2057 Commerce Drive
Midland, TX 79703

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www.trcsolutions.com

September 7, 2017

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

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

Re: Soil Investigation Summary and Proposed Remediation Workplan
Patron 23 Federal #004H (2RP-4096)
GPS: N 32.1222382° W 103.9487228°
Unit Letter "A", Section 23, Township 25 South, Range 29 East
Eddy County, New Mexico

Dear Mr. Bratcher and Ms. Price,

TRC Environmental Corporation (TRC), on behalf of COG Operating, LLC (COG) has prepared this Soil Investigation Summary and Proposed Remediation Workplan (Workplan) for the Patron 23 Federal #004H Release Site (Release Site). The purpose of this Workplan is to propose remediation activities designed to advance the Patron 23 Federal #004H Release Site toward a New Mexico Oil Conservation Division (NMOCD) approved Site Closure Status. The legal description of the Release Site is Unit Letter "A", Section 23, Township 25 South, Range 29 East, in Eddy County, New Mexico. The GPS coordinates for the site are N 32.1222382° W 103.9487228°. The subject property is administered by the United States Department of the Interior Bureau of Land Management (BLM). A Site Location Map and Site Map are provided as Figure 1 and Figure 2, respectively.

On January 28, 2017, COG discovered a produced water release from a poly flowline. The release impacted an area, which measured approximately 9,823 square feet. On January 28, 2017, a COG representative notified via email the NMOCD and BLM and submitted a Release Notification and Corrective Action (Form C-141) to the NMOCD on January 30, 2017. During initial response activities, COG repaired and replaced the damaged section of the poly flowline. Approximately two hundred (200) barrels of fluid was released from the flowline, with no barrels recovered. The Form C-141 is attached to this report.

A groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) did not identify any registered water wells in Section 23, Township 25 South, Range 29 East. A reference map utilized by the NMOCD Hobbs District Office indicates groundwater should be encountered at approximately one hundred ninety (190) feet below ground surface (bgs). Based on the NMOCD site classification system, zero (0) points will be assigned to the subject area ranking as a result of this criterion.

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

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

Based on the NMOCD Site Classification criteria, the Release Site soil remediation levels are 10 milligrams per Kilogram (mg/Kg) for benzene, 50 mg/Kg for benzene, toluene, ethylbenzene and xylenes (BTEX), and five thousand (5,000) mg/Kg for total petroleum hydrocarbons (TPH). Per NMOCD request, chloride remediation levels for the Release Site will be 600 mg/Kg.

On May 9, 2017, utilizing a trackhoe, a COG representative collected thirty-three (33) delineation soil samples from the impacted area (See attached Figure 2 and Table 1 for sample locations and analytical results). During the advancement of the delineation trenches, an impenetrable hard rock layer was encountered at approximately seven and one half (7.5) feet bgs in the area represented by trench T1 and three (3) feet bgs in the area represented by trench T2, which prevented the collection of delineation samples to the aforementioned depths. The soil samples were submitted to Xenco Laboratories in Midland, Texas for determination of concentrations of BTEX using Method SW 846-8021B, TPH using Method SW 846-8015M, and chloride using Method 300/300.1. The analytical results indicated benzene, BTEX, and TPH concentrations were less than the applicable laboratory Method Detection Limit (MDL) and NMOCD regulatory guidelines for the submitted soil samples. Chloride concentrations ranged from less than the applicable laboratory MDL for soil sample T3-10' to 11,000 mg/Kg for soil sample T1-1'. A review of laboratory analytical results indicated chloride concentrations were above NMOCD regulatory guidelines for the submitted soil samples, with the exception of soil samples T1-6' (34.7 mg/Kg), T1-7.5' (85.5 mg/Kg), T3-3' (387 mg/Kg), T3-8' (5.66 mg/Kg), T3-10' (<4.90 mg/Kg), T3-13' (20.3 mg/Kg), T4-4' (117 mg/Kg), T4-6' (6.90 mg/Kg) ,T4-9' (110 mg/Kg), T5-4' (325 mg/Kg), and T5-9' (11.9 mg/Kg). See Table 1 for analytical results.

On May 17, 2017, a COG representative collected eight (8) delineation soil samples (North-Surface, North-1', South-Surface, South-1', East-Surface, East-1', West-Surface, and West-1') from the four cardinal directions outside the perimeter of the visibly impacted area. The soil samples were submitted to the laboratory for chloride analysis. Laboratory analytical results indicated chloride concentrations ranged from less than the laboratory applicable MDL for soil samples North-Surface and North-1' to 762 mg/Kg for soil sample East-Surface. A review of laboratory analytical results indicated chloride concentrations were below NMOCD regulatory guidelines, with the exception of soil sample East-Surface.

Based on the analytical results of the soil samples collected on May 9 and 17, 2017, COG proposes the following field activities designed to remediate the Patron 23 Federal #004H:

- Utilizing a trackhoe, excavate the Release Site to depths ranging from approximately three and one half (3.5) feet to six and one half (6.5) feet bgs. In addition, the area represented by soil sample East-Surface will be excavated to approximately six (6) inches bgs.
- During the installation of the delineation trenches T1 and T2, a hard rock layer was encountered at approximately seven and one half (7.5) feet bgs and three (3) feet bgs, respectively. Due to the hard rock layer the trackhoe delineation activities were suspended. If feasible, in the areas represented by trenches T1 and T2, one (1) trench per area will be advanced an additional five (5) feet from the floor of the excavated area to confirm chloride concentrations do not exceed NMOCD regulatory guidelines. The excavated soil will be stockpiled on a plastic liner adjacent to the excavation pending transportation to a NMOCD approved disposal facility.
- Collect confirmation soil samples from the floor of the excavated area approximately every seventy five (75) feet and submit the soil samples to the laboratory for determination of concentrations of TPH, BTEX, and chloride. In addition, one (1) soil sample will be collected from the area represented by soil sample East-Surface and submitted to the laboratory for chloride analysis.
- On receipt of favorable analytical results (below the NMOCD regulatory guidelines referenced above), the excavation will be backfilled with non-impacted locally obtained "like" soil.
- The excavated soil will be transported under manifest to an NMOCD approved disposal facility.
- Prepare and submit a "Remediation Summary and Site Closure Request" to the NMOCD and BLM.

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

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

Thank you,

Nikki Green
Project Manager
TRC Environmental Corporation

Jeffrey Kindley, PG
Senior Project Manager
TRC Environmental Corporation

Attachments:

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

cc: File

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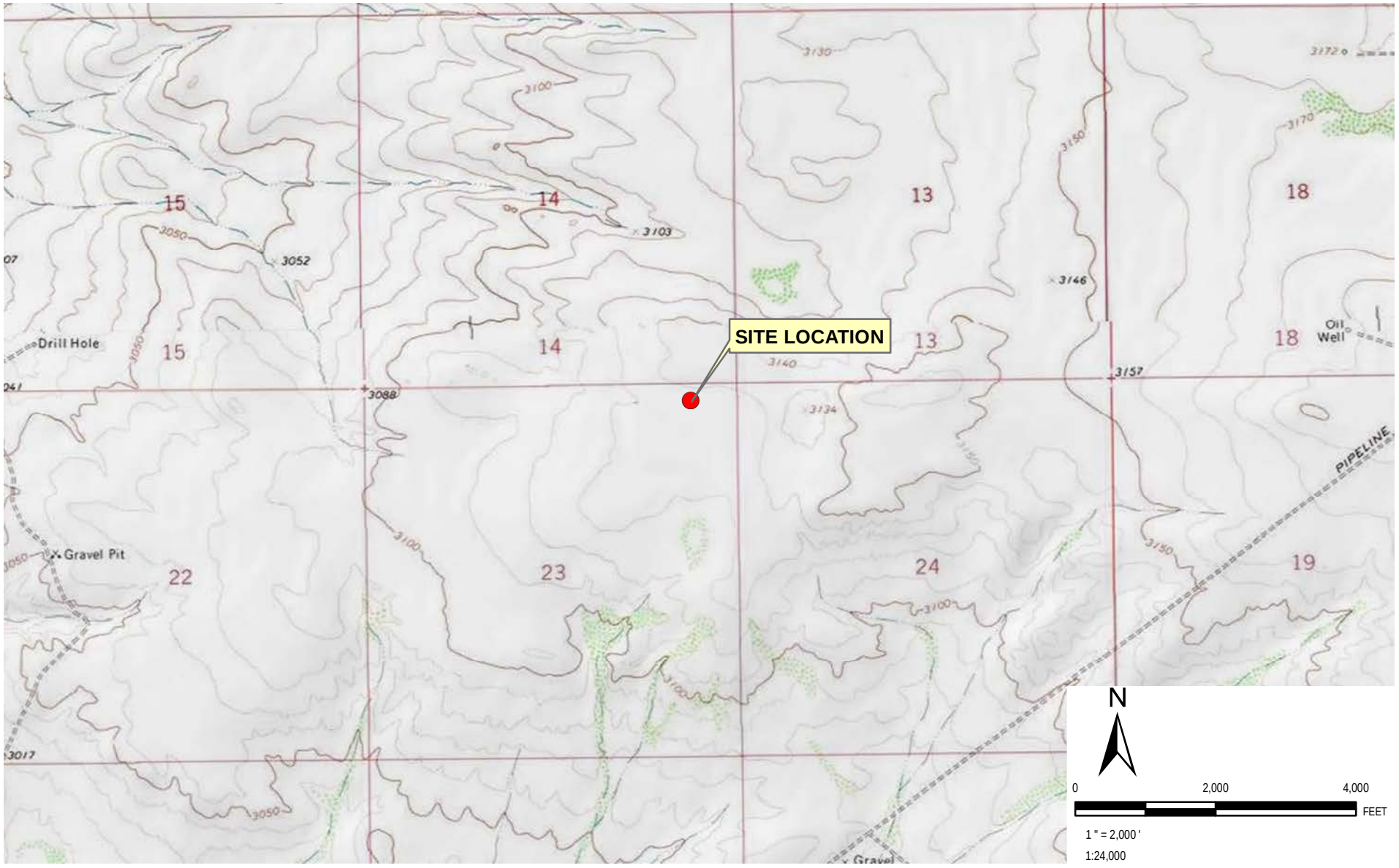


TRC

2075 Commerce Drive
Midland, TX 79703
Phone: 432.520.770

TRC - GIS

TITLE:

FIGURE 1
SITE LOCATION MAP

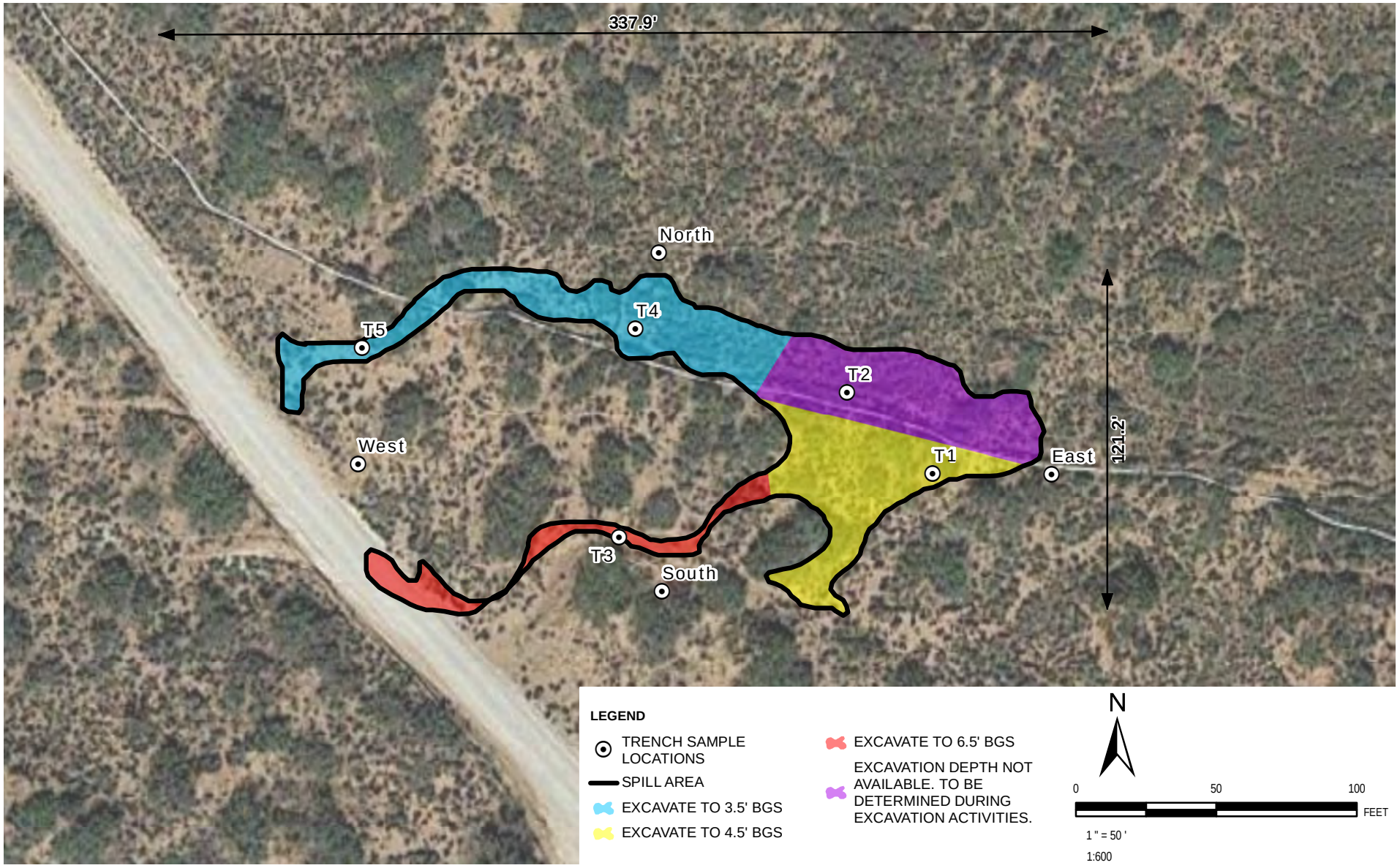
PROJECT:

PATRON 23 FEDERAL #004H
EDDY COUNTY, NEW MEXICO
COG OPERATING, LLC

DRAWN BY:	MLOVELACE
CHECKED BY:	NGREEN
APPROVED BY:	NGREEN
DATE:	JULY 2017
PROJ. NO.:	279783
FILE:	LAT. N 32.1222382, LONG. W 103.9487228

NE1/4 NE1/4 SEC 23 T25S R29E

J:\Concho\279783_Federal\279783_2.mxd -- Saved By: MLOVELACE on 9/6/2017, 10:04:33 AM



TRC
2075 Commerce Drive
Midland, TX 79703
Phone: 432.520.770
TRC - GIS

TITLE:

FIGURE 2
SITE MAP

PROJECT:

PATRON 23 FEDERAL #004H
EDDY COUNTY, NEW MEXICO
COG OPERATING, LLC.

DRAWN BY:	MLOVELACE
CHECKED BY:	NGREEN
APPROVED BY:	NGREEN
DATE:	SEPTEMBER 2017
PROJ. NO.:	279783
FILE:	LAT. N 32.1222382, LONG. W 103.9487228

NE1/4 NE1/4 SEC 23 T25S R29E

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

COG Operating LLC
Patron 23 Federal #004H
LEA COUNTY, NEW MEXICO

All concentrations are reported in mg/Kg

SAMPLE LOCATION	SAMPLE DATE	SOIL STATUS	METHODS: SW 846-8021b						METHOD: SW 8015M			E 300.1
			BENZENE	TOLUENE	ETHYL-BENZENE	m, p - XYLENES	o - XYLENE	TOTAL BTEX	TPH GRO C_6-C_{10}	TPH DRO C_{10}-C_{28}	TOTAL TPH C_6-C_{28}	CHLORIDE
NMOCD Site Classification Criteria			**10**					**50**			**5,000**	**600**
T1-Surface	5/9/2017	Trench	<0.00201	<0.00201	<0.00201	<0.00402	<0.00201	<0.00402	<15.0	<15.0	<15.0	**5,570**
T1-1'	5/9/2017	Trench	<0.00199	<0.00199	<0.00199	<0.00398	<0.00199	<0.00398	<14.9	<14.9	<14.9	**11,000**
T1-2'	5/9/2017	Trench	<0.00202	<0.00202	<0.00202	<0.00403	<0.00202	<0.00403	<15.0	<15.0	<15.0	**8,710**
T1-3'	5/9/2017	Trench	<0.00201	<0.00201	<0.00201	<0.00402	<0.00201	<0.00402	<15.0	<15.0	<15.0	**7,200**
T1-4'	5/9/2017	Trench	-	-	-	-	-	-	-	-	-	**1,850**
T1-6'	5/9/2017	Trench	-	-	-	-	-	-	-	-	-	34.7
T1-7.5'	5/9/2017	Trench	-	-	-	-	-	-	-	-	-	85.5
T2-Surface	5/9/2017	Trench	<0.00199	<0.00199	<0.00199	<0.00398	<0.00199	<0.00398	<15.0	<15.0	<15.0	**6,510**
T2-1'	5/9/2017	Trench	<0.00202	<0.00202	<0.00202	<0.00403	<0.00202	<0.00403	<15.0	<15.0	<15.0	**8,670**
T2-2'	5/9/2017	Trench	<0.00200	<0.00200	<0.00200	<0.00399	<0.00200	<0.00399	<15.0	<15.0	<15.0	**7,420**
T2-3'	5/9/2017	Trench	<0.00199	<0.00199	<0.00199	<0.00398	<0.00199	<0.00398	<15.0	<15.0	<15.0	**5,960**
T3-Surface	5/9/2017	Trench	<0.00201	<0.00201	<0.00201	<0.00402	<0.00201	<0.00402	<15.0	<15.0	<15.0	**2,910**
T3-1'	5/9/2017	Trench	<0.00202	<0.00202	<0.00202	<0.00404	<0.00202	<0.00404	<15.0	<15.0	<15.0	**2,310**
T3-2'	5/9/2017	Trench	<0.00200	<0.00200	<0.00200	<0.00401	<0.00200	<0.00401	<15.0	<15.0	<15.0	**5,310**
T3-3'	5/9/2017	Trench	<0.00199	<0.00199	<0.00199	<0.00398	<0.00199	<0.00398	<15.0	<15.0	<15.0	387
T3-4'	5/9/2017	Trench	-	-	-	-	-	-	-	-	-	**6,590**
T3-6'	5/9/2017	Trench	-	-	-	-	-	-	-	-	-	**2,500**
T3-8'	5/9/2017	Trench	-	-	-	-	-	-	-	-	-	5.66
T3-10'	5/9/2017	Trench	-	-	-	-	-	-	-	-	-	<4.90
T3-13'	5/9/2017	Trench	-	-	-	-	-	-	-	-	-	20.3
T4-Surface	5/9/2017	Trench	<0.00372	<0.00372	<0.00372	<0.00743	<0.00372	<0.00743	<15.0	<15.0	<15.0	**850**
T4-1'	5/9/2017	Trench	<0.00198	<0.00198	<0.00198	<0.00396	<0.00198	<0.00396	<14.9	<14.9	<14.9	**3,360**
T4-2'	5/9/2017	Trench	<0.00201	<0.00201	<0.00201	<0.00402	<0.00201	<0.00402	<14.9	<14.9	<14.9	**3,850**
T4-3'	5/9/2017	Trench	<0.00202	<0.00202	<0.00202	<0.00404	<0.00202	<0.00404	<15.0	<15.0	<15.0	**4,380**

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

COG Operating LLC
Patron 23 Federal #004H
LEA COUNTY, NEW MEXICO

All concentrations are reported in mg/Kg

SAMPLE LOCATION	SAMPLE DATE	SOIL STATUS	METHODS: SW 846-8021b						METHOD: SW 8015M			E 300.1
			BENZENE	TOLUENE	ETHYL-BENZENE	m, p - XYLENES	o - XYLENE	TOTAL BTEX	TPH GRO C_6-C_{10}	TPH DRO C_{10}-C_{28}	TOTAL TPH C_6-C_{28}	CHLORIDE
NMOCD Site Classification Criteria			**10**					**50**			**5,000**	**600**
T4-4'	5/9/2017	Trench	-	-	-	-	-	-	-	-	-	117
T4-6'	5/9/2017	Trench	-	-	-	-	-	-	-	-	-	6.90
T4-9'	5/9/2017	Trench	-	-	-	-	-	-	-	-	-	110
T5-Surface	5/9/2017	Trench	<0.00199	<0.00199	<0.00199	<0.00398	<0.00199	<0.00398	<15.0	<15.0	<15.0	**2,180**
T5-1'	5/9/2017	Trench	<0.00200	<0.00200	<0.00200	<0.00399	<0.00200	<0.00399	<15.0	<15.0	<15.0	**4,260**
T5-2'	5/9/2017	Trench	<0.00370	<0.00370	<0.00370	<0.00741	<0.00370	<0.00741	<15.0	<15.0	<15.0	**6,970**
T5-3'	5/9/2017	Trench	<0.00200	<0.00200	<0.00200	<0.00399	<0.00200	<0.00399	<15.0	<15.0	<15.0	**2,590**
T5-4'	5/9/2017	Trench	-	-	-	-	-	-	-	-	-	325
T5-9'	5/9/2017	Trench	-	-	-	-	-	-	-	-	-	11.9
North-Surface	5/17/2017	Trench	-	-	-	-	-	-	-	-	-	<9.60
North-1'	5/17/2017	Trench	-	-	-	-	-	-	-	-	-	<9.69
South-Surface	5/17/2017	Trench	-	-	-	-	-	-	-	-	-	78.7
South-1'	5/17/2017	Trench	-	-	-	-	-	-	-	-	-	47.9
East-Surface	5/17/2017	Trench	-	-	-	-	-	-	-	-	-	**762**
East-1'	5/17/2017	Trench	-	-	-	-	-	-	-	-	-	71.2
West-Surface	5/17/2017	Trench	-	-	-	-	-	-	-	-	-	18.2
West-1'	5/17/2017	Trench	-	-	-	-	-	-	-	-	-	15.2

Certificate of Analysis Summary 553116

COG Operating LLC, Artesia, NM

Project Name: Patron Fed #004H

Project Id:
Contact: Aaron Lieb
Project Location: Patron Fed #004H

Date Received in Lab: Sat May-13-17 10:00 am
Report Date: 23-MAY-17
Project Manager: Liz Givens

Analysis Requested													
	Lab Id:	553116-001		553116-002		553116-003		553116-004		553116-005		553116-006	
	Field Id:	T1 - Surface		T1 - 1'		T1 - 2'		T1 - 3'		T1 - 4'		T1 - 6'	
	Depth:			1 ft		2 ft		3 ft		4 ft		6 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-09-17 09:30		May-09-17 09:30		May-09-17 09:30		May-09-17 09:30		May-09-17 09:30		May-09-17 09:30	
BTEX by EPA 8021B	***Extracted:***	May-18-17 10:00		May-18-17 10:00		May-18-17 10:00		May-18-17 10:00					
	Analyzed:	May-18-17 18:17		May-18-17 19:23		May-18-17 21:33		May-18-17 21:49					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202	<0.00201	0.00201				
Toluene		<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202	<0.00201	0.00201				
Ethylbenzene		<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202	<0.00201	0.00201				
m,p-Xylenes		<0.00402	0.00402	<0.00398	0.00398	<0.00403	0.00403	<0.00402	0.00402				
o-Xylene		<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202	<0.00201	0.00201				
Total Xylenes		<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202	<0.00201	0.00201				
Total BTEX		<0.00201	0.00201	<0.00199	0.00199	<0.00202	0.00202	<0.00201	0.00201				
Inorganic Anions by EPA 300/300.1	***Extracted:***	May-20-17 19:58		May-20-17 19:58		May-20-17 19:58		May-20-17 19:58		May-20-17 19:58		May-20-17 19:58	
	Analyzed:	May-21-17 01:49		May-21-17 01:57		May-21-17 02:04		May-21-17 02:12		May-21-17 02:35		May-21-17 03:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		5570	50.0	11000	100	8710	49.2	7200	50.0	1850	24.9	34.7	4.87
TPH By SW8015 Mod	***Extracted:***	May-16-17 08:00		May-16-17 08:00		May-16-17 08:00		May-16-17 08:00					
	Analyzed:	May-16-17 10:52		May-16-17 11:52		May-16-17 12:12		May-16-17 12:32					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
C6-C10 Gasoline Range Hydrocarbons		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0				
C10-C28 Diesel Range Hydrocarbons		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0				

Brandi Ritcherson
Project Manager

Certificate of Analysis Summary 553116

COG Operating LLC, Artesia, NM

Project Name: Patron Fed #004H

Project Id:
Contact: Aaron Lieb
Project Location: Patron Fed #004H

Date Received in Lab: Sat May-13-17 10:00 am
Report Date: 23-MAY-17
Project Manager: Liz Givens

Analysis Requested																			
	Lab Id:	553116-007		553116-008		553116-009		553116-010		553116-011		553116-012	
	Field Id:	T1 - 7.5'		T2 - Surface		T2 - 1'		T2 - 2'		T2 - 3'		T3 - Surface	
	Depth:	7.5 ft				1 ft		2 ft		3 ft			
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-09-17 09:30		May-09-17 10:00		May-09-17 10:00		May-09-17 10:00		May-09-17 10:00		May-09-17 10:30	
BTEX by EPA 8021B	***Extracted:***			May-18-17 16:00		May-18-17 16:00		May-18-17 16:00		May-18-17 16:00		May-18-17 16:00	
	Analyzed:			May-18-17 22:55		May-18-17 23:11		May-18-17 23:27		May-18-17 23:44		May-19-17 00:00	
	Units/RL:			mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene				<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201
Toluene				<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201
Ethylbenzene				<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201
m,p-Xylenes				<0.00398	0.00398	<0.00403	0.00403	<0.00399	0.00399	<0.00398	0.00398	<0.00402	0.00402
o-Xylene				<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201
Total Xylenes				<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201
Total BTEX				<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201
Inorganic Anions by EPA 300/300.1	***Extracted:***	May-20-17 19:58		May-20-17 19:58		May-20-17 19:58		May-20-17 19:58		May-20-17 19:58		May-20-17 19:58	
	Analyzed:	May-21-17 01:26		May-21-17 02:42		May-21-17 02:50		May-21-17 02:57		May-21-17 03:05		May-21-17 03:35	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		85.5	4.99	6510	49.4	8670	49.4	7420	48.7	5960	49.1	2910	24.9
TPH By SW8015 Mod	***Extracted:***			May-16-17 08:00		May-16-17 08:00		May-16-17 08:00		May-16-17 08:00		May-16-17 08:00	
	Analyzed:			May-16-17 12:53		May-16-17 13:13		May-16-17 13:33		May-16-17 13:53		May-16-17 14:14	
	Units/RL:			mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons				<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
C10-C28 Diesel Range Hydrocarbons				<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH				<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0

Certificate of Analysis Summary 553116

COG Operating LLC, Artesia, NM

Project Name: Patron Fed #004H

Project Id:
Contact: Aaron Lieb
Project Location: Patron Fed #004H

Date Received in Lab: Sat May-13-17 10:00 am
Report Date: 23-MAY-17
Project Manager: Liz Givens

Analysis Requested													
	Lab Id:	553116-013		553116-014		553116-015		553116-016		553116-017		553116-018	
	Field Id:	T3 - 1'		T3 - 2'		T3 - 3'		T3 - 4'		T3 - 6'		T3 - 8'	
	Depth:	1 ft		2 ft		3 ft		4 ft		6 ft		8 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-09-17 10:30		May-09-17 10:30		May-09-17 10:30		May-09-17 10:30		May-09-17 10:30		May-09-17 10:45	
BTEX by EPA 8021B	***Extracted:***	May-18-17 16:00		May-18-17 16:00		May-18-17 16:00							
	Analyzed:	May-19-17 00:16		May-19-17 00:32		May-19-17 00:49							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Benzene		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199						
Toluene		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199						
Ethylbenzene		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199						
m,p-Xylenes		<0.00404	0.00404	<0.00401	0.00401	<0.00398	0.00398						
o-Xylene		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199						
Total Xylenes		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199						
Total BTEX		<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199						
Inorganic Anions by EPA 300/300.1	***Extracted:***	May-20-17 19:58		May-20-17 19:58		May-20-17 19:58		May-20-17 19:58		May-20-17 19:58		May-20-17 19:58	
	Analyzed:	May-21-17 03:43		May-21-17 04:06		May-21-17 04:13		May-21-17 04:21		May-21-17 04:29		May-21-17 04:36	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2310	24.8	5310	49.4	387	4.94	6590	49.1	2500	24.4	5.66	4.98
TPH By SW8015 Mod	***Extracted:***	May-16-17 08:00		May-16-17 08:00		May-16-17 08:00							
	Analyzed:	May-16-17 14:35		May-16-17 15:35		May-16-17 15:55							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
C6-C10 Gasoline Range Hydrocarbons		<15.0	15.0	<15.0	15.0	<15.0	15.0						
C10-C28 Diesel Range Hydrocarbons		<15.0	15.0	<15.0	15.0	<15.0	15.0						
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0						

Certificate of Analysis Summary 553116

COG Operating LLC, Artesia, NM

Project Name: Patron Fed #004H

Project Id:
Contact: Aaron Lieb
Project Location: Patron Fed #004H

Date Received in Lab: Sat May-13-17 10:00 am
Report Date: 23-MAY-17
Project Manager: Liz Givens

Analysis Requested															
	Lab Id:	553116-019		553116-020		553116-021		553116-022		553116-023		553116-024			
	Field Id:	T3 - 10'		T3 - 13'		T4 - Surface		T4 - 1'		T4 - 2'		T4 - 3'			
	Depth:	10 ft		13 ft				1 ft		2 ft		3 ft			
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL			
	Sampled:	May-09-17 10:45		May-09-17 10:45		May-09-17 11:00		May-09-17 11:00		May-09-17 11:00		May-09-17 11:00			
BTEX by EPA 8021B	*Extracted:*					May-19-17 08:00		May-18-17 16:00		May-18-17 16:00		May-18-17 16:00			
	Analyzed:					May-19-17 12:15		May-19-17 01:54		May-19-17 02:10		May-18-17 22:38			
	Units/RL:					mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Benzene						<0.00372	0.00372	<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202		
Toluene						<0.00372	0.00372	<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202		
Ethylbenzene						<0.00372	0.00372	<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202		
m,p-Xylenes						<0.00743	0.00743	<0.00396	0.00396	<0.00402	0.00402	<0.00404	0.00404		
o-Xylene						<0.00372	0.00372	<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202		
Total Xylenes						<0.00372	0.00372	<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202		
Total BTEX						<0.00372	0.00372	<0.00198	0.00198	<0.00201	0.00201	<0.00202	0.00202		
Inorganic Anions by EPA 300/300.1	*Extracted:*	May-20-17 19:58		May-20-17 19:58		May-20-17 20:43		May-20-17 20:43		May-20-17 20:43		May-20-17 20:43			
	Analyzed:	May-21-17 04:44		May-21-17 04:51		May-21-17 06:45		May-21-17 06:53		May-21-17 07:01		May-21-17 07:08			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		<4.90	4.90	20.3	4.92	850	4.87	3360	25.0	3850	24.7	4380	24.6		
TPH By SW8015 Mod	*Extracted:*					May-16-17 08:00		May-16-17 08:00		May-16-17 08:00		May-16-17 08:00			
	Analyzed:					May-16-17 16:15		May-16-17 16:36		May-16-17 16:55		May-16-17 17:16			
	Units/RL:					mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
C6-C10 Gasoline Range Hydrocarbons						<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0		
C10-C28 Diesel Range Hydrocarbons						<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0		
Total TPH						<15.0	15.0	<14.9	14.9	<14.9	14.9	<15.0	15.0		

Brandi Ritcherson
Project Manager

Certificate of Analysis Summary 553116

COG Operating LLC, Artesia, NM

Project Name: Patron Fed #004H

Project Id:
Contact: Aaron Lieb
Project Location: Patron Fed #004H

Date Received in Lab: Sat May-13-17 10:00 am
Report Date: 23-MAY-17
Project Manager: Liz Givens

Analysis Requested													
	Lab Id:	553116-025		553116-026		553116-027		553116-028		553116-029		553116-030	
	Field Id:	T4 - 4'		T4 - 6'		T4 - 9'		T5 - Surface		T5 - 1'		T5 - 2'	
	Depth:	4 ft		6 ft		9 ft				1 ft		2 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-09-17 11:00		May-09-17 11:00		May-09-17 11:00		May-09-17 11:30		May-09-17 11:30		May-09-17 11:30	
BTEX by EPA 8021B	***Extracted:***							May-18-17 16:00		May-18-17 16:00		May-19-17 08:00	
	Analyzed:							May-19-17 02:26		May-19-17 02:42		May-19-17 11:59	
	Units/RL:							mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene								<0.00199	0.00199	<0.00200	0.00200	<0.00370	0.00370
Toluene								<0.00199	0.00199	<0.00200	0.00200	<0.00370	0.00370
Ethylbenzene								<0.00199	0.00199	<0.00200	0.00200	<0.00370	0.00370
m,p-Xylenes								<0.00398	0.00398	<0.00399	0.00399	<0.00741	0.00741
o-Xylene								<0.00199	0.00199	<0.00200	0.00200	<0.00370	0.00370
Total Xylenes								<0.00199	0.00199	<0.00200	0.00200	<0.00370	0.00370
Total BTEX								<0.00199	0.00199	<0.00200	0.00200	<0.00370	0.00370
Inorganic Anions by EPA 300/300.1	***Extracted:***	May-20-17 20:43		May-20-17 20:43		May-20-17 20:43		May-20-17 20:43		May-20-17 20:43		May-20-17 20:43	
	Analyzed:	May-21-17 07:16		May-21-17 07:23		May-21-17 07:46		May-21-17 07:54		May-21-17 08:17		May-21-17 08:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		117	4.98	6.90	4.93	110	4.87	2180	25.0	4260	25.0	6970	50.0
TPH By SW8015 Mod	***Extracted:***							May-16-17 08:00		May-16-17 08:00		May-16-17 08:00	
	Analyzed:							May-16-17 17:36		May-16-17 17:56		May-16-17 18:15	
	Units/RL:							mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons								<15.0	15.0	<15.0	15.0	<15.0	15.0
C10-C28 Diesel Range Hydrocarbons								<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH								<15.0	15.0	<15.0	15.0	<15.0	15.0

Certificate of Analysis Summary 553116

COG Operating LLC, Artesia, NM

Project Name: Patron Fed #004H

Project Id:
Contact: Aaron Lieb
Project Location: Patron Fed #004H

Date Received in Lab: Sat May-13-17 10:00 am
Report Date: 23-MAY-17
Project Manager: Liz Givens

Analysis Requested													
	Lab Id:	553116-031		553116-032		553116-033							
	Field Id:	T5 - 3'		T5 - 4'		T5 - 9'							
	Depth:	3 ft		4 ft		9 ft							
	Matrix:	SOIL		SOIL		SOIL							
	Sampled:	May-09-17 11:30		May-09-17 11:30		May-09-17 11:30							
BTEX by EPA 8021B	***Extracted:***	May-18-17 16:00											
	Analyzed:	May-19-17 06:47											
	Units/RL:	mg/kg	RL										
Benzene		<0.00200	0.00200										
Toluene		<0.00200	0.00200										
Ethylbenzene		<0.00200	0.00200										
m,p-Xylenes		<0.00399	0.00399										
o-Xylene		<0.00200	0.00200										
Total Xylenes		<0.00200	0.00200										
Total BTEX		<0.00200	0.00200										
Inorganic Anions by EPA 300/300.1	***Extracted:***	May-20-17 20:43		May-20-17 20:43		May-20-17 20:43							
	Analyzed:	May-21-17 08:32		May-21-17 08:39		May-21-17 08:47							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Chloride		2590	24.5	325	4.87	11.9	4.87						
TPH By SW8015 Mod	***Extracted:***	May-16-17 08:00											
	Analyzed:	May-16-17 18:34											
	Units/RL:	mg/kg	RL										
C6-C10 Gasoline Range Hydrocarbons		<15.0	15.0										
C10-C28 Diesel Range Hydrocarbons		<15.0	15.0										
Total TPH		<15.0	15.0										

Analytical Report 553116

for

COG Operating LLC

Project Manager: Aaron Lieb

Patron Fed #004H

23-MAY-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)

23-MAY-17

Project Manager: **Aaron Lieb**
COG Operating LLC
2407 Pecos Avenue
Artesia, NM 88210

Reference: XENCO Report No(s): **553116**
Patron Fed #004H
Project Address: Patron Fed #004H

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) 553116. 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. 553116 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brandi Ritcherson
Project Manager

Sample Cross Reference 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T1 - Surface	S	05-09-17 09:30	N/A	553116-001
T1 - 1'	S	05-09-17 09:30	- 1 ft	553116-002
T1 - 2'	S	05-09-17 09:30	- 2 ft	553116-003
T1 - 3'	S	05-09-17 09:30	- 3 ft	553116-004
T1 - 4'	S	05-09-17 09:30	- 4 ft	553116-005
T1 - 6'	S	05-09-17 09:30	- 6 ft	553116-006
T1 - 7.5'	S	05-09-17 09:30	- 7.5 ft	553116-007
T2 - Surface	S	05-09-17 10:00	N/A	553116-008
T2 - 1'	S	05-09-17 10:00	- 1 ft	553116-009
T2 - 2'	S	05-09-17 10:00	- 2 ft	553116-010
T2 - 3'	S	05-09-17 10:00	- 3 ft	553116-011
T3 - Surface	S	05-09-17 10:30	N/A	553116-012
T3 - 1'	S	05-09-17 10:30	- 1 ft	553116-013
T3 - 2'	S	05-09-17 10:30	- 2 ft	553116-014
T3 - 3'	S	05-09-17 10:30	- 3 ft	553116-015
T3 - 4'	S	05-09-17 10:30	- 4 ft	553116-016
T3 - 6'	S	05-09-17 10:30	- 6 ft	553116-017
T3 - 8'	S	05-09-17 10:45	- 8 ft	553116-018
T3 - 10'	S	05-09-17 10:45	- 10 ft	553116-019
T3 - 13'	S	05-09-17 10:45	- 13 ft	553116-020
T4 - Surface	S	05-09-17 11:00	N/A	553116-021
T4 - 1'	S	05-09-17 11:00	- 1 ft	553116-022
T4 - 2'	S	05-09-17 11:00	- 2 ft	553116-023
T4 - 3'	S	05-09-17 11:00	- 3 ft	553116-024
T4 - 4'	S	05-09-17 11:00	- 4 ft	553116-025
T4 - 6'	S	05-09-17 11:00	- 6 ft	553116-026
T4 - 9'	S	05-09-17 11:00	- 9 ft	553116-027
T5 - Surface	S	05-09-17 11:30	N/A	553116-028
T5 - 1'	S	05-09-17 11:30	- 1 ft	553116-029
T5 - 2'	S	05-09-17 11:30	- 2 ft	553116-030
T5 - 3'	S	05-09-17 11:30	- 3 ft	553116-031
T5 - 4'	S	05-09-17 11:30	- 4 ft	553116-032
T5 - 9'	S	05-09-17 11:30	- 9 ft	553116-033

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3017709 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3017710 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Lab Sample ID 553116-024 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike.
Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 553116-008, -009, -010, -011, -012, -013, -014, -015, -022, -023, -024, -028, -029, -031.
The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Benzene, m,p-Xylenes, o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate were above quality control limits.
Samples in the analytical batch are: 553116-008, -009, -010, -011, -012, -013, -014, -015, -022, -023, -024, -028, -029, -031

Batch: LBA-3017817 Inorganic Anions by EPA 300/300.1
Lab Sample ID 553116-007 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 553116-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3017865 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T1 - Surface**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-001	Date Collected:	05.09.17 09.30		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 19.58	Basis:	Wet Weight
Seq Number:	3017817				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5570**	50.0	mg/kg	05.21.17 01.49		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.17 08.00	Basis:	Wet Weight
Seq Number:	3017668				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.17 10.52	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.16.17 10.52	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.17 10.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	05.16.17 10.52	
o-Terphenyl	84-15-1	102	%	70-135	05.16.17 10.52	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.18.17 10.00	Basis:	Wet Weight
Seq Number:	3017709				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.18.17 18.17	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.18.17 18.17	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.18.17 18.17	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.18.17 18.17	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.18.17 18.17	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.18.17 18.17	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.18.17 18.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	84	%	80-120	05.18.17 18.17	
1,4-Difluorobenzene	540-36-3	91	%	80-120	05.18.17 18.17	

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T1 - 1'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-002	Date Collected:	05.09.17 09.30	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 19.58	Basis:	Wet Weight
Seq Number:	3017817				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11000**	100	mg/kg	05.21.17 01.57		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.17 08.00	Basis:	Wet Weight
Seq Number:	3017668				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<14.9	14.9	mg/kg	05.16.17 11.52	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<14.9	14.9	mg/kg	05.16.17 11.52	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	05.16.17 11.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	05.16.17 11.52	
o-Terphenyl	84-15-1	98	%	70-135	05.16.17 11.52	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.18.17 10.00	Basis:	Wet Weight
Seq Number:	3017709				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.18.17 19.23	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.18.17 19.23	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.18.17 19.23	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.18.17 19.23	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.18.17 19.23	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.18.17 19.23	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.18.17 19.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	90	%	80-120	05.18.17 19.23	
4-Bromofluorobenzene	460-00-4	89	%	80-120	05.18.17 19.23	

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T1 - 2'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-003	Date Collected:	05.09.17 09.30	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 19.58	Basis:	Wet Weight
Seq Number:	3017817				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8710**	49.2	mg/kg	05.21.17 02.04		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.17 08.00	Basis:	Wet Weight
Seq Number:	3017668				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.17 12.12	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.16.17 12.12	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.17 12.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	05.16.17 12.12	
o-Terphenyl	84-15-1	99	%	70-135	05.16.17 12.12	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.18.17 10.00	Basis:	Wet Weight
Seq Number:	3017709				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.18.17 21.33	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.18.17 21.33	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.18.17 21.33	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.18.17 21.33	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.18.17 21.33	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.18.17 21.33	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.18.17 21.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	83	%	80-120	05.18.17 21.33	
4-Bromofluorobenzene	460-00-4	82	%	80-120	05.18.17 21.33	

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COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T1 - 3'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-004	Date Collected:	05.09.17 09.30	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 19.58	Basis:	Wet Weight
Seq Number:	3017817				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7200**	50.0	mg/kg	05.21.17 02.12		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.17 08.00	Basis:	Wet Weight
Seq Number:	3017668				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.17 12.32	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.16.17 12.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.17 12.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	05.16.17 12.32	
o-Terphenyl	84-15-1	97	%	70-135	05.16.17 12.32	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.18.17 10.00	Basis:	Wet Weight
Seq Number:	3017709				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.18.17 21.49	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.18.17 21.49	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.18.17 21.49	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.18.17 21.49	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.18.17 21.49	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.18.17 21.49	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.18.17 21.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	80-120	05.18.17 21.49	
4-Bromofluorobenzene	460-00-4	96	%	80-120	05.18.17 21.49	

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T1 - 4'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-005	Date Collected:	05.09.17 09.30	Sample Depth:	4 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 19.58	Basis:	Wet Weight
Seq Number:	3017817				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1850**	24.9	mg/kg	05.21.17 02.35		5

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T1 - 6'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-006	Date Collected:	05.09.17 09.30	Sample Depth:	6 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 19.58	Basis:	Wet Weight
Seq Number:	3017817				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**34.7**	4.87	mg/kg	05.21.17 03.13		1

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T1 - 7.5'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-007	Date Collected:	05.09.17 09.30	Sample Depth:	7.5 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 19.58	Basis:	Wet Weight
Seq Number:	3017817				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**85.5**	4.99	mg/kg	05.21.17 01.26		1

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T2 - Surface**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-008	Date Collected:	05.09.17 10.00		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 19.58	Basis:	Wet Weight
Seq Number:	3017817				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6510**	49.4	mg/kg	05.21.17 02.42		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.17 08.00	Basis:	Wet Weight
Seq Number:	3017668				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.17 12.53	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.16.17 12.53	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.17 12.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	05.16.17 12.53	
o-Terphenyl	84-15-1	97	%	70-135	05.16.17 12.53	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.18.17 16.00	Basis:	Wet Weight
Seq Number:	3017710				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.18.17 22.55	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.18.17 22.55	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.18.17 22.55	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.18.17 22.55	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.18.17 22.55	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.18.17 22.55	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.18.17 22.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	80-120	05.18.17 22.55	
1,4-Difluorobenzene	540-36-3	92	%	80-120	05.18.17 22.55	

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COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T2 - 1'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-009	Date Collected:	05.09.17 10.00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 19.58	Basis:	Wet Weight
Seq Number:	3017817				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8670**	49.4	mg/kg	05.21.17 02.50		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.17 08.00	Basis:	Wet Weight
Seq Number:	3017668				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.17 13.13	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.16.17 13.13	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.17 13.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	05.16.17 13.13	
o-Terphenyl	84-15-1	107	%	70-135	05.16.17 13.13	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.18.17 16.00	Basis:	Wet Weight
Seq Number:	3017710				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.18.17 23.11	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.18.17 23.11	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.18.17 23.11	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	05.18.17 23.11	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.18.17 23.11	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.18.17 23.11	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.18.17 23.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	83	%	80-120	05.18.17 23.11	
4-Bromofluorobenzene	460-00-4	86	%	80-120	05.18.17 23.11	

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T2 - 2'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-010	Date Collected:	05.09.17 10.00	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 19.58	Basis:	Wet Weight
Seq Number:	3017817				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7420**	48.7	mg/kg	05.21.17 02.57		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.17 08.00	Basis:	Wet Weight
Seq Number:	3017668				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.17 13.33	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.16.17 13.33	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.17 13.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	05.16.17 13.33	
o-Terphenyl	84-15-1	118	%	70-135	05.16.17 13.33	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.18.17 16.00	Basis:	Wet Weight
Seq Number:	3017710				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.18.17 23.27	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.18.17 23.27	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.18.17 23.27	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.18.17 23.27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.18.17 23.27	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.18.17 23.27	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.18.17 23.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	91	%	80-120	05.18.17 23.27	
4-Bromofluorobenzene	460-00-4	96	%	80-120	05.18.17 23.27	

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COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T2 - 3'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-011	Date Collected:	05.09.17 10.00	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 19.58	Basis:	Wet Weight
Seq Number:	3017817				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5960**	49.1	mg/kg	05.21.17 03.05		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.17 08.00	Basis:	Wet Weight
Seq Number:	3017668				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.17 13.53	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.16.17 13.53	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.17 13.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	05.16.17 13.53	
o-Terphenyl	84-15-1	98	%	70-135	05.16.17 13.53	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.18.17 16.00	Basis:	Wet Weight
Seq Number:	3017710				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.18.17 23.44	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.18.17 23.44	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.18.17 23.44	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.18.17 23.44	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.18.17 23.44	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.18.17 23.44	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.18.17 23.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	80-120	05.18.17 23.44	
1,4-Difluorobenzene	540-36-3	87	%	80-120	05.18.17 23.44	

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COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T3 - Surface**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-012	Date Collected:	05.09.17 10.30		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 19.58	Basis:	Wet Weight
Seq Number:	3017817				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2910**	24.9	mg/kg	05.21.17 03.35		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.17 08.00	Basis:	Wet Weight
Seq Number:	3017668				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.17 14.14	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.16.17 14.14	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.17 14.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	05.16.17 14.14	
o-Terphenyl	84-15-1	93	%	70-135	05.16.17 14.14	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.18.17 16.00	Basis:	Wet Weight
Seq Number:	3017710				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.19.17 00.00	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.19.17 00.00	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.19.17 00.00	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.19.17 00.00	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.19.17 00.00	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.19.17 00.00	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.19.17 00.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	80-120	05.19.17 00.00	
1,4-Difluorobenzene	540-36-3	106	%	80-120	05.19.17 00.00	

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T3 - 1'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-013	Date Collected:	05.09.17 10.30	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 19.58	Basis:	Wet Weight
Seq Number:	3017817				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2310**	24.8	mg/kg	05.21.17 03.43		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.17 08.00	Basis:	Wet Weight
Seq Number:	3017668				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.17 14.35	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.16.17 14.35	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.17 14.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	05.16.17 14.35	
o-Terphenyl	84-15-1	97	%	70-135	05.16.17 14.35	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.18.17 16.00	Basis:	Wet Weight
Seq Number:	3017710				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.19.17 00.16	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.19.17 00.16	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.19.17 00.16	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	05.19.17 00.16	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.19.17 00.16	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.19.17 00.16	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.19.17 00.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	80-120	05.19.17 00.16	
1,4-Difluorobenzene	540-36-3	115	%	80-120	05.19.17 00.16	

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T3 - 2'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-014	Date Collected:	05.09.17 10.30	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 19.58	Basis:	Wet Weight
Seq Number:	3017817				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5310**	49.4	mg/kg	05.21.17 04.06		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.17 08.00	Basis:	Wet Weight
Seq Number:	3017668				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.17 15.35	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.16.17 15.35	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.17 15.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	05.16.17 15.35	
o-Terphenyl	84-15-1	110	%	70-135	05.16.17 15.35	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.18.17 16.00	Basis:	Wet Weight
Seq Number:	3017710				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.19.17 00.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.19.17 00.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.19.17 00.32	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.19.17 00.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.19.17 00.32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.19.17 00.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.19.17 00.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	93	%	80-120	05.19.17 00.32	
4-Bromofluorobenzene	460-00-4	94	%	80-120	05.19.17 00.32	

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T3 - 3'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-015	Date Collected:	05.09.17 10.30	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 19.58	Basis:	Wet Weight
Seq Number:	3017817				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**387**	4.94	mg/kg	05.21.17 04.13		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.17 08.00	Basis:	Wet Weight
Seq Number:	3017668				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.17 15.55	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.16.17 15.55	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.17 15.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	05.16.17 15.55	
o-Terphenyl	84-15-1	96	%	70-135	05.16.17 15.55	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.18.17 16.00	Basis:	Wet Weight
Seq Number:	3017710				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.19.17 00.49	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.19.17 00.49	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.19.17 00.49	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.19.17 00.49	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.19.17 00.49	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.19.17 00.49	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.19.17 00.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	80-120	05.19.17 00.49	
4-Bromofluorobenzene	460-00-4	109	%	80-120	05.19.17 00.49	

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T3 - 4'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-016	Date Collected:	05.09.17 10.30	Sample Depth:	4 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 19.58	Basis:	Wet Weight
Seq Number:	3017817				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6590**	49.1	mg/kg	05.21.17 04.21		10

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T3 - 6'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-017	Date Collected:	05.09.17 10.30	Sample Depth:	6 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 19.58	Basis:	Wet Weight
Seq Number:	3017817				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2500**	24.4	mg/kg	05.21.17 04.29		5

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T3 - 8'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-018	Date Collected:	05.09.17 10.45	Sample Depth:	8 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 19.58	Basis:	Wet Weight
Seq Number:	3017817				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5.66**	4.98	mg/kg	05.21.17 04.36		1

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T3 - 10'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-019	Date Collected:	05.09.17 10.45	Sample Depth:	10 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 19.58	Basis:	Wet Weight
Seq Number:	3017817				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.90	4.90	mg/kg	05.21.17 04.44	U	1

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T3 - 13'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-020	Date Collected:	05.09.17 10.45	Sample Depth:	13 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 19.58	Basis:	Wet Weight
Seq Number:	3017817				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**20.3**	4.92	mg/kg	05.21.17 04.51		1

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T4 - Surface**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-021	Date Collected:	05.09.17 11.00		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 20.43	Basis:	Wet Weight
Seq Number:	3017818				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**850**	4.87	mg/kg	05.21.17 06.45		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.17 08.00	Basis:	Wet Weight
Seq Number:	3017668				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.17 16.15	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.16.17 16.15	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.17 16.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	05.16.17 16.15	
o-Terphenyl	84-15-1	98	%	70-135	05.16.17 16.15	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.19.17 08.00	Basis:	Wet Weight
Seq Number:	3017865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00372	0.00372	mg/kg	05.19.17 12.15	U	1
Toluene	108-88-3	<0.00372	0.00372	mg/kg	05.19.17 12.15	U	1
Ethylbenzene	100-41-4	<0.00372	0.00372	mg/kg	05.19.17 12.15	U	1
m,p-Xylenes	179601-23-1	<0.00743	0.00743	mg/kg	05.19.17 12.15	U	1
o-Xylene	95-47-6	<0.00372	0.00372	mg/kg	05.19.17 12.15	U	1
Total Xylenes	1330-20-7	<0.00372	0.00372	mg/kg	05.19.17 12.15	U	1
Total BTEX		<0.00372	0.00372	mg/kg	05.19.17 12.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	80-120	05.19.17 12.15	
1,4-Difluorobenzene	540-36-3	109	%	80-120	05.19.17 12.15	

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T4 - 1'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-022	Date Collected:	05.09.17 11.00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 20.43	Basis:	Wet Weight
Seq Number:	3017818				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3360**	25.0	mg/kg	05.21.17 06.53		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.17 08.00	Basis:	Wet Weight
Seq Number:	3017668				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<14.9	14.9	mg/kg	05.16.17 16.36	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<14.9	14.9	mg/kg	05.16.17 16.36	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	05.16.17 16.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	05.16.17 16.36	
o-Terphenyl	84-15-1	94	%	70-135	05.16.17 16.36	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.18.17 16.00	Basis:	Wet Weight
Seq Number:	3017710				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.19.17 01.54	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.19.17 01.54	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.19.17 01.54	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	05.19.17 01.54	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.19.17 01.54	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.19.17 01.54	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.19.17 01.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	80-120	05.19.17 01.54	
1,4-Difluorobenzene	540-36-3	84	%	80-120	05.19.17 01.54	

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T4 - 2'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-023	Date Collected:	05.09.17 11.00	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 20.43	Basis:	Wet Weight
Seq Number:	3017818				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3850**	24.7	mg/kg	05.21.17 07.01		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.17 08.00	Basis:	Wet Weight
Seq Number:	3017668				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<14.9	14.9	mg/kg	05.16.17 16.55	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<14.9	14.9	mg/kg	05.16.17 16.55	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	05.16.17 16.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	05.16.17 16.55	
o-Terphenyl	84-15-1	96	%	70-135	05.16.17 16.55	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.18.17 16.00	Basis:	Wet Weight
Seq Number:	3017710				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.19.17 02.10	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.19.17 02.10	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.19.17 02.10	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.19.17 02.10	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.19.17 02.10	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.19.17 02.10	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.19.17 02.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	96	%	80-120	05.19.17 02.10	
4-Bromofluorobenzene	460-00-4	100	%	80-120	05.19.17 02.10	

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COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T4 - 3'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-024	Date Collected:	05.09.17 11.00	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 20.43	Basis:	Wet Weight
Seq Number:	3017818				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4380**	24.6	mg/kg	05.21.17 07.08		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.17 08.00	Basis:	Wet Weight
Seq Number:	3017668				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.17 17.16	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.16.17 17.16	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.17 17.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	05.16.17 17.16	
o-Terphenyl	84-15-1	97	%	70-135	05.16.17 17.16	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.18.17 16.00	Basis:	Wet Weight
Seq Number:	3017710				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.18.17 22.38	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.18.17 22.38	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.18.17 22.38	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	05.18.17 22.38	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.18.17 22.38	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.18.17 22.38	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.18.17 22.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	80-120	05.18.17 22.38	
4-Bromofluorobenzene	460-00-4	90	%	80-120	05.18.17 22.38	

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T4 - 4'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-025	Date Collected:	05.09.17 11.00	Sample Depth:	4 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 20.43	Basis:	Wet Weight
Seq Number:	3017818				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**117**	4.98	mg/kg	05.21.17 07.16		1

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T4 - 6'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-026	Date Collected:	05.09.17 11.00	Sample Depth:	6 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 20.43	Basis:	Wet Weight
Seq Number:	3017818				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.90**	4.93	mg/kg	05.21.17 07.23		1

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T4 - 9'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-027	Date Collected:	05.09.17 11.00	Sample Depth:	9 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 20.43	Basis:	Wet Weight
Seq Number:	3017818				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**110**	4.87	mg/kg	05.21.17 07.46		1

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T5 - Surface**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-028	Date Collected:	05.09.17 11.30		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 20.43	Basis:	Wet Weight
Seq Number:	3017818				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2180**	25.0	mg/kg	05.21.17 07.54		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.17 08.00	Basis:	Wet Weight
Seq Number:	3017668				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.17 17.36	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.16.17 17.36	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.17 17.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	05.16.17 17.36	
o-Terphenyl	84-15-1	98	%	70-135	05.16.17 17.36	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.18.17 16.00	Basis:	Wet Weight
Seq Number:	3017710				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.19.17 02.26	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.19.17 02.26	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.19.17 02.26	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.19.17 02.26	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.19.17 02.26	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.19.17 02.26	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.19.17 02.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	80-120	05.19.17 02.26	
1,4-Difluorobenzene	540-36-3	94	%	80-120	05.19.17 02.26	

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T5 - 1'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-029	Date Collected:	05.09.17 11.30	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 20.43	Basis:	Wet Weight
Seq Number:	3017818				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4260**	25.0	mg/kg	05.21.17 08.17		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.17 08.00	Basis:	Wet Weight
Seq Number:	3017668				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.17 17.56	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.16.17 17.56	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.17 17.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	05.16.17 17.56	
o-Terphenyl	84-15-1	99	%	70-135	05.16.17 17.56	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.18.17 16.00	Basis:	Wet Weight
Seq Number:	3017710				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.19.17 02.42	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.19.17 02.42	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.19.17 02.42	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.19.17 02.42	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.19.17 02.42	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.19.17 02.42	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.19.17 02.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	80-120	05.19.17 02.42	
1,4-Difluorobenzene	540-36-3	102	%	80-120	05.19.17 02.42	

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T5 - 2'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-030	Date Collected:	05.09.17 11.30	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 20.43	Basis:	Wet Weight
Seq Number:	3017818				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6970**	50.0	mg/kg	05.21.17 08.24		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.17 08.00	Basis:	Wet Weight
Seq Number:	3017668				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.17 18.15	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.16.17 18.15	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.17 18.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	05.16.17 18.15	
o-Terphenyl	84-15-1	101	%	70-135	05.16.17 18.15	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.19.17 08.00	Basis:	Wet Weight
Seq Number:	3017865				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00370	0.00370	mg/kg	05.19.17 11.59	U	1
Toluene	108-88-3	<0.00370	0.00370	mg/kg	05.19.17 11.59	U	1
Ethylbenzene	100-41-4	<0.00370	0.00370	mg/kg	05.19.17 11.59	U	1
m,p-Xylenes	179601-23-1	<0.00741	0.00741	mg/kg	05.19.17 11.59	U	1
o-Xylene	95-47-6	<0.00370	0.00370	mg/kg	05.19.17 11.59	U	1
Total Xylenes	1330-20-7	<0.00370	0.00370	mg/kg	05.19.17 11.59	U	1
Total BTEX		<0.00370	0.00370	mg/kg	05.19.17 11.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	80-120	05.19.17 11.59	
1,4-Difluorobenzene	540-36-3	81	%	80-120	05.19.17 11.59	

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T5 - 3'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-031	Date Collected:	05.09.17 11.30	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 20.43	Basis:	Wet Weight
Seq Number:	3017818				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2590**	24.5	mg/kg	05.21.17 08.32		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.16.17 08.00	Basis:	Wet Weight
Seq Number:	3017668				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.16.17 18.34	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.16.17 18.34	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.16.17 18.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	05.16.17 18.34	
o-Terphenyl	84-15-1	102	%	70-135	05.16.17 18.34	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.18.17 16.00	Basis:	Wet Weight
Seq Number:	3017710				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.19.17 06.47	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.19.17 06.47	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.19.17 06.47	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.19.17 06.47	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.19.17 06.47	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.19.17 06.47	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.19.17 06.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	82	%	80-120	05.19.17 06.47	
1,4-Difluorobenzene	540-36-3	92	%	80-120	05.19.17 06.47	

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T5 - 4'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-032	Date Collected:	05.09.17 11.30	Sample Depth:	4 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 20.43	Basis:	Wet Weight
Seq Number:	3017818				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**325**	4.87	mg/kg	05.21.17 08.39		1

Certificate of Analytical Results 553116

COG Operating LLC, Artesia, NM

Patron Fed #004H

Sample Id:	**T5 - 9'**	Matrix:	Soil	Date Received:	05.13.17 10.00
Lab Sample Id:	553116-033	Date Collected:	05.09.17 11.30	Sample Depth:	9 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.20.17 20.43	Basis:	Wet Weight
Seq Number:	3017818				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11.9**	4.87	mg/kg	05.21.17 08.47		1

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

QC Summary 553116

COG Operating LLC

Patron Fed #004H

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3017817 Matrix: Solid Date Prep: 05.20.17
MB Sample Id: 724936-1-BLK LCS Sample Id: 724936-1-BKS LCSD Sample Id: 724936-1-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	251	100	253	101	90-110	1	20	mg/kg	05.21.17 01:11	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3017818 Matrix: Solid Date Prep: 05.20.17
MB Sample Id: 724937-1-BLK LCS Sample Id: 724937-1-BKS LCSD Sample Id: 724937-1-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	251	100	253	101	90-110	1	20	mg/kg	05.21.17 05:22	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3017817 Matrix: Soil Date Prep: 05.20.17
Parent Sample Id: 553116-006 MS Sample Id: 553116-006 S MSD Sample Id: 553116-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	34.7	244	294	106	293	106	90-110	0	20	mg/kg	05.21.17 03:20	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3017817 Matrix: Soil Date Prep: 05.20.17
Parent Sample Id: 553116-007 MS Sample Id: 553116-007 S MSD Sample Id: 553116-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	85.5	250	363	111	366	112	90-110	1	20	mg/kg	05.21.17 01:34	X

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3017818 Matrix: Soil Date Prep: 05.20.17
Parent Sample Id: 553116-026 MS Sample Id: 553116-026 S MSD Sample Id: 553116-026 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.90	247	250	98	250	98	90-110	0	20	mg/kg	05.21.17 07:31	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3017818 Matrix: Soil Date Prep: 05.20.17
Parent Sample Id: 553117-002 MS Sample Id: 553117-002 S MSD Sample Id: 553117-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	17.7	250	284	107	285	107	90-110	0	20	mg/kg	05.21.17 05:45	

QC Summary 553116

COG Operating LLC

Patron Fed #004H

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3017668 Matrix: Solid Date Prep: 05.16.17
MB Sample Id: 724771-1-BLK LCS Sample Id: 724771-1-BKS LCSD Sample Id: 724771-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	985	99	923	92	70-135	6	35	mg/kg	05.16.17 10:14	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	946	95	914	91	70-135	3	35	mg/kg	05.16.17 10:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		105		107		70-135	%	05.16.17 10:14
o-Terphenyl	104		100		96		70-135	%	05.16.17 10:14

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3017668 Matrix: Soil Date Prep: 05.16.17
Parent Sample Id: 553116-001 MS Sample Id: 553116-001 S MSD Sample Id: 553116-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	999	993	99	908	91	70-135	9	35	mg/kg	05.16.17 11:12	
C10-C28 Diesel Range Hydrocarbons	<15.0	999	954	95	888	89	70-135	7	35	mg/kg	05.16.17 11:12	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	112		100		70-135	%	05.16.17 11:12
o-Terphenyl	103		97		70-135	%	05.16.17 11:12

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3017709 Matrix: Solid Date Prep: 05.18.17
MB Sample Id: 724845-1-BLK LCS Sample Id: 724845-1-BKS LCSD Sample Id: 724845-1-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	0.0887	89	0.0805	81	70-130	10	35	mg/kg	05.18.17 13:04	
Toluene	<0.00200	0.0998	0.0946	95	0.0932	93	70-130	1	35	mg/kg	05.18.17 13:04	
Ethylbenzene	<0.00200	0.0998	0.103	103	0.100	100	71-129	3	35	mg/kg	05.18.17 13:04	
m,p-Xylenes	<0.00399	0.200	0.216	108	0.199	100	70-135	8	35	mg/kg	05.18.17 13:04	
o-Xylene	<0.00200	0.0998	0.101	101	0.0965	97	71-133	5	35	mg/kg	05.18.17 13:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	117		98		89		80-120	%	05.18.17 13:04
4-Bromofluorobenzene	119		109		93		80-120	%	05.18.17 13:04

QC Summary 553116

COG Operating LLC

Patron Fed #004H

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3017710 Matrix: Solid Date Prep: 05.18.17

MB Sample Id: 724860-1-BLK LCS Sample Id: 724860-1-BKS LCSD Sample Id: 724860-1-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	0.100	0.0784	78	0.0898	90	70-130	14	35	mg/kg	05.18.17 13:37	
Toluene	<0.00200	0.100	0.0841	84	0.106	106	70-130	23	35	mg/kg	05.18.17 13:37	
Ethylbenzene	<0.00200	0.100	0.0929	93	0.103	103	71-129	10	35	mg/kg	05.18.17 13:37	
m,p-Xylenes	<0.00401	0.200	0.184	92	0.208	104	70-135	12	35	mg/kg	05.18.17 13:37	
o-Xylene	<0.00200	0.100	0.0863	86	0.108	108	71-133	22	35	mg/kg	05.18.17 13:37	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		102		93		80-120	%	05.18.17 13:37
4-Bromofluorobenzene	83		114		118		80-120	%	05.18.17 13:37

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3017865 Matrix: Solid Date Prep: 05.19.17

MB Sample Id: 724971-1-BLK LCS Sample Id: 724971-1-BKS LCSD Sample Id: 724971-1-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	0.0828	83	0.0861	86	70-130	4	35	mg/kg	05.19.17 08:42	
Toluene	<0.00200	0.0998	0.0871	87	0.102	102	70-130	16	35	mg/kg	05.19.17 08:42	
Ethylbenzene	<0.00200	0.0998	0.0935	94	0.115	115	71-129	21	35	mg/kg	05.19.17 08:42	
m,p-Xylenes	<0.00399	0.200	0.185	93	0.230	115	70-135	22	35	mg/kg	05.19.17 08:42	
o-Xylene	<0.00200	0.0998	0.0870	87	0.0868	87	71-133	0	35	mg/kg	05.19.17 08:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	88		94		92		80-120	%	05.19.17 08:42
4-Bromofluorobenzene	89		88		107		80-120	%	05.19.17 08:42

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3017709 Matrix: Soil Date Prep: 05.18.17

Parent Sample Id: 553111-004 MS Sample Id: 553111-004 S MSD Sample Id: 553111-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0746	75	0.0744	74	70-130	0	35	mg/kg	05.18.17 14:10	
Toluene	<0.00199	0.0996	0.0779	78	0.0766	77	70-130	2	35	mg/kg	05.18.17 14:10	
Ethylbenzene	<0.00199	0.0996	0.0801	80	0.0732	73	71-129	9	35	mg/kg	05.18.17 14:10	
m,p-Xylenes	<0.00398	0.199	0.162	81	0.148	74	70-135	9	35	mg/kg	05.18.17 14:10	
o-Xylene	<0.00199	0.0996	0.0728	73	0.0783	78	71-133	7	35	mg/kg	05.18.17 14:10	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		101		80-120	%	05.18.17 14:10
4-Bromofluorobenzene	100		114		80-120	%	05.18.17 14:10

QC Summary 553116

COG Operating LLC

Patron Fed #004H

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3017710 Matrix: Soil Date Prep: 05.18.17

Parent Sample Id: 553116-024 MS Sample Id: 553116-024 S MSD Sample Id: 553116-024 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0547	54	0.0793	79	70-130	37	35	mg/kg	05.18.17 14:43	XF
Toluene	<0.00202	0.101	0.0659	65	0.0783	78	70-130	17	35	mg/kg	05.18.17 14:43	X
Ethylbenzene	<0.00202	0.101	0.0602	60	0.0859	85	71-129	35	35	mg/kg	05.18.17 14:43	X
m,p-Xylenes	<0.00404	0.202	0.117	58	0.172	86	70-135	38	35	mg/kg	05.18.17 14:43	XF
o-Xylene	<0.00202	0.101	0.0547	54	0.0867	86	71-133	45	35	mg/kg	05.18.17 14:43	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		113		80-120	%	05.18.17 14:43
4-Bromofluorobenzene	106		116		80-120	%	05.18.17 14:43

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3017865 Matrix: Soil Date Prep: 05.19.17

Parent Sample Id: 553122-013 MS Sample Id: 553122-013 S MSD Sample Id: 553122-013 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	0.101	0.0813	80	0.0923	92	70-130	13	35	mg/kg	05.19.17 09:48	
Toluene	<0.00201	0.101	0.0743	74	0.0784	78	70-130	5	35	mg/kg	05.19.17 09:48	
Ethylbenzene	<0.00201	0.101	0.0764	76	0.0728	73	71-129	5	35	mg/kg	05.19.17 09:48	
m,p-Xylenes	<0.00402	0.201	0.153	76	0.156	78	70-135	2	35	mg/kg	05.19.17 09:48	
o-Xylene	0.00886	0.101	0.0759	66	0.0724	64	71-133	5	35	mg/kg	05.19.17 09:48	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		119		80-120	%	05.19.17 09:48
4-Bromofluorobenzene	103		117		80-120	%	05.19.17 09:48

CHAIN OF CUSTODY

Page 1 Of 4

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Dallas Texas (214-902-0300) | Midland, Texas (432-704-5251)

www.xenco.com

Xenco Quote # | Xenco Job # 553116

Client / Reporting Information

Company Name / Branch: COG Operating LLC

Company Address: 2407 PECOS Avenue Artesia NM 88210

Email: alieb@concho.com dneel2@concho.com rhaskell@concho.com | Phone No: 575-748-1553

Project Contact: Aaron Lieb

Samplers's Name- Aaron Lieb

Project Information

Project Name/Number: Patron Fed #004H

Project Location: Patron Fed #004H

Invoice To: COG Operating LLC, Attn: Robert Mcneill, 600 W. Illinois, Midland TX 79701

PO Number:

Matrix Codes

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information: TPH	BTEX	Chloride	Field Comments
1	TI - SURF	SURF	5/9/17	9:30AM	S	1									X	X	X	
2	TI - 1'	1				1									X	X	X	
3	TI - 2'	2				1									X	X	X	
4	TI - 3'	3				1									X	X	X	
5	TI - 4'	4				1											X	
6	TI - 6'	6				1											X	
7	TI - 7.5'	7.5				1											X	
8																		
9																		
10																		

Turnaround Time (Business days)

- ☐ Same Day TAT
- ☐ 5 Day TAT
- ☐ Next Day EMERGENCY
- ☐ 7 Day TAT
- ☐ 2 Day EMERGENCY
- ☐ Contract TAT
- ☐ 3 Day EMERGENCY

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

Data Deliverable Information

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

Notes:

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		5/12/17 11:00 Am	Jeff Butler 11:00A 5-12-17	2		2 JRAMER 5.13.17 1000
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice
			5		☐	☑

Temp: 3.7 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp:: 3.5

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost any losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco b terms will be enforced unless previously negotiated under a fully executed client contract.

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CHAIN OF CUSTODY

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www.xenco.com

Xenco Quote # | Xenco Job # 553116

Client / Reporting Information

Company Name / Branch: COG Operating LLC
Company Address: 2407 PECOS Avenue Artesia NM 88210
Email: alieb@concho.com dneel2@concho.com rhaskell@concho.com | Phone No: 575-748-1553
Project Contact: Aaron Lieb
Samplers's Name- Aaron Lieb

Project Information

Project Name/Number: Patron Fed #004H
Project Location: Patron Fed #004H
Invoice To: COG Operating LLC, Attn: Robert Mcneill, 600 W. Illinois, Midland TX 79701
PO Number:

Analytical Information

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
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No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH	BTEX	Chloride	Field Comments
1	T2 - Surf	Surf	5/9/17	10:00am	S	1									X	X	X	
2	T2 - 1'	1				1									X	X	X	
3	T2 - 2'	2				1									X	X	X	
4	T2 - 3'	3				1									X	X	X	
5	T3 - Surf	Surf		10:30am		1									X	X	X	
6	T3 - 1'	1				1									X	X	X	
7	T3 - 2'	2				1									X	X	X	
8	T3 - 3'	3				1									X	X	X	
9	T3 - 4'	4				1											X	
10	T3 - 6'	6				1											X	

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	Relinquished by	Date Time	Received By	Relinquished By	Date Time	Received By
1		5/12/17 11:00 am	Sid Butler 11:00 A 5-12-17	2		5.13.17 1000
3				4		
5				Custody Seal #	Preserved where applicable	On Ice: X

Temp: 3.7
CF: (0-6: -0.2°C) (6-23: +0.2°C)
Corrected Temp: 3.5
IR ID:R-8

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CHAIN OF CUSTODY

Page 3 Of 4

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P = Product
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WI = Wipe
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A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH	BTEX	Chloride	Field Comments
1	T3 - 8'	8	5/9/17	10:45AM	S	1											X	
2	T3 - 10'	10	"	"	"	1											X	
3	T3 - 13'	13	"	"	"	1											X	
4	T4 - SURF	SURF	"	11:00AM	"	1									X	X	X	
5	T4 - 1'	1	"	"	"	1									X	X	X	
6	T4 - 2'	2	"	"	"	1									X	X	X	
7	T4 - 3'	3	"	"	"	1									X	X	X	
8	T4 - 4'	4	"	"	"	1											X	
9	T4 - 6'	6	"	"	"	1											X	
10	T4 - 9'	9	"	"	"	1											X	

Turnaround Time (Business days)

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- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
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1		5/12/17 11:00 am	Bill Butler 11:00 A 5-12-17	2		Summer 5.13.17 1000
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice
			5			X

Temp: 3.7 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 3.5

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1	T5 - SURF	SURF	5/9/17	11:30am	S	1									X	X	X	
2	T5 - 1'	1	"	"	"	1									X	X	X	
3	T5 - 2'	2	"	"	"	1									X	X	X	
4	T5 - 3'	3	"	"	"	1									X	X	X	
5	T5 - 4'	4	"	"	"	1											X	
6	T5 - 9'	9	"	"	"	1											X	
7																		
8																		
9																		
10																		

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- ☐ Level 3 (CLP Forms)
- ☐ UST / RG -411
- ☐ TRRP Checklist

Notes:

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		5/12/17 11:00 am	Jed Butler 11:00 A 5-12-17	2		2 TRAMER 5.13.17
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice: X

Temp: 3.7 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 3.5

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Final 1.000

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XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 05/13/2017 10:00:00 AM

Work Order #: 553116

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)?	3.5
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seal present on shipping container/ cooler?	**N/A**
#5 *Custody Seals intact on shipping container/ cooler?	**N/A**
#6 Custody Seals intact on sample bottles?	**N/A**
#7 *Custody Seals Signed and dated?	**N/A**
#8 *Chain of Custody present?	**Yes**
#9 Sample instructions complete on Chain of Custody?	**Yes**
#10 Any missing/extra samples?	**No**
#11 Chain of Custody signed when relinquished/ received?	**Yes**
#12 Chain of Custody agrees with sample label(s)?	**Yes**
#13 Container label(s) legible and intact?	**Yes**
#14 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#15 Samples in proper container/ bottle?	**Yes**
#16 Samples properly preserved?	**Yes**
#17 Sample container(s) intact?	**Yes**
#18 Sufficient sample amount for indicated test(s)?	**Yes**
#19 All samples received within hold time?	**Yes**
#20 Subcontract of sample(s)?	**N/A**
#21 VOC samples have zero headspace?	**N/A**
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	**N/A**
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**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: 05/15/2017

Checklist reviewed by: Holly Taylor
Holly Taylor
Date: 05/16/2017

NM OIL CONSERVATION
ARTESIA DISTRICT
JAN 31 2017
RECEIVED

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

nAB1703253156

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company:	COG Operating LLC 217955	Contact:	Robert McNeill
Address:	600 West Illinois Avenue, Midland TX 79701	Telephone No.	432-683-7443
Facility Name:	Patron 23 Federal #004H	Facility Type:	Flowline

Surface Owner: Federal	Mineral Owner:	API No. 30-015-42451

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	23	25S	29E	190	North	660	East	Eddy

Latitude 32.1222382 **Longitude** -103.9487228

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 200 bbls	Volume Recovered: 0 bbls
Source of Release: Flowline	Date and Hour of Occurrence: January 28, 2017 11:00 am	Date and Hour of Discovery: January 28, 2017 11:00 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Ms. Weaver – NMOCD / Ms. Tucker - BLM	
By Whom? Rebecca Haskell	Date and Hour: January 28, 2017 5:11 pm *4:11pm (e-mail)	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The release was due to a rupture in a flowline. Replaced section of the flowline.

Describe Area Affected and Cleanup Action Taken.*

The release was within a pasture. 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: Rebecca Haskell	OIL CONSERVATION DIVISION
Printed Name: Rebecca Haskell	Signed By Mike Bratcher Approved by Environmental Specialist:
Title: Senior HSE Coordinator	Approval Date: 2/1/17 Expiration Date: N/A
E-mail Address: rhaskell@concho.com	Conditions of Approval: See attached ☐ Attached
Date: January 30, 2017 Phone: 432-683-7443	

* Attach Additional Sheets If Necessary

2RP-4096

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 1/31/17 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4096 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

> *The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC.* [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 2 office in Artesia on or before 3/3/17. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

- Nominal detection limits for field and laboratory analyses must be provided.

- Composite sampling is not generally allowed.

- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

•Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

• If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

• Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold
OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

Bratcher, Mike, EMNRD

From: Rebecca Haskell <RHaskell@concho.com>
Sent: Monday, January 30, 2017 4:05 PM
To: Weaver, Crystal, EMNRD; stucker@blm.gov
Cc: Bratcher, Mike, EMNRD; Jim Amos (jamos@blm.gov)
Subject: (C-141 Initial) Patron 23 Federal 4H Battery 1/28/17 (30-015-42451)
Attachments: Patron 23 Federal 4H Battery Initial C-141 1-28-17 (30-015-42451).pdf

Ms. Weaver / Ms. Tucker,

Attached is a Revised C-141 for your consideration. If you have any additional questions please feel free to contact me.

Thank You,

Becky Haskell
Senior HSE Coordinator
COG Operating LLC
600 W Illinois Avenue | Midland, TX 79701
Direct: 432-818-2372 | Main: 432.683.7443
Cell: 432-556-5130
rhaskell@concho.com

CONCHO

Weaver, Crystal, EMNRD

From: Rebecca Haskell <RHaskell@concho.com>
Sent: Saturday, January 28, 2017 4:11 PM
To: Weaver, Crystal, EMNRD; stucker@blm.gov
Cc: Bratcher, Mike, EMNRD; Jim Amos (jamos@blm.gov)
Subject: (Notification) Patron 23 Federal Battery 1-28-17 (30-015-42451)

MS. WEAVER / MS. TUCKER,

COG OPERATING LLC IS REPORTING A RELEASE ON THE PATRON 23 FEDERAL BATTERY ((30-015-42451)
UNIT A SECTION 23 TOWNSHIP 25S RANGE 29E
THE RELEASE OCCURRED AT APPROXIMATELY 11:00 AM ON 1-28-2017
ESTIMATED RELEASED: APPROX. 200 BBLS PRODUCED WATER
ESTIMATED RECOVERED: APPROX. 0 BBLS PRODUCED WATER

THE RELEASE WAS DUE TO A RUPTURE IN A FLOW LINE. THIS AREA IS BEING EVALUATED AND A C-141 WILL BE SUBMITTED. IF YOU HAVE ANY ADDITIONAL QUESTIONS PLEASE FEEL FREE TO CONTACT ME.

THANK YOU,

BECKY HASKELL