017, the free water knockout dump control failed and sent fluid to the flare resulting in the release of approximately fifteen (15) barrel (bbl) of oil and five (5) bbls of produced water. Approximately fourteen (14) bbls of oil and four (4) bbls of produced water were recovered. The RP number NMOCD assigned to this release was 1RP-4594.

On August 22, 2017, a dump valve failed and sent fluid to the flare resulting in the release of approximately twenty (20) barrels (bbls) of oil and fifteen (15) bbls of produced water. Approximately eighteen (18) bbls of oil and thirteen (13) bbls of produced water were recovered. The RP number NMOCD assigned to this release was 1RP-4795. This release covered the same area of the well pad and pasture as the release that occurred on February 2, 2017.

On September 13, 2017, a site assessment and soil sampling were conducted in order to vertically and horizontally define the area impacted by the two releases at this site. A site diagram is included in Appendix I. The analytical results from the soil sampling activities are summarized in the table below.

ANALYTICAL RESULTS

Jazzmaster 17 State #004H February 4, 2017					
Sample ID	Date	Chloride mg/Kg	Benzene mg/Kg	BTEX mg/Kg	TPH mg/Kg
T-1 Surface	9/13/2017	1810	<0.0401	20.3	17,600
T-1 1'	9/13/2017	477	<0.00202	<0.00202	<15.0
T-1 2'	9/13/2017	607	<0.00202	<0.00202	<15.0
T-1 3'	9/13/2017	400	<0.00199	<0.00199	<15.0
T-1 4'	9/13/2017	411	<0.00201	<0.00201	<15.0
T-1 6'	9/13/2017	846	-	-	-
T-1 8'	9/13/2017	254	-	-	-
T-1 10'	9/13/2017	305	-	-	-
T-1 12'	9/13/2017	308	-	-	-
T-1 14'	9/13/2017	<4.99	<0.00201	<0.00201	<15.0
T-2 Surface	9/13/2017	13.2	<0.00200	<0.00200	<14.9
T-2 1'	9/13/2017	56.6	<0.00198	<0.00198	<15.0
T-2 2'	9/13/2017	<4.92	<0.00200	<0.00200	17.8
T-2 3'	9/13/2017	7.95	<0.00200	<0.00200	<14.9
T-2 4'	9/13/2017	17.2	<0.00202	<0.00202	<15.0
T-2 6'	9/13/2017	7.55	-	-	-
T-2 8'	9/13/2017	15.9	<0.00202	<0.00202	<15.0
T-3 Surface	9/13/2017	53.4	<0.00198	<0.00198	1,610
T-3 1'	9/13/2017	287	<0.00202	<0.00202	<15.0
T-3 2'	9/13/2017	237	<0.00199	<0.00199	82.9
T-3 3'	9/13/2017	36.0	<0.00198	<0.00198	<15.0
T-3 4'	9/13/2017	26.3	<0.00200	<0.00200	105
T-3 6'	9/13/2017	63.8	-	-	-
T-3 8'	9/13/2017	<5.00	<0.00201	<0.00201	<15.0

(--) Analysis not requested

GROUNDWATER AND SITE RANKING

According to the 2005 Chevron Texaco groundwater trend map, groundwater in the project vicinity is approximately four-hundred (400) feet below ground surface (BGS) (Appendix II). No water well or surface water was observed within one-thousand (1,000) feet of the release site. Therefore the site ranking for this release is zero (0) based on the following:

Depth to groundwater	>100-feet
Distance to surface water body	>1000-feet
Wellhead Protection Area	>1000-feet

PROPOSED REMEDIAL ACTIONS

- The area of T1 will be excavated to the depth of one (1) foot BGS.
- All of the excavated material will be hauled to an NMOCD approved solid waste disposal facility.
- The excavation will be backfilled with caliche and contoured to match the surrounding location.

Should you have any questions or concerns please do not hesitate to contact me.

Sincerely,



Dakota Neel
HSE Coordinator
Dneel2@concho.com

Enclosed:

Appendix I: Site Diagram
Appendix II: Groundwater Data
Appendix III: Initial C-141 (Copy)
Appendix IV: Analytical Reports and Chain-of-Custody Forms



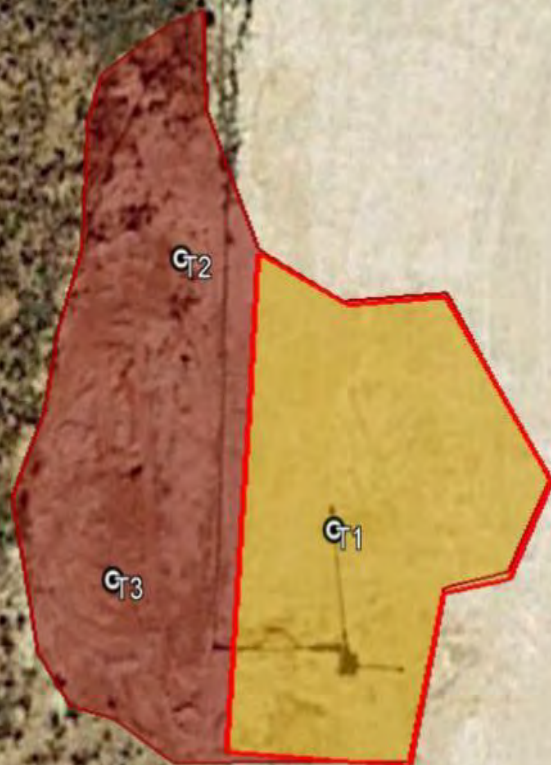
[Dakota Neel]
[HSE Coordinator]

APPENDIX I

Jazzmaster 17 State #004

Legend

- AOI
- Sample Points
- T-1 1' Excavation



100 ft

APPENDIX II



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																	
POD Number	Code	Sub-basin	County	Q Q Q							X	Y	Distance	Depth	Well	Depth	Water
				64	16	4	Sec	Tws	Rng	Column							
C_02277		CUB	LE	2	3	4	20	23S	33E	632663	3572970*		2820	550	400	150	
C_02275		CUB	LE	3	3	2	19	23S	33E	630843	3573557*		3004	650	400	250	
C_02276		CUB	LE	3	1	4	19	23S	33E	630848	3573154*		3310	650	400	250	
C_03582 POD1		C	LE	4	1	1	14	23S	33E	636583	3575666		3725	590			
C_02278		CUB	LE	3	4	2	28	23S	33E	634484	3571989*		4127	650	400	250	
C_02280		CUB	LE	3	2	4	28	23S	33E	634489	3571586*		4502	650	400	250	
C_02279		CUB	LE	3	4	3	28	23S	33E	633691	3571173*		4685	650	400	250	
C_02281		CUB	LE	3	4	4	28	23S	33E	634495	3571183*		4882	545	400	145	

Average Depth to Water: **400 feet**

Minimum Depth: **400 feet**

Maximum Depth: **400 feet**

Record 8

Count:

UTM NAD83 Radius Search (in meters):

Easting (X): 632859.61

Northing (Y): 3575783.71

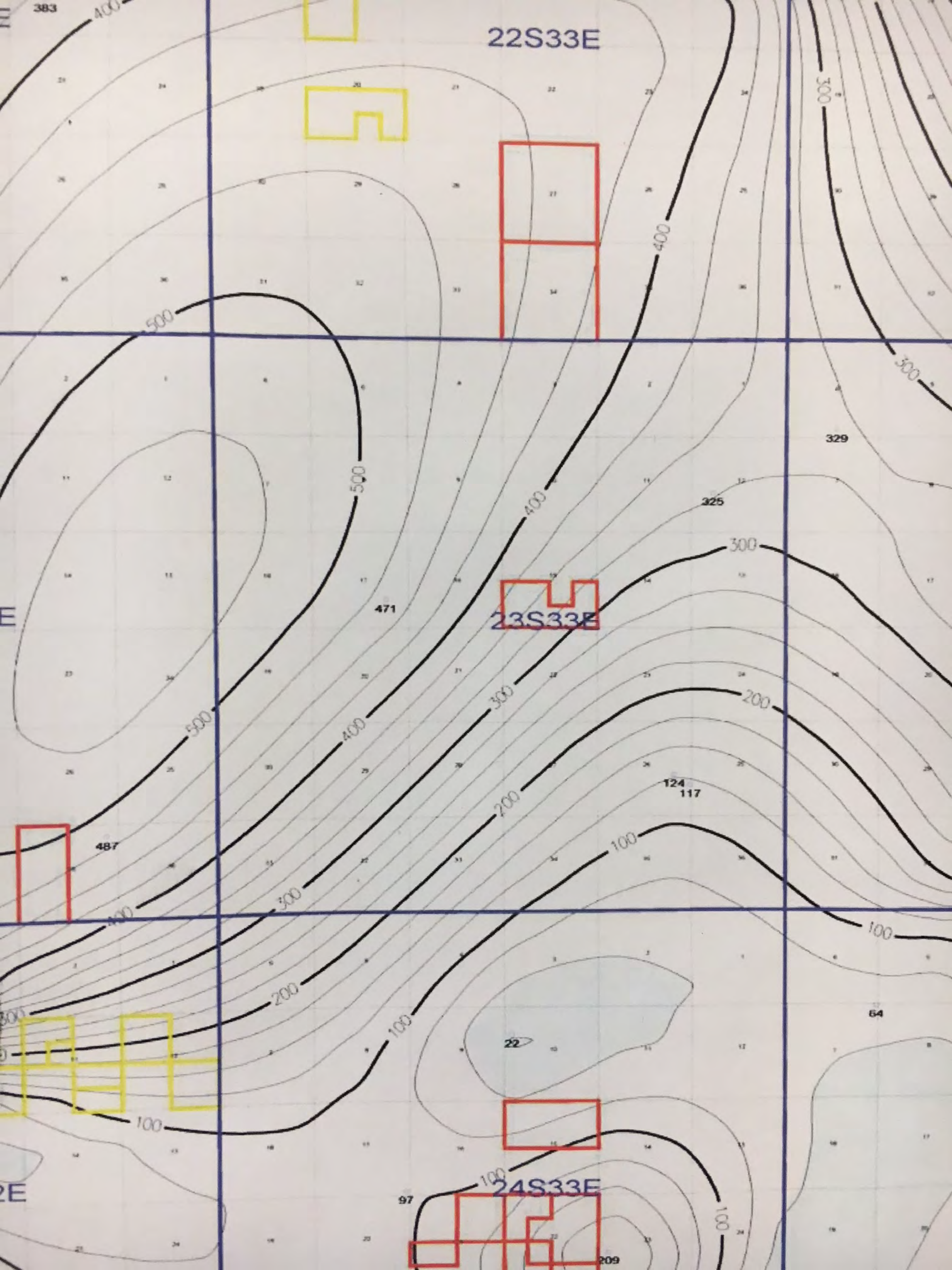
Radius: 5000

*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.

3/5/18 12:56 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER



22S33E

23S33E

24S33E

APPENDIX III

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

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company:	COG Operating LLC	Contact:	Robert McNeill
Address:	600 West Illinois Avenue, Midland TX 79701	Telephone No.	432-683-7443
Facility Name:	JAZZMASTER 17 STATE #004H	Facility Type:	Flare
Surface Owner:	State	Mineral Owner:	API No. 30-025-41329

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	17	23S	33E	330'	North	660'	East	Lea

Latitude 32.3110809 Longitude 103.5879593

NATURE OF RELEASE

Type of Release:	Oil & Produced Water	Volume of Release:	15bbls of Oil & 5bbls of Produced Water	Volume Recovered:	14bbls of Oil & 4bbls of Produced Water
Source of Release:	Flare	Date and Hour of Occurrence:	02/04/2017 10:00 am	Date and Hour of Discovery:	02/04/2017 10:00 am
Was Immediate Notice Given?	☐ Yes ☒ No ☒ Not Required	If YES, To Whom?			
By Whom?		Date and Hour:			
Was a Watercourse Reached?	☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.			
If a Watercourse was Impacted, Describe Fully.*					

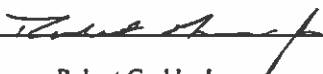
Describe Cause of Problem and Remedial Action Taken.*

FWKO dump control failed causing the fluid to go out the flare. Repaired the dump control on the FWKO.

Describe Area Affected and Cleanup Action Taken.*

This majority of this release occurred within a lined facility. A small mist are of 40 x 60 is located in the pasture. Vacuum trucks were dispatched to remove all freestanding fluids. Concho will have the spill area evaluated for 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:		OIL CONSERVATION DIVISION	
Printed Name:	Robert Grubbs Jr.	Approved by Environmental Specialist:	
Title:	Senior HSE Coordinator	Approval Date:	Expiration Date:
E-mail Address:	rgrubbs@concho.com	Conditions of Approval:	Attached ☐
Date:	February 6, 2017	Phone:	432-683-7443

* Attach Additional Sheets If Necessary

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: Jazzmaster 17 State #004H	Facility Type: Tank Battery	
Surface Owner: State	Mineral Owner: State	API No. 30-025-41329

LOCATION OF RELEASE

Unit Letter A	Section 17	Township 23S	Range 33E	Feet from the 330	North/South Line North	Feet from the 660	East/West Line East	County Lea
------------------	---------------	-----------------	--------------	----------------------	---------------------------	----------------------	------------------------	---------------

Latitude 32.3110809 Longitude -103.5879593

NATURE OF RELEASE

Type of Release: Oil and Produced Water	Volume of Release: 20 bbl. Oil & 15 bbl. PW	Volume Recovered: 18 bbl. Oil & 13 bbl. PW
Source of Release: Flare	Date and Hour of Occurrence: August 22, 2017 9:00 am	Date and Hour of Discovery: August 22, 2017 9:00 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Ms. Yu - NMOCD / Ms. Groves - SLO	
By Whom? Rebecca Haskell	Date and Hour: August 22, 2017 1:48 pm	
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.* Wells came back online after power outage. Unloaded fluid with low casing pressure, causing vessels to load. With vessels loaded fluid gas was lost causing dumps to not work properly and fluid was sent to the flare.		
Describe Area Affected and Cleanup Action Taken.* The release was on location and within the adjacent pasture. A vacuum truck was dispatched to remove all freestanding fluids. Concho will have the spill area sampled to delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		
Signature: <i>Rebecca Haskell</i>	OIL CONSERVATION DIVISION	
Printed Name: Rebecca Haskell	Approved by Environmental Specialist:	
Title: Senior HSE Coordinator	Approval Date:	Expiration Date:
E-mail Address: rhaskell@concho.com	Conditions of Approval:	Attached ☐
Date: August 23, 2017 Phone: 432-683-7443		

* Attach Additional Sheets If Necessary

APPENDIX IV



Certificate of Analysis Summary 563208

COG Operating LLC, Artesia, NM

Project Name: Jazzmaster 17 State #4H



Project Id:

Contact: Aaron Lieb

Project Location: Jazzmaster 17 State #4H

Date Received in Lab: Mon Sep-18-17 11:45 am

Report Date: 28-SEP-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	563208-001	563208-002	563208-003	563208-004	563208-005	563208-006
	Field Id:	T1-Surface	T1-1'	T1-2'	T1-3	T1-4'	T1-6'
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Sep-13-17 09:30	Sep-13-17 09:30	Sep-13-17 09:30	Sep-13-17 09:30	Sep-13-17 09:30	Sep-13-17 09:30
BTEX by EPA 8021B	Extracted:	Sep-23-17 08:30	Sep-21-17 15:40	Sep-22-17 08:30	Sep-22-17 08:30	Sep-21-17 15:40	
	Analyzed:	Sep-23-17 18:17	Sep-22-17 04:27	Sep-22-17 23:15	Sep-22-17 22:56	Sep-22-17 05:23	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.0401 0.0401	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00201 0.00201	
Toluene		2.33 0.0401	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00201 0.00201	
Ethylbenzene		4.38 0.0401	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00201 0.00201	
m,p-Xylenes		11.1 0.0802	<0.00403 0.00403	<0.00403 0.00403	<0.00398 0.00398	<0.00402 0.00402	
o-Xylene		2.53 0.0401	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00201 0.00201	
Total Xylenes		13.6 0.0401	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00201 0.00201	
Total BTEX		20.3 0.0401	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00201 0.00201	
Chloride by EPA 300	Extracted:	Sep-22-17 10:15	Sep-22-17 10:15	Sep-22-17 16:00	Sep-22-17 16:00	Sep-22-17 16:00	Sep-22-17 16:00
	Analyzed:	Sep-22-17 15:15	Sep-22-17 15:22	Sep-22-17 16:04	Sep-22-17 16:25	Sep-22-17 16:32	Sep-22-17 16:39
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1810 24.9	477 4.99	607 4.92	400 4.99	411 4.98	846 4.94
TPH By SW8015 Mod	Extracted:	Sep-20-17 17:00	Sep-20-17 17:00	Sep-20-17 17:00	Sep-20-17 17:00	Sep-20-17 17:00	
	Analyzed:	Sep-21-17 06:56	Sep-21-17 07:19	Sep-21-17 07:41	Sep-21-17 08:03	Sep-21-17 08:23	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		428 74.8	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	
Diesel Range Organics (DRO)		7090 74.8	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	
Oil Range Hydrocarbons (ORO)		1240 74.8	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	
Total TPH		17600 74.8	<15.0 15.0	<15.0 15.0	<15.0 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.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 563208

COG Operating LLC, Artesia, NM

Project Name: Jazzmaster 17 State #4H



Project Id:

Contact: Aaron Lieb

Project Location: Jazzmaster 17 State #4H

Date Received in Lab: Mon Sep-18-17 11:45 am

Report Date: 28-SEP-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	563208-007	563208-008	563208-009	563208-010	563208-011	563208-012
	<i>Field Id:</i>	T1-8'	T1-10'	T1-12'	T1-14'	T2-Surface	T2-1'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Sep-13-17 09:30	Sep-13-17 09:30	Sep-13-17 09:30	Sep-13-17 09:30	Sep-13-17 10:30	Sep-13-17 10:30
BTEX by EPA 8021B	<i>Extracted:</i>				Sep-22-17 08:30	Sep-22-17 08:30	Sep-23-17 08:30
	<i>Analyzed:</i>				Sep-22-17 17:37	Sep-22-17 17:56	Sep-23-17 17:02
	<i>Units/RL:</i>				mg/kg RL	mg/kg RL	mg/kg RL
Benzene					<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198
Toluene					<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198
Ethylbenzene					<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198
m,p-Xylenes					<0.00402 0.00402	<0.00399 0.00399	<0.00397 0.00397
o-Xylene					<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198
Total Xylenes					<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198
Total BTEX					<0.00201 0.00201	<0.00200 0.00200	<0.00198 0.00198
Chloride by EPA 300	<i>Extracted:</i>	Sep-22-17 16:00	Sep-22-17 16:00	Sep-22-17 16:00	Sep-22-17 16:00	Sep-22-17 16:00	Sep-22-17 16:00
	<i>Analyzed:</i>	Sep-22-17 18:03	Sep-22-17 18:24	Sep-22-17 18:31	Sep-22-17 18:38	Sep-22-17 18:45	Sep-22-17 18:51
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		254 4.94	305 4.92	308 4.99	<4.99 4.99	13.2 4.94	56.6 4.93
TPH By SW8015 Mod	<i>Extracted:</i>				Sep-20-17 17:00	Sep-19-17 15:00	Sep-19-17 15:00
	<i>Analyzed:</i>				Sep-21-17 08:43	Sep-20-17 00:49	Sep-20-17 01:09
	<i>Units/RL:</i>				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
Diesel Range Organics (DRO)					<15.0 15.0	<14.9 14.9	<15.0 15.0
Oil Range Hydrocarbons (ORO)					<15.0 15.0	<14.9 14.9	<15.0 15.0
Total TPH					<15.0 15.0	<14.9 14.9	<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.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 563208

COG Operating LLC, Artesia, NM

Project Name: Jazzmaster 17 State #4H



Project Id:

Contact: Aaron Lieb

Project Location: Jazzmaster 17 State #4H

Date Received in Lab: Mon Sep-18-17 11:45 am

Report Date: 28-SEP-17

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	563208-013	563208-014	563208-015	563208-016	563208-017	563208-018
	Field Id:	T2-2'	T2-3'	T2-4'	T2-6'	T2-8'	T3-Surface
	Depth:						
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Sep-13-17 10:30	Sep-13-17 10:30	Sep-13-17 10:30	Sep-13-17 10:30	Sep-13-17 10:30	Sep-13-17 11:00
BTEX by EPA 8021B	Extracted:	Sep-23-17 08:30	Sep-22-17 08:30	Sep-21-17 15:40		Sep-23-17 08:30	Sep-22-17 08:30
	Analyzed:	Sep-23-17 17:21	Sep-22-17 20:08	Sep-22-17 03:12		Sep-23-17 16:43	Sep-22-17 19:30
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL		mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202		<0.00202 0.00202	<0.00198 0.00198
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202		<0.00202 0.00202	<0.00198 0.00198
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202		<0.00202 0.00202	<0.00198 0.00198
m,p-Xylenes		<0.00399 0.00399	<0.00401 0.00401	<0.00403 0.00403		<0.00403 0.00403	<0.00397 0.00397
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202		<0.00202 0.00202	<0.00198 0.00198
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202		<0.00202 0.00202	<0.00198 0.00198
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202		<0.00202 0.00202	<0.00198 0.00198
Chloride by EPA 300	Extracted:	Sep-22-17 16:00	Sep-22-17 16:00	Sep-22-17 16:00	Sep-22-17 16:00	Sep-22-17 16:00	Sep-22-17 16:00
	Analyzed:	Sep-22-17 18:58	Sep-22-17 19:19	Sep-22-17 19:26	Sep-22-17 19:47	Sep-22-17 19:54	Sep-22-17 20:01
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<4.92 4.92	7.95 4.98	17.2 4.97	7.55 4.96	15.9 4.98	53.4 4.99
TPH By SW8015 Mod	Extracted:	Sep-19-17 15:00	Sep-19-17 15:00	Sep-19-17 15:00		Sep-19-17 15:00	Sep-19-17 15:00
	Analyzed:	Sep-20-17 02:09	Sep-20-17 02:29	Sep-20-17 02:50		Sep-20-17 03:11	Sep-20-17 03:32
	Units/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		<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		17.8 15.0	<14.9 14.9	<15.0 15.0		<15.0 15.0	1280 15.0
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<14.9 14.9	<15.0 15.0		<15.0 15.0	325 15.0
Total TPH		17.8 15.0	<14.9 14.9	<15.0 15.0		<15.0 15.0	1610 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.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 563208

COG Operating LLC, Artesia, NM

Project Name: Jazzmaster 17 State #4H



Project Id:

Contact: Aaron Lieb

Project Location: Jazzmaster 17 State #4H

Date Received in Lab: Mon Sep-18-17 11:45 am

Report Date: 28-SEP-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	563208-019	563208-020	563208-021	563208-022	563208-023	563208-024
	<i>Field Id:</i>	T3-1'	T3-2'	T3-3'	T3-4'	T3-6'	T3-8'
	<i>Depth:</i>						
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Sep-13-17 11:00	Sep-13-17 11:00	Sep-13-17 11:00	Sep-13-17 11:00	Sep-13-17 11:00	Sep-13-17 11:00
BTEX by EPA 8021B	<i>Extracted:</i>	Sep-22-17 08:30	Sep-23-17 08:30	Sep-23-17 08:30	Sep-22-17 08:30		Sep-22-17 08:30
	<i>Analyzed:</i>	Sep-22-17 18:14	Sep-23-17 15:27	Sep-23-17 16:24	Sep-22-17 19:49		Sep-22-17 21:22
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		mg/kg RL
Benzene		<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200		<0.00201 0.00201
Toluene		<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200		<0.00201 0.00201
Ethylbenzene		<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200		<0.00201 0.00201
m,p-Xylenes		<0.00404 0.00404	<0.00398 0.00398	<0.00396 0.00396	<0.00399 0.00399		<0.00402 0.00402
o-Xylene		<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200		<0.00201 0.00201
Total Xylenes		<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200		<0.00201 0.00201
Total BTEX		<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200		<0.00201 0.00201
Chloride by EPA 300	<i>Extracted:</i>	Sep-22-17 16:00	Sep-22-17 16:00	Sep-22-17 16:00	Sep-22-17 16:00	Sep-25-17 09:45	Sep-25-17 09:45
	<i>Analyzed:</i>	Sep-22-17 20:08	Sep-22-17 20:15	Sep-22-17 20:22	Sep-22-17 20:29	Sep-25-17 11:38	Sep-25-17 14:53
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		287 4.91	237 4.91	36.0 4.95	26.3 4.92	63.8 4.90	<5.00 5.00
TPH By SW8015 Mod	<i>Extracted:</i>	Sep-19-17 15:00	Sep-19-17 15:00	Sep-19-17 15:00	Sep-19-17 15:00		Sep-19-17 15:00
	<i>Analyzed:</i>	Sep-20-17 03:52	Sep-20-17 04:13	Sep-20-17 07:03	Sep-20-17 07:23		Sep-20-17 07:44
	<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	<15.0 15.0	<15.0 15.0	<15.0 15.0		<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	82.9 15.0	<15.0 15.0	89.8 15.0		<15.0 15.0
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	15.4 15.0		<15.0 15.0
Total TPH		<15.0 15.0	82.9 15.0	<15.0 15.0	105 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.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager

Analytical Report 563208

for
COG Operating LLC

Project Manager: Aaron Lieb

Jazzmaster 17 State #4H

28-SEP-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)



28-SEP-17

Project Manager: **Aaron Lieb**

COG Operating LLC

2407 Pecos Avenue

Artesia, NM 88210

Reference: XENCO Report No(s): **563208**

Jazzmaster 17 State #4H

Project Address: Jazzmaster 17 State #4H

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) 563208. 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. 563208 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks

Project Manager

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

COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T1-Surface	S	09-13-17 09:30		563208-001
T1-1'	S	09-13-17 09:30		563208-002
T1-2'	S	09-13-17 09:30		563208-003
T1-3	S	09-13-17 09:30		563208-004
T1-4'	S	09-13-17 09:30		563208-005
T1-6'	S	09-13-17 09:30		563208-006
T1-8'	S	09-13-17 09:30		563208-007
T1-10'	S	09-13-17 09:30		563208-008
T1-12'	S	09-13-17 09:30		563208-009
T1-14'	S	09-13-17 09:30		563208-010
T2-Surface	S	09-13-17 10:30		563208-011
T2-1'	S	09-13-17 10:30		563208-012
T2-2'	S	09-13-17 10:30		563208-013
T2-3'	S	09-13-17 10:30		563208-014
T2-4'	S	09-13-17 10:30		563208-015
T2-6'	S	09-13-17 10:30		563208-016
T2-8'	S	09-13-17 10:30		563208-017
T3-Surface	S	09-13-17 11:00		563208-018
T3-1'	S	09-13-17 11:00		563208-019
T3-2'	S	09-13-17 11:00		563208-020
T3-3'	S	09-13-17 11:00		563208-021
T3-4'	S	09-13-17 11:00		563208-022
T3-6'	S	09-13-17 11:00		563208-023
T3-8'	S	09-13-17 11:00		563208-024



CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: Jazzmaster 17 State #4H

Project ID:

Work Order Number(s): 563208

Report Date: 28-SEP-17

Date Received: 09/18/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3028553 BTEX by EPA 8021B

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

Batch: LBA-3028554 BTEX by EPA 8021B

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

Batch: LBA-3028556 BTEX by EPA 8021B

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

Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 563208-013.



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: **T1-Surface**

Matrix: Soil

Date Received: 09.18.17 11.45

Lab Sample Id: 563208-001

Date Collected: 09.13.17 09.30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 09.22.17 10.15

Basis: Wet Weight

Seq Number: 3028431

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1810	24.9	mg/kg	09.22.17 15.15		5

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 09.20.17 17.00

Basis: Wet Weight

Seq Number: 3028280

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	428	74.8	mg/kg	09.21.17 06.56		5
Diesel Range Organics (DRO)	C10C28DRO	7090	74.8	mg/kg	09.21.17 06.56		5
Oil Range Hydrocarbons (ORO)	PHCG2835	1240	74.8	mg/kg	09.21.17 06.56		5
Total TPH	PHC635	17600	74.8	mg/kg	09.21.17 06.56		5
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	96	%	70-135	09.21.17 06.56		
o-Terphenyl	84-15-1	102	%	70-135	09.21.17 06.56		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: **T1-Surface**

Matrix: Soil

Date Received: 09.18.17 11.45

Lab Sample Id: 563208-001

Date Collected: 09.13.17 09.30

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.23.17 08.30

Basis: Wet Weight

Seq Number: 3028556

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0401	0.0401	mg/kg	09.23.17 18.17	U	20
Toluene	108-88-3	2.33	0.0401	mg/kg	09.23.17 18.17		20
Ethylbenzene	100-41-4	4.38	0.0401	mg/kg	09.23.17 18.17		20
m,p-Xylenes	179601-23-1	11.1	0.0802	mg/kg	09.23.17 18.17		20
o-Xylene	95-47-6	2.53	0.0401	mg/kg	09.23.17 18.17		20
Total Xylenes	1330-20-7	13.6	0.0401	mg/kg	09.23.17 18.17		20
Total BTEX		20.3	0.0401	mg/kg	09.23.17 18.17		20
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	80-120	09.23.17 18.17		
1,4-Difluorobenzene	540-36-3	80	%	80-120	09.23.17 18.17		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T1-1'
Lab Sample Id: 563208-002

Matrix: Soil
Date Collected: 09.13.17 09.30

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3028431

Prep Method: E300P

% Moisture:

Date Prep: 09.22.17 10.15

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	477	4.99	mg/kg	09.22.17 15.22		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3028280

Prep Method: TX1005P

% Moisture:

Date Prep: 09.20.17 17.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.21.17 07.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.21.17 07.19	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.21.17 07.19	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.21.17 07.19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	91	%	70-135	09.21.17 07.19		
o-Terphenyl	84-15-1	83	%	70-135	09.21.17 07.19		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T1-1'
Lab Sample Id: 563208-002

Matrix: Soil
Date Collected: 09.13.17 09.30

Date Received: 09.18.17 11.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.21.17 15.40

Basis: Wet Weight

Seq Number: 3028553

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.22.17 04.27	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	09.22.17 04.27	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.22.17 04.27	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	09.22.17 04.27	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.22.17 04.27	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.22.17 04.27	U	1
Total BTEX		<0.00202	0.00202	mg/kg	09.22.17 04.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	80-120	09.22.17 04.27		
4-Bromofluorobenzene	460-00-4	81	%	80-120	09.22.17 04.27		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T1-2'
Lab Sample Id: 563208-003

Matrix: Soil
Date Collected: 09.13.17 09.30

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3028535

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 09.22.17 16.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	607	4.92	mg/kg	09.22.17 16.04		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3028280

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 09.20.17 17.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.21.17 07.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.21.17 07.41	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.21.17 07.41	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.21.17 07.41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	91	%	70-135	09.21.17 07.41		
o-Terphenyl	84-15-1	85	%	70-135	09.21.17 07.41		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T1-2'
Lab Sample Id: 563208-003

Matrix: Soil
Date Collected: 09.13.17 09.30

Date Received: 09.18.17 11.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.22.17 08.30

Basis: Wet Weight

Seq Number: 3028554

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.22.17 23.15	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	09.22.17 23.15	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.22.17 23.15	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	09.22.17 23.15	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.22.17 23.15	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.22.17 23.15	U	1
Total BTEX		<0.00202	0.00202	mg/kg	09.22.17 23.15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	80-120	09.22.17 23.15		
4-Bromofluorobenzene	460-00-4	81	%	80-120	09.22.17 23.15		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T1-3
Lab Sample Id: 563208-004

Matrix: Soil
Date Collected: 09.13.17 09.30

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3028535

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 09.22.17 16.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	400	4.99	mg/kg	09.22.17 16.25		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3028280

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 09.20.17 17.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.21.17 08.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.21.17 08.03	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.21.17 08.03	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.21.17 08.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	95	%	70-135	09.21.17 08.03		
o-Terphenyl	84-15-1	90	%	70-135	09.21.17 08.03		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T1-3
Lab Sample Id: 563208-004

Matrix: Soil
Date Collected: 09.13.17 09.30

Date Received: 09.18.17 11.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.22.17 08.30

Basis: Wet Weight

Seq Number: 3028554

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.22.17 22.56	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.22.17 22.56	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.22.17 22.56	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.22.17 22.56	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.22.17 22.56	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.22.17 22.56	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.22.17 22.56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	89	%	80-120	09.22.17 22.56		
1,4-Difluorobenzene	540-36-3	96	%	80-120	09.22.17 22.56		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T1-4'
Lab Sample Id: 563208-005

Matrix: Soil
Date Collected: 09.13.17 09.30

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3028535

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 09.22.17 16.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	411	4.98	mg/kg	09.22.17 16.32		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3028280

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 09.20.17 17.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.21.17 08.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.21.17 08.23	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.21.17 08.23	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.21.17 08.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	110	%	70-135	09.21.17 08.23		
o-Terphenyl	84-15-1	105	%	70-135	09.21.17 08.23		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T1-4'
Lab Sample Id: 563208-005

Matrix: Soil
Date Collected: 09.13.17 09.30

Date Received: 09.18.17 11.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.21.17 15.40

Basis: Wet Weight

Seq Number: 3028553

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.22.17 05.23	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.22.17 05.23	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.22.17 05.23	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.22.17 05.23	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.22.17 05.23	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.22.17 05.23	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.22.17 05.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	80-120	09.22.17 05.23		
4-Bromofluorobenzene	460-00-4	80	%	80-120	09.22.17 05.23		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T1-6'
Lab Sample Id: 563208-006

Matrix: Soil
Date Collected: 09.13.17 09.30

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 09.22.17 16.00

Basis: Wet Weight

Seq Number: 3028535

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	846	4.94	mg/kg	09.22.17 16.39		1



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T1-8'
Lab Sample Id: 563208-007

Matrix: Soil
Date Collected: 09.13.17 09.30

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 09.22.17 16.00

Basis: Wet Weight

Seq Number: 3028535

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	254	4.94	mg/kg	09.22.17 18.03		1



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: **T1-10'**
Lab Sample Id: 563208-008

Matrix: Soil
Date Collected: 09.13.17 09.30

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 09.22.17 16.00

Basis: Wet Weight

Seq Number: 3028535

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	305	4.92	mg/kg	09.22.17 18.24		1



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T1-12'
Lab Sample Id: 563208-009

Matrix: Soil
Date Collected: 09.13.17 09.30

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 09.22.17 16.00

Basis: Wet Weight

Seq Number: 3028535

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	308	4.99	mg/kg	09.22.17 18.31		1



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T1-14'
Lab Sample Id: 563208-010

Matrix: Soil
Date Collected: 09.13.17 09.30

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3028535

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 09.22.17 16.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	09.22.17 18.38	U	1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3028280

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 09.20.17 17.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.21.17 08.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.21.17 08.43	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.21.17 08.43	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.21.17 08.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	09.21.17 08.43	
o-Terphenyl	84-15-1	105	%	70-135	09.21.17 08.43	



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T1-14'
Lab Sample Id: 563208-010

Matrix: Soil
Date Collected: 09.13.17 09.30

Date Received: 09.18.17 11.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.22.17 08.30

Basis: Wet Weight

Seq Number: 3028554

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.22.17 17.37	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.22.17 17.37	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.22.17 17.37	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.22.17 17.37	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.22.17 17.37	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.22.17 17.37	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.22.17 17.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	80-120	09.22.17 17.37		
4-Bromofluorobenzene	460-00-4	86	%	80-120	09.22.17 17.37		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T2-Surface

Matrix: Soil

Date Received: 09.18.17 11.45

Lab Sample Id: 563208-011

Date Collected: 09.13.17 10.30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 09.22.17 16.00

Basis: Wet Weight

Seq Number: 3028535

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.2	4.94	mg/kg	09.22.17 18.45		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 09.19.17 15.00

Basis: Wet Weight

Seq Number: 3028150

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	09.20.17 00.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	09.20.17 00.49	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	09.20.17 00.49	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	09.20.17 00.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	09.20.17 00.49	
o-Terphenyl	84-15-1	89	%	70-135	09.20.17 00.49	



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: **T2-Surface**

Matrix: Soil

Date Received: 09.18.17 11.45

Lab Sample Id: 563208-011

Date Collected: 09.13.17 10.30

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.22.17 08.30

Basis: Wet Weight

Seq Number: 3028554

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.22.17 17.56	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.22.17 17.56	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.22.17 17.56	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.22.17 17.56	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.22.17 17.56	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.22.17 17.56	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.22.17 17.56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	80-120	09.22.17 17.56		
4-Bromofluorobenzene	460-00-4	83	%	80-120	09.22.17 17.56		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T2-1'
Lab Sample Id: 563208-012

Matrix: Soil
Date Collected: 09.13.17 10.30

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3028535

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 09.22.17 16.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	56.6	4.93	mg/kg	09.22.17 18.51		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3028150

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 09.19.17 15.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.20.17 01.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.20.17 01.09	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.20.17 01.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.20.17 01.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	97	%	70-135	09.20.17 01.09		
o-Terphenyl	84-15-1	91	%	70-135	09.20.17 01.09		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T2-1'
Lab Sample Id: 563208-012

Matrix: Soil
Date Collected: 09.13.17 10.30

Date Received: 09.18.17 11.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.23.17 08.30

Basis: Wet Weight

Seq Number: 3028556

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	09.23.17 17.02	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	09.23.17 17.02	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	09.23.17 17.02	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	09.23.17 17.02	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	09.23.17 17.02	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	09.23.17 17.02	U	1
Total BTEX		<0.00198	0.00198	mg/kg	09.23.17 17.02	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	85		%	80-120	09.23.17 17.02	
1,4-Difluorobenzene	540-36-3	95		%	80-120	09.23.17 17.02	



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T2-2'
Lab Sample Id: 563208-013

Matrix: Soil
Date Collected: 09.13.17 10.30

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3028535

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 09.22.17 16.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.92	4.92	mg/kg	09.22.17 18.58	U	1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3028150

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 09.19.17 15.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.20.17 02.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	17.8	15.0	mg/kg	09.20.17 02.09		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.20.17 02.09	U	1
Total TPH	PHC635	17.8	15.0	mg/kg	09.20.17 02.09		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	99	%	70-135	09.20.17 02.09		
o-Terphenyl	84-15-1	95	%	70-135	09.20.17 02.09		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T2-2'
Lab Sample Id: 563208-013

Matrix: Soil
Date Collected: 09.13.17 10.30

Date Received: 09.18.17 11.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.23.17 08.30

Basis: Wet Weight

Seq Number: 3028556

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.23.17 17.21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.23.17 17.21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.23.17 17.21	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.23.17 17.21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.23.17 17.21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.23.17 17.21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.23.17 17.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	30	%	80-120	09.23.17 17.21	**	
1,4-Difluorobenzene	540-36-3	92	%	80-120	09.23.17 17.21		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T2-3'
Lab Sample Id: 563208-014

Matrix: Soil
Date Collected: 09.13.17 10.30

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3028535

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 09.22.17 16.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.95	4.98	mg/kg	09.22.17 19.19		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3028150

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 09.19.17 15.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	09.20.17 02.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	09.20.17 02.29	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	09.20.17 02.29	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	09.20.17 02.29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	99	%	70-135	09.20.17 02.29		
o-Terphenyl	84-15-1	95	%	70-135	09.20.17 02.29		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T2-3'
Lab Sample Id: 563208-014

Matrix: Soil
Date Collected: 09.13.17 10.30

Date Received: 09.18.17 11.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.22.17 08.30

Basis: Wet Weight

Seq Number: 3028554

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.22.17 20.08	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.22.17 20.08	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.22.17 20.08	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.22.17 20.08	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.22.17 20.08	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.22.17 20.08	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.22.17 20.08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	86	%	80-120	09.22.17 20.08		
1,4-Difluorobenzene	540-36-3	94	%	80-120	09.22.17 20.08		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T2-4'
Lab Sample Id: 563208-015

Matrix: Soil
Date Collected: 09.13.17 10.30

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3028535

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 09.22.17 16.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.2	4.97	mg/kg	09.22.17 19.26		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3028150

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 09.19.17 15.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.20.17 02.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.20.17 02.50	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.20.17 02.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.20.17 02.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	99	%	70-135	09.20.17 02.50		
o-Terphenyl	84-15-1	96	%	70-135	09.20.17 02.50		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T2-4'
Lab Sample Id: 563208-015

Matrix: Soil
Date Collected: 09.13.17 10.30

Date Received: 09.18.17 11.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.21.17 15.40

Basis: Wet Weight

Seq Number: 3028553

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.22.17 03.12	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	09.22.17 03.12	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.22.17 03.12	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	09.22.17 03.12	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.22.17 03.12	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.22.17 03.12	U	1
Total BTEX		<0.00202	0.00202	mg/kg	09.22.17 03.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	84	%	80-120	09.22.17 03.12		
1,4-Difluorobenzene	540-36-3	93	%	80-120	09.22.17 03.12		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T2-6'
Lab Sample Id: 563208-016

Matrix: Soil
Date Collected: 09.13.17 10.30

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 09.22.17 16.00

Basis: Wet Weight

Seq Number: 3028535

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.55	4.96	mg/kg	09.22.17 19.47		1



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T2-8'
Lab Sample Id: 563208-017

Matrix: Soil
Date Collected: 09.13.17 10.30

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3028535

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 09.22.17 16.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15.9	4.98	mg/kg	09.22.17 19.54		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3028150

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 09.19.17 15.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.20.17 03.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.20.17 03.11	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.20.17 03.11	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.20.17 03.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	99	%	70-135	09.20.17 03.11		
o-Terphenyl	84-15-1	95	%	70-135	09.20.17 03.11		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T2-8'
Lab Sample Id: 563208-017

Matrix: Soil
Date Collected: 09.13.17 10.30

Date Received: 09.18.17 11.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.23.17 08.30

Basis: Wet Weight

Seq Number: 3028556

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.23.17 16.43	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	09.23.17 16.43	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.23.17 16.43	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	09.23.17 16.43	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.23.17 16.43	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.23.17 16.43	U	1
Total BTEX		<0.00202	0.00202	mg/kg	09.23.17 16.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	85	%	80-120	09.23.17 16.43		
1,4-Difluorobenzene	540-36-3	95	%	80-120	09.23.17 16.43		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: **T3-Surface**

Matrix: Soil

Date Received: 09.18.17 11.45

Lab Sample Id: 563208-018

Date Collected: 09.13.17 11.00

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 09.22.17 16.00

Basis: Wet Weight

Seq Number: 3028535

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	53.4	4.99	mg/kg	09.22.17 20.01		1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 09.19.17 15.00

Basis: Wet Weight

Seq Number: 3028150

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.20.17 03.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	1280	15.0	mg/kg	09.20.17 03.32		1
Oil Range Hydrocarbons (ORO)	PHCG2835	325	15.0	mg/kg	09.20.17 03.32		1
Total TPH	PHC635	1610	15.0	mg/kg	09.20.17 03.32		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	09.20.17 03.32	
o-Terphenyl	84-15-1	79	%	70-135	09.20.17 03.32	



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: **T3-Surface**

Matrix: Soil

Date Received: 09.18.17 11.45

Lab Sample Id: 563208-018

Date Collected: 09.13.17 11.00

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.22.17 08.30

Basis: Wet Weight

Seq Number: 3028554

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	09.22.17 19.30	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	09.22.17 19.30	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	09.22.17 19.30	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	09.22.17 19.30	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	09.22.17 19.30	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	09.22.17 19.30	U	1
Total BTEX		<0.00198	0.00198	mg/kg	09.22.17 19.30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	85	%	80-120	09.22.17 19.30		
1,4-Difluorobenzene	540-36-3	96	%	80-120	09.22.17 19.30		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T3-1'
Lab Sample Id: 563208-019

Matrix: Soil
Date Collected: 09.13.17 11.00

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3028535

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 09.22.17 16.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	287	4.91	mg/kg	09.22.17 20.08		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3028150

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 09.19.17 15.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.20.17 03.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.20.17 03.52	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.20.17 03.52	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.20.17 03.52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	98	%	70-135	09.20.17 03.52		
o-Terphenyl	84-15-1	92	%	70-135	09.20.17 03.52		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T3-1'
Lab Sample Id: 563208-019

Matrix: Soil
Date Collected: 09.13.17 11.00

Date Received: 09.18.17 11.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.22.17 08.30

Basis: Wet Weight

Seq Number: 3028554

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.22.17 18.14	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	09.22.17 18.14	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.22.17 18.14	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	09.22.17 18.14	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.22.17 18.14	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.22.17 18.14	U	1
Total BTEX		<0.00202	0.00202	mg/kg	09.22.17 18.14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	80-120	09.22.17 18.14		
4-Bromofluorobenzene	460-00-4	84	%	80-120	09.22.17 18.14		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T3-2'
Lab Sample Id: 563208-020

Matrix: Soil
Date Collected: 09.13.17 11.00

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3028535

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 09.22.17 16.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	237	4.91	mg/kg	09.22.17 20.15		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3028150

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 09.19.17 15.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.20.17 04.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	82.9	15.0	mg/kg	09.20.17 04.13		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.20.17 04.13	U	1
Total TPH	PHC635	82.9	15.0	mg/kg	09.20.17 04.13		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	105	%	70-135	09.20.17 04.13		
o-Terphenyl	84-15-1	96	%	70-135	09.20.17 04.13		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T3-2'
Lab Sample Id: 563208-020

Matrix: Soil
Date Collected: 09.13.17 11.00

Date Received: 09.18.17 11.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.23.17 08.30

Basis: Wet Weight

Seq Number: 3028556

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.23.17 15.27	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.23.17 15.27	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.23.17 15.27	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.23.17 15.27	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.23.17 15.27	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.23.17 15.27	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.23.17 15.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	86	%	80-120	09.23.17 15.27		
1,4-Difluorobenzene	540-36-3	92	%	80-120	09.23.17 15.27		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T3-3'
Lab Sample Id: 563208-021

Matrix: Soil
Date Collected: 09.13.17 11.00

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3028535

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 09.22.17 16.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	36.0	4.95	mg/kg	09.22.17 20.22		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3028150

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 09.19.17 15.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.20.17 07.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.20.17 07.03	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.20.17 07.03	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.20.17 07.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	97	%	70-135	09.20.17 07.03		
o-Terphenyl	84-15-1	96	%	70-135	09.20.17 07.03		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T3-3'
Lab Sample Id: 563208-021

Matrix: Soil
Date Collected: 09.13.17 11.00

Date Received: 09.18.17 11.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.23.17 08.30

Basis: Wet Weight

Seq Number: 3028556

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	09.23.17 16.24	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	09.23.17 16.24	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	09.23.17 16.24	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	09.23.17 16.24	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	09.23.17 16.24	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	09.23.17 16.24	U	1
Total BTEX		<0.00198	0.00198	mg/kg	09.23.17 16.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	85	%	80-120	09.23.17 16.24		
1,4-Difluorobenzene	540-36-3	93	%	80-120	09.23.17 16.24		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T3-4'
Lab Sample Id: 563208-022

Matrix: Soil
Date Collected: 09.13.17 11.00

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3028535

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 09.22.17 16.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.3	4.92	mg/kg	09.22.17 20.29		1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3028150

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 09.19.17 15.00

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.20.17 07.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	89.8	15.0	mg/kg	09.20.17 07.23		1
Oil Range Hydrocarbons (ORO)	PHCG2835	15.4	15.0	mg/kg	09.20.17 07.23		1
Total TPH	PHC635	105	15.0	mg/kg	09.20.17 07.23		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	107	%	70-135	09.20.17 07.23		
o-Terphenyl	84-15-1	103	%	70-135	09.20.17 07.23		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T3-4'
Lab Sample Id: 563208-022

Matrix: Soil
Date Collected: 09.13.17 11.00

Date Received: 09.18.17 11.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.22.17 08.30

Basis: Wet Weight

Seq Number: 3028554

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.22.17 19.49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.22.17 19.49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.22.17 19.49	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.22.17 19.49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.22.17 19.49	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.22.17 19.49	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.22.17 19.49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	84	%	80-120	09.22.17 19.49		
1,4-Difluorobenzene	540-36-3	97	%	80-120	09.22.17 19.49		



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T3-6'
Lab Sample Id: 563208-023

Matrix: Soil
Date Collected: 09.13.17 11.00

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MNV

% Moisture:

Analyst: MNV

Date Prep: 09.25.17 09.45

Basis: Wet Weight

Seq Number: 3028582

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	63.8	4.90	mg/kg	09.25.17 11.38		1



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T3-8'
Lab Sample Id: 563208-024

Matrix: Soil
Date Collected: 09.13.17 11.00

Date Received: 09.18.17 11.45

Analytical Method: Chloride by EPA 300

Tech: MNV

Analyst: MNV

Seq Number: 3028582

Prep Method: E300P

% Moisture:

Date Prep: 09.25.17 09.45

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	09.25.17 14.53	U	1

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3028150

Prep Method: TX1005P

% Moisture:

Date Prep: 09.19.17 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.20.17 07.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.20.17 07.44	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.20.17 07.44	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.20.17 07.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	09.20.17 07.44	
o-Terphenyl	84-15-1	95	%	70-135	09.20.17 07.44	



Certificate of Analytical Results 563208



COG Operating LLC, Artesia, NM

Jazzmaster 17 State #4H

Sample Id: T3-8'
Lab Sample Id: 563208-024

Matrix: Soil
Date Collected: 09.13.17 11.00

Date Received: 09.18.17 11.45

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.22.17 08.30

Basis: Wet Weight

Seq Number: 3028554

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.22.17 21.22	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.22.17 21.22	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.22.17 21.22	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.22.17 21.22	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.22.17 21.22	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.22.17 21.22	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.22.17 21.22	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88		%	80-120	09.22.17 21.22	
1,4-Difluorobenzene	540-36-3	91		%	80-120	09.22.17 21.22	

- 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

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 - San Antonio - Atlanta - Midland/Odessa - Tampa/Lakeland - Phoenix - Latin America

4147 Greenbriar Dr, Stafford, TX 77477
 9701 Harry Hines Blvd, Dallas, TX 75220
 5332 Blackberry Drive, San Antonio TX 78238
 1211 W Florida Ave, Midland, TX 79701
 2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282

Phone	Fax
(281) 240-4200	(281) 240-4280
(214) 902 0300	(214) 351-9139
(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	



COG Operating LLC

Jazzmaster 17 State #4H

Analytical Method: Chloride by EPA 300

Seq Number: 3028431

MB Sample Id: 731413-1-BLK

Matrix: Solid

LCS Sample Id: 731413-1-BKS

Prep Method: E300P

Date Prep: 09.22.17

LCSD Sample Id: 731413-1-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	258	103	258	103	90-110	0	20	mg/kg	09.22.17 10:23	

Analytical Method: Chloride by EPA 300

Seq Number: 3028535

MB Sample Id: 731443-1-BLK

Matrix: Solid

LCS Sample Id: 731443-1-BKS

Prep Method: E300P

Date Prep: 09.22.17

LCSD Sample Id: 731443-1-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	260	104	260	104	90-110	0	20	mg/kg	09.22.17 15:50	

Analytical Method: Chloride by EPA 300

Seq Number: 3028582

MB Sample Id: 731500-1-BLK

Matrix: Solid

LCS Sample Id: 731500-1-BKS

Prep Method: E300P

Date Prep: 09.25.17

LCSD Sample Id: 731500-1-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	266	106	266	106	90-110	0	20	mg/kg	09.25.17 11:24	

Analytical Method: Chloride by EPA 300

Seq Number: 3028431

Parent Sample Id: 563208-002

Matrix: Soil

MS Sample Id: 563208-002 S

Prep Method: E300P

Date Prep: 09.22.17

MSD Sample Id: 563208-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	477	250	707	92	706	92	90-110	0	20	mg/kg	09.22.17 17:49	

Analytical Method: Chloride by EPA 300

Seq Number: 3028431

Parent Sample Id: 563550-002

Matrix: Soil

MS Sample Id: 563550-002 S

Prep Method: E300P

Date Prep: 09.22.17

MSD Sample Id: 563550-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	744	249	970	91	970	91	90-110	0	20	mg/kg	09.22.17 12:21	

Analytical Method: Chloride by EPA 300

Seq Number: 3028535

Parent Sample Id: 563208-003

Matrix: Soil

MS Sample Id: 563208-003 S

Prep Method: E300P

Date Prep: 09.22.17

MSD Sample Id: 563208-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	607	246	833	92	839	94	90-110	1	20	mg/kg	09.22.17 16:11	



QC Summary 563208

COG Operating LLC

Jazzmaster 17 State #4H

Analytical Method: Chloride by EPA 300

Seq Number: 3028535

Parent Sample Id: 563208-013

Matrix: Soil

MS Sample Id: 563208-013 S

Prep Method: E300P

Date Prep: 09.22.17

MSD Sample Id: 563208-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.92	246	263	107	266	108	90-110	1	20	mg/kg	09.22.17 19:05	

Analytical Method: Chloride by EPA 300

Seq Number: 3028582

Parent Sample Id: 563208-023

Matrix: Soil

MS Sample Id: 563208-023 S

Prep Method: E300P

Date Prep: 09.25.17

MSD Sample Id: 563208-023 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	63.8	245	321	105	322	105	90-110	0	20	mg/kg	09.25.17 11:45	

Analytical Method: Chloride by EPA 300

Seq Number: 3028582

Parent Sample Id: 563470-001

Matrix: Soil

MS Sample Id: 563470-001 S

Prep Method: E300P

Date Prep: 09.25.17

MSD Sample Id: 563470-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.90	245	255	104	255	104	90-110	0	20	mg/kg	09.25.17 13:30	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3028150

MB Sample Id: 731244-1-BLK

Matrix: Solid

LCS Sample Id: 731244-1-BKS

Prep Method: TX1005P

Date Prep: 09.19.17

LCSD Sample Id: 731244-1-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	940	94	931	93	70-135	1	35	mg/kg	09.19.17 20:46	
Diesel Range Organics (DRO)	<15.0	1000	1070	107	1090	109	70-135	2	35	mg/kg	09.19.17 20:46	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		106		105		70-135	%	09.19.17 20:46
o-Terphenyl	98		104		102		70-135	%	09.19.17 20:46



QC Summary 563208

COG Operating LLC

Jazzmaster 17 State #4H

Analytical Method: TPH By SW8015 Mod

Seq Number: 3028280

MB Sample Id: 731317-1-BLK

Matrix: Solid

LCS Sample Id: 731317-1-BKS

Prep Method: TX1005P

Date Prep: 09.20.17

LCSD Sample Id: 731317-1-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	980	98	960	96	70-135	2	35	mg/kg	09.20.17 23:55	
Diesel Range Organics (DRO)	<15.0	1000	1130	113	1110	111	70-135	2	35	mg/kg	09.20.17 23:55	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane	107		104		102		70-135	%	09.20.17 23:55			
o-Terphenyl	103		96		96		70-135	%	09.20.17 23:55			

Analytical Method: TPH By SW8015 Mod

Seq Number: 3028150

Parent Sample Id: 563017-001

Matrix: Soil

MS Sample Id: 563017-001 S

Prep Method: TX1005P

Date Prep: 09.19.17

MSD Sample Id: 563017-001 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	1000	1030	103	1060	106	70-135	3	35	mg/kg	09.19.17 21:46	
Diesel Range Organics (DRO)	30.4	1000	1160	113	1130	110	70-135	3	35	mg/kg	09.19.17 21:46	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane			108		99		70-135	%	09.19.17 21:46			
o-Terphenyl			100		94		70-135	%	09.19.17 21:46			

Analytical Method: TPH By SW8015 Mod

Seq Number: 3028280

Parent Sample Id: 563202-001

Matrix: Soil

MS Sample Id: 563202-001 S

Prep Method: TX1005P

Date Prep: 09.20.17

MSD Sample Id: 563202-001 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	999	909	91	997	100	70-135	9	35	mg/kg	09.21.17 00:58	
Diesel Range Organics (DRO)	<15.0	999	1030	103	1090	109	70-135	6	35	mg/kg	09.21.17 00:58	
Surrogate			MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date			
1-Chlorooctane			93		99		70-135	%	09.21.17 00:58			
o-Terphenyl			87		93		70-135	%	09.21.17 00:58			



COG Operating LLC

Jazzmaster 17 State #4H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3028553

MB Sample Id: 731402-1-BLK

Matrix: Solid

LCS Sample Id: 731402-1-BKS

Prep Method: SW5030B

Date Prep: 09.21.17

LCSD Sample Id: 731402-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0941	94	0.0915	92	70-130	3	35	mg/kg	09.22.17 01:00	
Toluene	<0.00200	0.0998	0.0903	90	0.0884	88	70-130	2	35	mg/kg	09.22.17 01:00	
Ethylbenzene	<0.00200	0.0998	0.0904	91	0.0890	89	71-129	2	35	mg/kg	09.22.17 01:00	
m,p-Xylenes	<0.00399	0.200	0.174	87	0.171	86	70-135	2	35	mg/kg	09.22.17 01:00	
o-Xylene	<0.00200	0.0998	0.0859	86	0.0849	85	71-133	1	35	mg/kg	09.22.17 01:00	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	91		94		91		80-120			%	09.22.17 01:00	
4-Bromofluorobenzene	80		89		85		80-120			%	09.22.17 01:00	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3028554

MB Sample Id: 731482-1-BLK

Matrix: Solid

LCS Sample Id: 731482-1-BKS

Prep Method: SW5030B

Date Prep: 09.22.17

LCSD Sample Id: 731482-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0922	91	0.0881	88	70-130	5	35	mg/kg	09.22.17 15:24	
Toluene	<0.00202	0.101	0.0903	89	0.0862	86	70-130	5	35	mg/kg	09.22.17 15:24	
Ethylbenzene	<0.00202	0.101	0.0928	92	0.0881	88	71-129	5	35	mg/kg	09.22.17 15:24	
m,p-Xylenes	<0.00403	0.202	0.178	88	0.169	85	70-135	5	35	mg/kg	09.22.17 15:24	
o-Xylene	<0.00202	0.101	0.0878	87	0.0833	83	71-133	5	35	mg/kg	09.22.17 15:24	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	94		95		96		80-120			%	09.22.17 15:24	
4-Bromofluorobenzene	84		89		88		80-120			%	09.22.17 15:24	

Analytical Method: BTEX by EPA 8021B

Seq Number: 3028556

MB Sample Id: 731485-1-BLK

Matrix: Solid

LCS Sample Id: 731485-1-BKS

Prep Method: SW5030B

Date Prep: 09.23.17

LCSD Sample Id: 731485-1-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	0.0875	88	0.0896	90	70-130	2	35	mg/kg	09.23.17 10:44	
Toluene	<0.00199	0.0996	0.0846	85	0.0876	88	70-130	3	35	mg/kg	09.23.17 10:44	
Ethylbenzene	<0.00199	0.0996	0.0868	87	0.0901	90	71-129	4	35	mg/kg	09.23.17 10:44	
m,p-Xylenes	<0.00398	0.199	0.167	84	0.174	87	70-135	4	35	mg/kg	09.23.17 10:44	
o-Xylene	<0.00199	0.0996	0.0829	83	0.0863	86	71-133	4	35	mg/kg	09.23.17 10:44	
Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits			Units	Analysis Date	
1,4-Difluorobenzene	94		96		96		80-120			%	09.23.17 10:44	
4-Bromofluorobenzene	83		89		90		80-120			%	09.23.17 10:44	



QC Summary 563208

COG Operating LLC

Jazzmaster 17 State #4H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3028553

Parent Sample Id: 563208-015

Matrix: Soil

MS Sample Id: 563208-015 S

Prep Method: SW5030B

Date Prep: 09.21.17

MSD Sample Id: 563208-015 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0810	81	0.0825	82	70-130	2	35	mg/kg	09.22.17 01:38	
Toluene	<0.00201	0.100	0.0766	77	0.0788	78	70-130	3	35	mg/kg	09.22.17 01:38	
Ethylbenzene	<0.00201	0.100	0.0743	74	0.0771	76	71-129	4	35	mg/kg	09.22.17 01:38	
m,p-Xylenes	<0.00402	0.201	0.142	71	0.147	73	70-135	3	35	mg/kg	09.22.17 01:38	
o-Xylene	<0.00201	0.100	0.0724	72	0.0742	73	71-133	2	35	mg/kg	09.22.17 01:38	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		93		80-120	%	09.22.17 01:38
4-Bromofluorobenzene	91		86		80-120	%	09.22.17 01:38

Analytical Method: BTEX by EPA 8021B

Seq Number: 3028554

Parent Sample Id: 563208-010

Matrix: Soil

MS Sample Id: 563208-010 S

Prep Method: SW5030B

Date Prep: 09.22.17

MSD Sample Id: 563208-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0772	77	0.0778	78	70-130	1	35	mg/kg	09.22.17 16:02	
Toluene	<0.00201	0.100	0.0757	76	0.0763	76	70-130	1	35	mg/kg	09.22.17 16:02	
Ethylbenzene	<0.00201	0.100	0.0772	77	0.0777	78	71-129	1	35	mg/kg	09.22.17 16:02	
m,p-Xylenes	<0.00402	0.201	0.148	74	0.149	75	70-135	1	35	mg/kg	09.22.17 16:02	
o-Xylene	<0.00201	0.100	0.0739	74	0.0742	74	71-133	0	35	mg/kg	09.22.17 16:02	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		95		80-120	%	09.22.17 16:02
4-Bromofluorobenzene	91		89		80-120	%	09.22.17 16:02

Analytical Method: BTEX by EPA 8021B

Seq Number: 3028556

Parent Sample Id: 563550-002

Matrix: Soil

MS Sample Id: 563550-002 S

Prep Method: SW5030B

Date Prep: 09.23.17

MSD Sample Id: 563550-002 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	0.0770	77	0.0755	76	70-130	2	35	mg/kg	09.23.17 11:22	
Toluene	<0.00200	0.0998	0.0728	73	0.0713	71	70-130	2	35	mg/kg	09.23.17 11:22	
Ethylbenzene	<0.00200	0.0998	0.0678	68	0.0670	67	71-129	1	35	mg/kg	09.23.17 11:22	X
m,p-Xylenes	<0.00399	0.200	0.130	65	0.128	64	70-135	2	35	mg/kg	09.23.17 11:22	X
o-Xylene	<0.00200	0.0998	0.0666	67	0.0653	65	71-133	2	35	mg/kg	09.23.17 11:22	X

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		100		80-120	%	09.23.17 11:22
4-Bromofluorobenzene	102		92		80-120	%	09.23.17 11:22

CHAIN OF CUSTODY

Page 1 of 3

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

Phoenix, Arizona (480-355-0900)

www.xenco.com

www.xenco.com										Xenco Quote #	Xenco Job #	503208																			
Client / Reporting Information				Project Information				Analytical Information				Matrix Codes																			
Company Name / Branch: COG Operating LLC				Project Name/Number: Jazzmaster 17 State #4H								W = Water S = Soil/SedSolid 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																			
Company Address: 2407 PECOS Avenue Artesia NM 88210				Project Location: Jazzmaster 17 State																											
Email: aaleb@concho.com dnee12@concho.com thaskell@concho.com				Invoice To: COG Operating LLC Attn: Robert McNeill 600 W. Illinois Midland TX 79701																											
Project Contact: Aaron Lieb				PO Number:																											
Sampler's Name- Aaron Lieb																															
No.		Field ID / Point of Collection		Collection		Number of preserved bottles		TPH/ EXTENDED		BTEX		Chloride		Field Comments																	
				Sample Depth		Date		Time		Matrix		# of bottles		HCl		NaOH/Zn Acetate		HNO3		H2SO4		NaOH		NaHSO4		MEOH		NONE			
1		T1- Surface		1'		9/8/17		9:30am		S		1																			
2		T1- 1'		2'								1																			
3		T1- 2'		3'								1																			
4		T1- 3'		4'								1																			
5		T1- 4'		5'								1																			
6		T1- 6'		8'								1																			
7		T1- 8'		10'								1																			
8		T1- 10'		12'								1																			
9		T1- 12'		14'								1																			
10		T1- 14'										1																			
Turnaround Time (Business days)				Data Deliverable Information				Notes:																							
☐ Same Day TAT				☐ 5 Day TAT				☐ Level II Std QC				☐ Level IV (Full Data Pkg /raw data)				Temp: 1.4 IR ID: R-8															
☐ Next Day EMERGENCY				☐ 7 Day TAT				☐ Level III Std QC+ Forms				☐ TRRP Level IV				CF: (0-6: -0.2°C)															
☐ 2 Day EMERGENCY				☐ Contract TAT				☐ Level 3 (CLP Forms)				☐ UST / RG -411				Corrected Temp: 1.2															
☐ 3 Day EMERGENCY				☐ TRRP Checklist																											
TAT Starts Day received by Lab, if received by 5:00 pm																															
Relinquished by Sampler:				Date Time:				Received By:				Date Time:				Relinquished By:				Date Time:											
1				9-18-17				AM				104				2				9-18-17											
Relinquished by:				Date Time:				Received By:				Date Time:				Relinquished By:				Date Time:											
3																4															
Relinquished by:				Date Time:				Received By:				Date Time:				Relinquished By:				Date Time:											
5																6															
Relinquished by:				Date Time:				Received By:				Date Time:				Relinquished By:				Date Time:											
3																4															
Relinquished by:				Date Time:				Received By:				Date Time:				Relinquished By:				Date Time:											
5																6															
Relinquished by:				Date Time:				Received By:				Date Time:				Relinquished By:				Date Time:											
3																4															
Relinquished by:				Date Time:				Received By:				Date Time:				Relinquished By:				Date Time:											
5																6															
Relinquished by:				Date Time:				Received By:				Date Time:				Relinquished By:				Date Time:											
3																4															
Relinquished by:				Date Time:				Received By:				Date Time:				Relinquished By:				Date Time:											
5																6															
Relinquished by:				Date Time:				Received By:				Date Time:				Relinquished By:				Date Time:											
3																4															
Relinquished by:				Date Time:				Received By:				Date Time:				Relinquished By:				Date Time:											
5																6															
Relinquished by:				Date Time:				Received By:				Date Time:				Relinquished By:				Date Time:											
3																4															
Relinquished by:				Date Time:				Received By:				Date Time:				Relinquished By:				Date Time:											
5																6															
Relinquished by:				Date Time:				Received By:				Date Time:				Relinquished By:				Date Time:											

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

CHAIN OF CUSTODY

Page 2 of 3

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

Phoenix, Arizona (480-355-0900)

www.xenco.com

[illegible]

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

CHAIN OF CUSTODY

Page 3 of 3

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

Phoenix, Arizona (480-355-0900)

www.xenco.com

[illegible]



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: COG Operating LLC

Date/ Time Received: 09/18/2017 11:45:00 AM

Work Order #: 563208

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.2
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Kramer
Jessica Kramer

Date: 09/19/2017

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks

Date: 09/20/2017