SITE INFORMATION

Report Type: Work Plan 2RP-4320

General Site Information:						
Site:	**Illustrated Man Fee Com #1H**					
Company:	**COG Operating LLC**					
Section, Township and Range	**Unit B**	**Sec. 02**	**T 25S**	**R 28E**		
Lease Number:	**API No. 30-015-41025**					
County:	**Eddy County**					
GPS:	**32.166314° N**			**104.056595° W**		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	From intersection of Black River Village Rd & HWY 285 in Malaga, travel south on 285 for 4.20 mi, turn east onto lease road and continue for 0.90 mi to location.					

Release Data:	
Date Released:	7/26/2017
Type Release:	Produced Water
Source of Contamination:	Flowline
Fluid Released:	25 bbls
Fluids Recovered:	20 bbls

Official Communication:			
Name:	Robert McNeil		Ike Tavarez
Company:	COG Operating, LLC		Tetra Tech
Address:	One Concho Center		4000 N. Big Spring
	600 W. Illinois Ave.		Ste 401
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		(432) 687-8110
Fax:	(432) 684-7137		
Email:	rmcneil@conchoresources.com		Ike.Tavarez@tetratech.com

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

Acceptable Soil RRAL (mg/kg)		
Benzene	***Total BTEX***	***TPH***
10	50	100

TETRA TECH

April 18, 2018

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

Re: Work Plan for the COG Operating LLC., Illustrated Man Fee Com #1H, Unit D, Section 12, Township 25 South, Ranch 28 East, Eddy County, New Mexico. 2RP-4320.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC., (COG) to evaluate and assess a release that occurred at the Illustrated Man Fee Com #1H, Unit D, Section 12, Township 25 South, Ranch 28 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.166314º, W 104.056595º. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on July 26, 2017, and released approximately twenty five (25) barrels of produced water due to a valve failure on a flowline. A vacuum truck was used to remove the standing fluids, recovering approximately twenty (20) barrels of produced water. The release occurred on the pad area in the vicinity of a former SWD location and migrated into the adjacent pasture, impacting an area measuring approximately 60' x 155'. The initial C-141 Form shows the Illustrated Man Fee Com #1H location in Unit D, Section 12. However, the flowline release occurred in Unit B, Section 02. The Initial C-141 Form is included in Appendix A.

Groundwater

No wells are listed within Section 02 in the New Mexico Office of the State Engineers database or the USGS National Water Information System. The nearest water well is located in Section 03; approximately 0.65 miles east of the site, and shows a reported depth to groundwater of 32' below surface. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in the area is between 25' and 50' below surface. The groundwater data is shown in Appendix B.

Tetra Tech
4000 North Big Spring, Suite 401, Midland, TX 79705
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 100 mg/kg.

Soil Assessment and Analytical Results

Initial Assessment

On August 22, 2017, COG personnel were onsite to evaluate and sample the release area. Three (3) trenches (T-1, T-2, and T-3) were installed in the spill foot print to total depths of 24' below surface. Additionally, four (4) trenches (North, South, East, and West) were installed outside the release footprint to depths of 1.0' below surface in order to define the horizontal extents of the release. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The trench locations are shown on Figure 3.

Referring to Table 1, none of the samples analyzed showed TPH, benzene, or total BTEX concentrations above the RRALs. However, elevated chloride concentrations were detected in the subsurface soils.

The area of trench (T-1) showed a chloride high of 9,540 mg/kg at 1.0', which declined to 355 mg/kg at 2.0', and a chloride spike of 5,850 mg/kg was detected at 6.0' below surface. The concentrations then declined with depth and showed a bottom trench concentration of 614 mg/kg. The areas of trenches (T-2 and T-3) showed chloride highs of 5,940 mg/kg at 1.0' and 2,740 mg/kg at surface, respectively. The concentrations then declined with depth to 342 mg/kg at 6.0' (T-2) and 139 mg/kg at 3.0' (T-3). However, slightly elevated chloride concentrations above 1,000 mg/kg were detected at depth and the areas of trenches (T-2 and T-3) showed bottom trench concentrations of 972 mg/kg and 746 mg/kg, respectively.

The areas of trenches (North and West) did not show any significant chloride concentrations. The areas of trenches (South and East) showed chloride highs of 1,420 mg/kg and 4,720 mg/kg at surface, respectively.

Borehole Installation

To define extents, Tetra Tech personnel installed a total of three (3) boreholes (BH-1, BH-2, and BH-3) to depths approximately 40.0' below surface in order to vertically define the chloride impacts. Selected samples were analyzed for chlorides by EPA method 300.0. Copies of the laboratory analysis and chain-of-custody documentation are included in Appendix C. The sampling results are summarized on Table 1. The borehole locations are shown on Figure 3.

Referring to Table 1, the area of BH-1 (T-1) showed no chloride impact in the shallow soils, compared to the concentrations detected in trench (T-1) at surface (9,270 mg/kg) and 1.0' (9,540 mg/kg). The chloride concentrations increased with depth from 29.0' to 40.0' below surface ranging from 1,040 mg/kg to 1,280 mg/kg.

The areas of BH-2 (T-2) and BH-3 (T-3) showed elevated concentrations in the shallow soils to a depth of 2-3', with chloride highs of 4,700 mg/kg and 3,300 mg/kg at 0'-1' below surface. The chloride concentrations in these areas then declined with depth to 453 mg/kg and 106 mg/kg at 4-5', respectively. However, the chlorides increased at deeper depths and showed bottom hole concentrations of 1,010 mg/kg and 1,070 mg/kg at 39-40', respectively.

Background Sampling

The lithology in the area consists of silty sand and gypsum formations. One (1) background borehole (BG-1) was installed to a total depth of 40.0' below surface in order to evaluate the native soils. Referring to Table 1, the chloride concentrations increased with depth at 20.0' (328 mg/kg), 25.0' (623 mg/kg), 30.0' (759 mg/kg), 35.0' (967 mg/kg) and bottom at 40.0' (1,120 mg/kg).

These chloride concentrations detected in the deeper soil appear to be natural to the area. Based on the results, the chloride concentrations detected in the deeper soils at boreholes (BH-1, BH-2 and BH-3) appear to be consistent with the background concentrations.

Work Plan

COG proposes to remove the chloride concentrations that were identified in the shallow soils in the areas of boreholes (BH-2 and BH-3). The area of boreholes (BH-2 and BH-3) will be excavated to depth of approximately 3.0-4.0' below surface. Once the areas are excavated to the appropriate depth, the excavation will be backfilled with clean material to surface grade. All of the excavated material will be transported offsite for proper disposal.

The proposed excavation depths may not be reached due to wall cave ins and safety concerns for onsite personnel. In addition, impacted soil around oil and gas equipment, structures or lines may not be feasible or practicable to be removed due to safely concerns for onsite personnel. As such, COG will excavate the impacted soils to the maximum extent practicable.

TETRA TECH

Conclusion

Upon completion, a final report detailing the remediation activities will be submitted to the NMOCD. If you have any questions or comments concerning the assessment or the proposed remediation activities for this site, please call at (432) 682-4559.

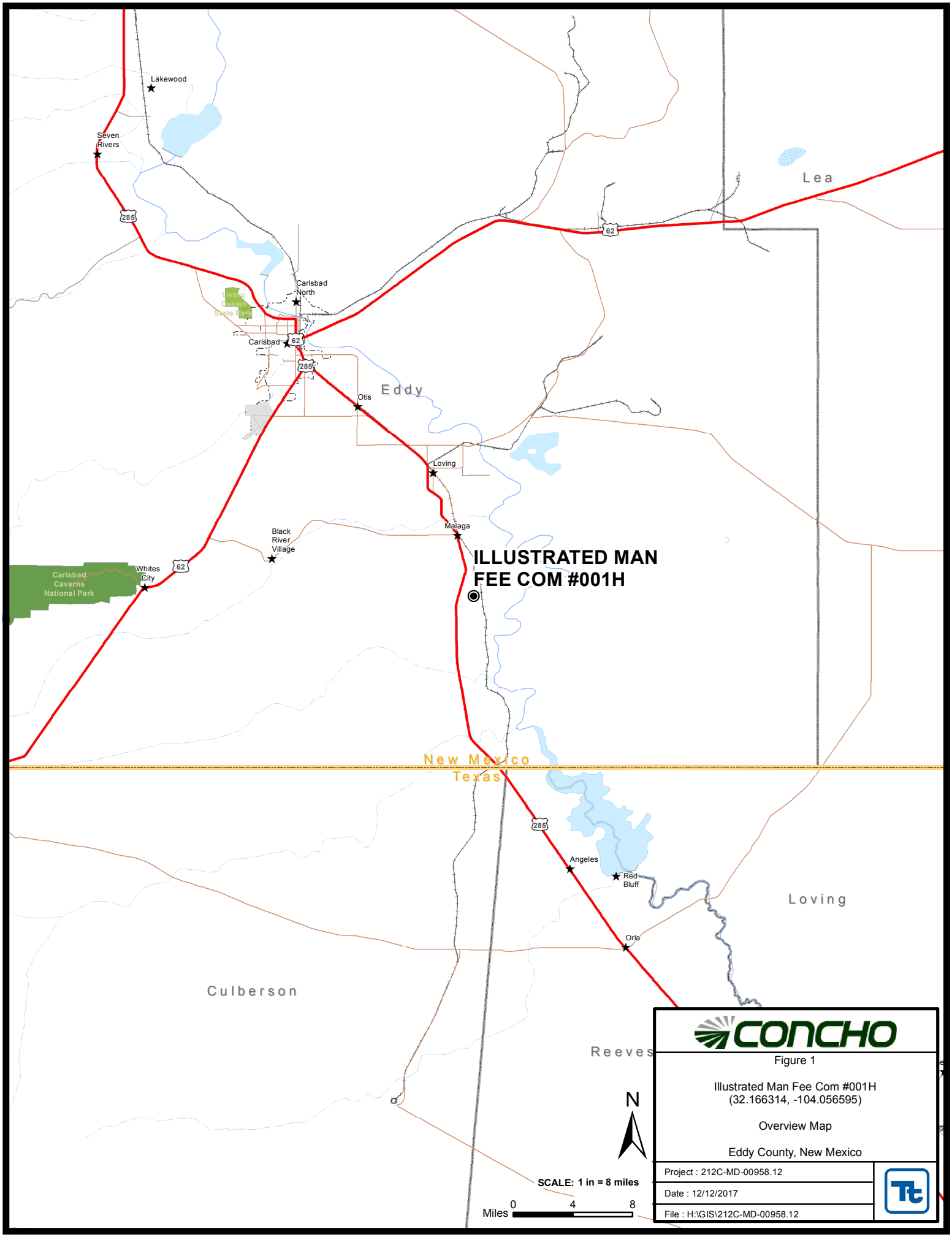
Respectfully submitted,
TETRA TECH

Clair Gonzales,
Geologist I

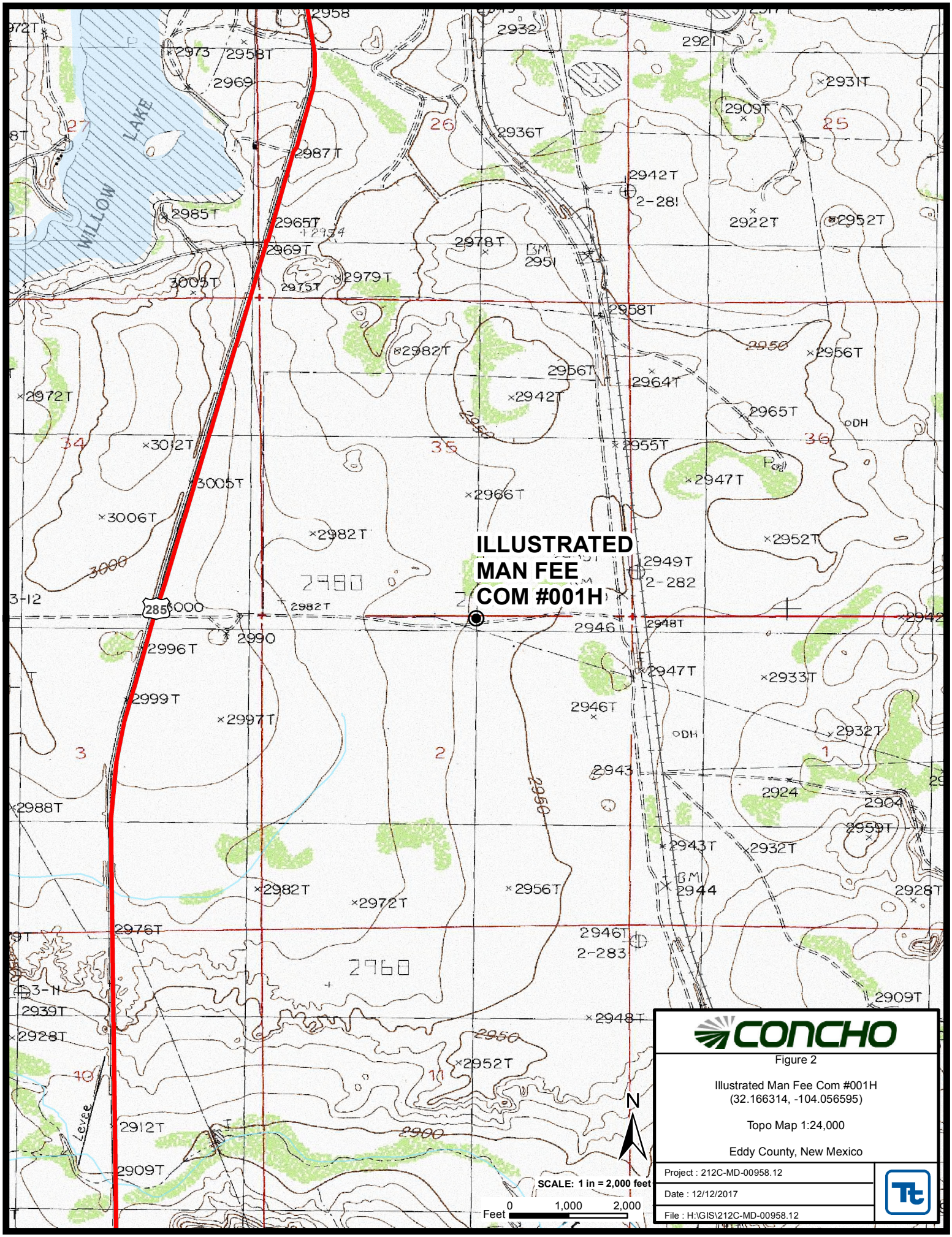
Ike Tavarez,
Senior Project Manager, P.G.

cc: Crystal Weaver - NMOCD
Robert McNeill – COG
Dakota Neel – COG
Rebecca Haskell – COG

Figures



Mapped By: Isabel Marmolejo



CONCHO

Figure 2

Illustrated Man Fee Com #001H
(32.166314, -104.056595)

Topo Map 1:24,000

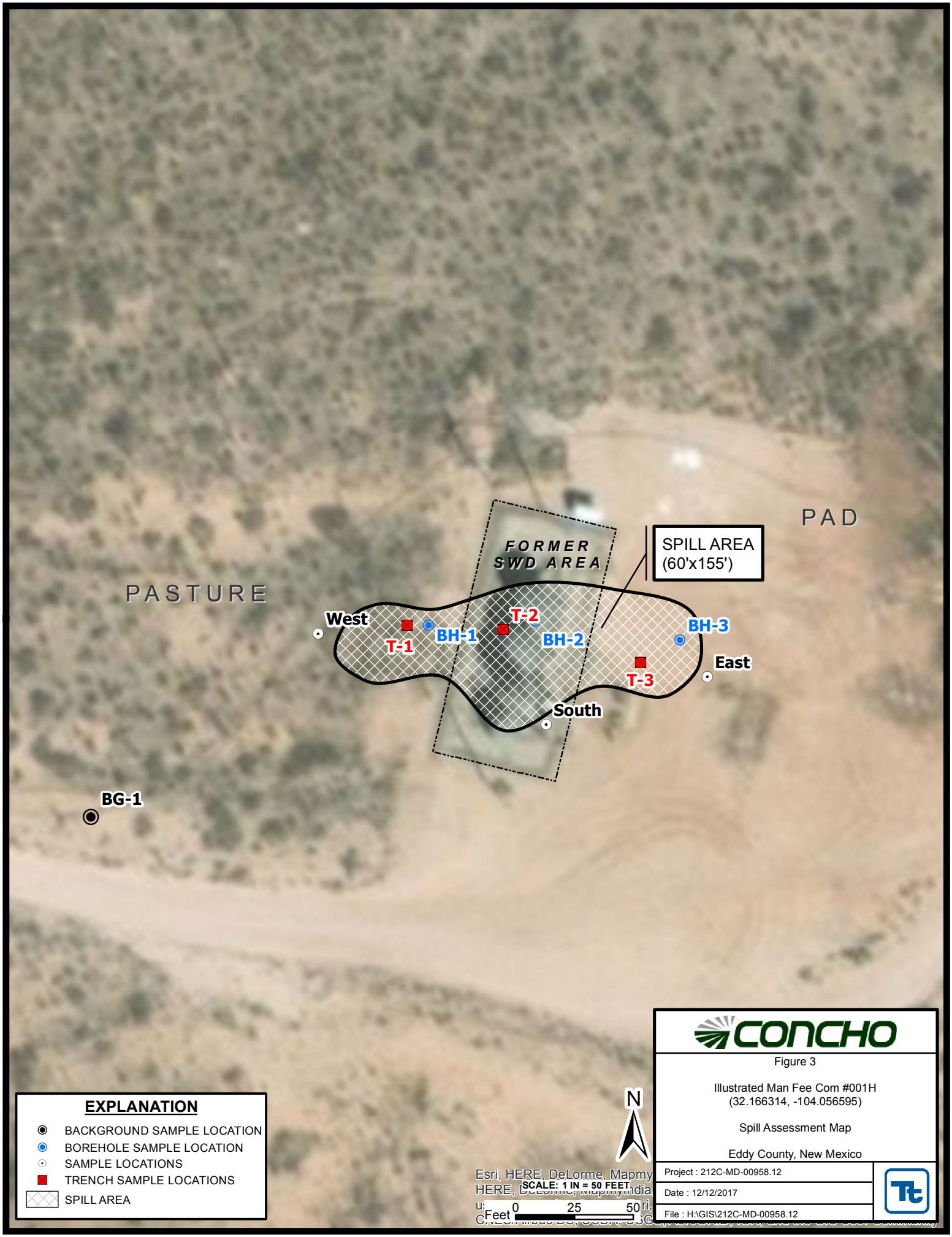
Eddy County, New Mexico

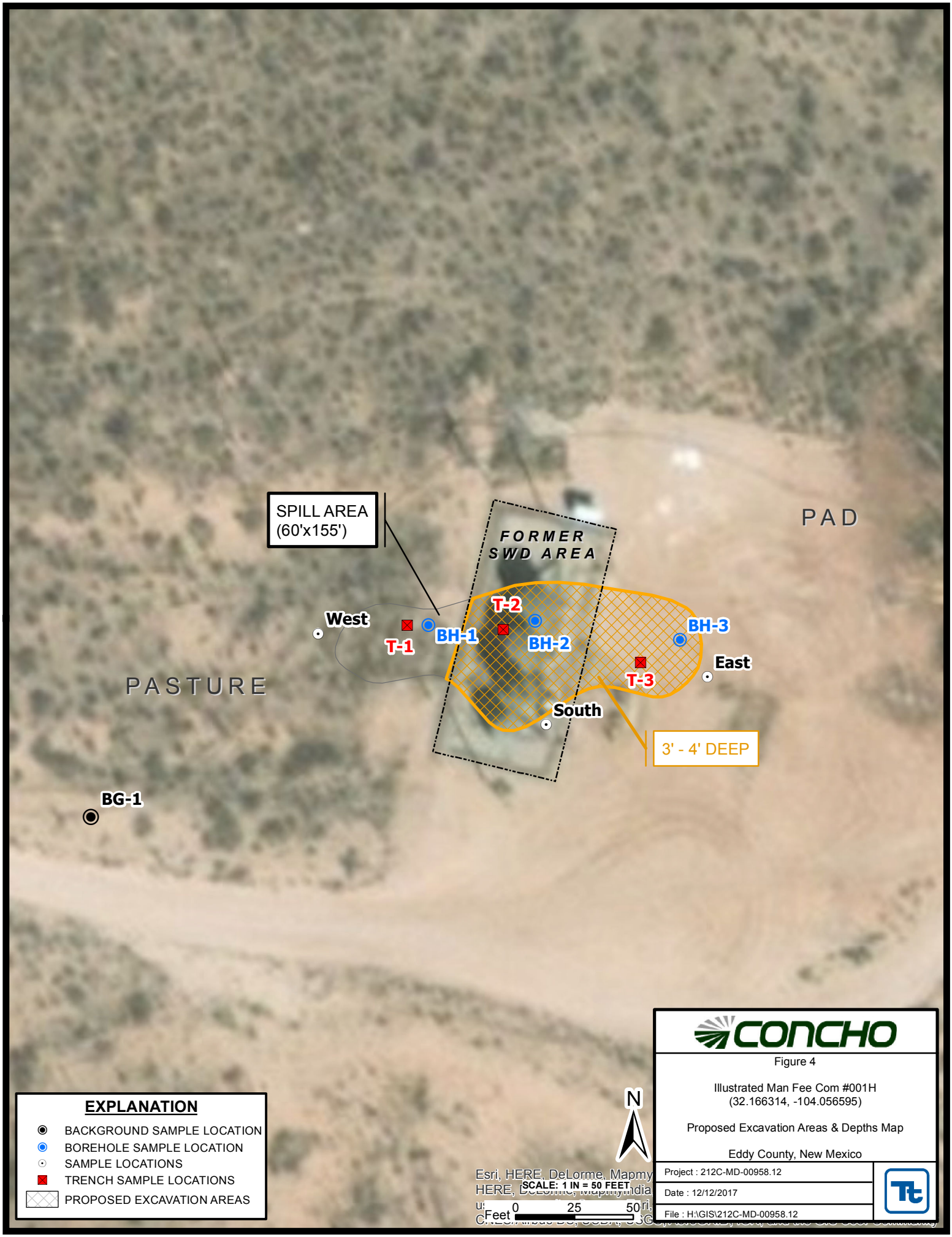
Project : 212C-MD-00958.12

Date : 12/12/2017

File : H:\GIS\212C-MD-00958.12

Mapped By: Isabel Marmolejo


PAD
FORMER SWD AREA
SPILL AREA (60'x155')
PASTURE
West
T-1
BH-1
T-2
BH-2
BH-3
East
T-3
South
BG-1
N
SCALE: 1 IN = 50 FEET
0
25
50
Feet
Esri, HERE, DeLorme, Mapmy
HERE, DeLorme, MapmyIndia
EXPLANATION
BACKGROUND SAMPLE LOCATION
BOREHOLE SAMPLE LOCATION
SAMPLE LOCATIONS
TRENCH SAMPLE LOCATIONS
SPILL AREA
CONCHO
Figure 3
Illustrated Man Fee Com #001H
(32.166314, -104.056595)
Spill Assessment Map
Eddy County, New Mexico
Project : 212C-MD-00958.12
Date : 12/12/2017
File : H:\GIS\212C-MD-00958.12
Mapped By: Isabel Marmolejo


SPILL AREA
(60'x155')
FORMER
SWD AREA
PAD
PASTURE
West
East
South
T-1
T-2
T-3
BH-1
BH-2
BH-3
BG-1
3' - 4' DEEP
EXPLANATION
BACKGROUND SAMPLE LOCATION
BOREHOLE SAMPLE LOCATION
SAMPLE LOCATIONS
TRENCH SAMPLE LOCATIONS
PROPOSED EXCAVATION AREAS
N
SCALE: 1 IN = 50 FEET
Feet 0 25 50
Esri, HERE, DeLorme, Mapmy
HERE, DeLorme, MapmyIndia
CONCHO
Figure 4
Illustrated Man Fee Com #001H
(32.166314, -104.056595)
Proposed Excavation Areas & Depths Map
Eddy County, New Mexico
Project : 212C-MD-00958.12
Date : 12/12/2017
File : H:\GIS\212C-MD-00958.12
Mapped By: Isabel Marmolejo

Tables

Table 1
COG Operating LLC.
Illustrated Man Fee Com #1H
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	ORO	Total						
T-1	8/22/2017	Surface	X		<15.0	<15.0	<15.0	<15.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	**9,270**
	"	1	X		<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	0.00253	0.00253	**9,540**
	"	2	X		<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	355
	"	3	X		<14.9	<14.9	<14.9	<14.9	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	177
	"	4	X		-	-	-	-	-	-	-	-	-	1,200
	"	6	X		-	-	-	-	-	-	-	-	-	**5,850**
	"	8	X		-	-	-	-	-	-	-	-	-	**1,450**
	"	10	X		-	-	-	-	-	-	-	-	-	168
	"	12	X		-	-	-	-	-	-	-	-	-	430
	"	14	X		-	-	-	-	-	-	-	-	-	539
	"	16	X		-	-	-	-	-	-	-	-	-	572
	"	18	X		-	-	-	-	-	-	-	-	-	573
	"	20	X		-	-	-	-	-	-	-	-	-	776
	"	22	X		-	-	-	-	-	-	-	-	-	529
	"	24	X		<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	614
BH-1	11/21/2017	0-1	X		-	-	-	-	-	-	-	-	-	20.2
	"	2-3	X		-	-	-	-	-	-	-	-	-	52.6
	"	4-5	X		-	-	-	-	-	-	-	-	-	810
	"	6-7	X		-	-	-	-	-	-	-	-	-	920
	"	9-10	X		-	-	-	-	-	-	-	-	-	1,060
	"	14-15	X		-	-	-	-	-	-	-	-	-	714
	"	19-20	X		-	-	-	-	-	-	-	-	-	772
	"	24-25	X		-	-	-	-	-	-	-	-	-	864
	"	29-30	X		-	-	-	-	-	-	-	-	-	1,110
	"	34-35	X		-	-	-	-	-	-	-	-	-	1,040
	"	39-40	X		-	-	-	-	-	-	-	-	-	1,280

Table 1
COG Operating LLC.
Illustrated Man Fee Com #1H
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	ORO	Total						
T-2	8/22/2017	Surface	X		<14.9	191	23.7	215	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**3,170**
	"	1	X		<15.0	<15.0	<15.0	<15.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	**5,940**
	"	2	X		<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	**3,590**
	"	3	X		<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	**1,390**
	"	4	X		-	-	-	-	-	-	-	-	-	**1,720**
	"	6	X		-	-	-	-	-	-	-	-	-	342
	"	8	X		-	-	-	-	-	-	-	-	-	203
	"	10	X		-	-	-	-	-	-	-	-	-	1,050
	"	12	X		-	-	-	-	-	-	-	-	-	1,160
	"	14	X		-	-	-	-	-	-	-	-	-	840
	"	16	X		-	-	-	-	-	-	-	-	-	905
	"	18	X		-	-	-	-	-	-	-	-	-	1,010
	"	20	X		-	-	-	-	-	-	-	-	-	**1,500**
	"	22	X		-	-	-	-	-	-	-	-	-	823
	"	24	X		<15.0	<15.0	<15.0	<15.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	972
BH-2	11/21/2017	0-1	X		-	-	-	-	-	-	-	-	-	**4,700**
	"	2-3	X		-	-	-	-	-	-	-	-	-	**2,780**
	"	4-5	X		-	-	-	-	-	-	-	-	-	453
	"	9-10	X		-	-	-	-	-	-	-	-	-	531
	"	14-15	X		-	-	-	-	-	-	-	-	-	590
	"	19-20	X		-	-	-	-	-	-	-	-	-	797
	"	24-25	X		-	-	-	-	-	-	-	-	-	993
	"	29-30	X		-	-	-	-	-	-	-	-	-	1,010
	"	34-35	X		-	-	-	-	-	-	-	-	-	1,060
	"	39-40	X		-	-	-	-	-	-	-	-	-	1,010

Table 1
COG Operating LLC.
Illustrated Man Fee Com #1H
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	ORO	Total						
T-3	8/22/2017	Surface	X		<14.9	75.0	<14.9	75.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	**2,740**
	"	1	X		<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	**2,050**
	"	2	X		<15.0	<15.0	<15.0	<15.0	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	625
	"	3	X		<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	139
	"	4	X		-	-	-	-	-	-	-	-	-	531
	"	6	X		-	-	-	-	-	-	-	-	-	246
	"	8	X		-	-	-	-	-	-	-	-	-	450
	"	10	X		-	-	-	-	-	-	-	-	-	713
	"	12	X		-	-	-	-	-	-	-	-	-	722
	"	14	X		-	-	-	-	-	-	-	-	-	472
	"	16	X		-	-	-	-	-	-	-	-	-	960
	"	18	X		-	-	-	-	-	-	-	-	-	1,100
	"	20	X		-	-	-	-	-	-	-	-	-	1,000
	"	22	X		-	-	-	-	-	-	-	-	-	753
	"	24	X		<15.0	<15.0	<15.0	<15.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	746
BH-3	11/21/2017	0-1	X		-	-	-	-	-	-	-	-	-	**3,300**
	"	2-3	X		-	-	-	-	-	-	-	-	-	**3,120**
	"	4-5	X		-	-	-	-	-	-	-	-	-	106
	"	6-7	X		-	-	-	-	-	-	-	-	-	446
	"	9-10	X		-	-	-	-	-	-	-	-	-	475
	"	14-15	X		-	-	-	-	-	-	-	-	-	919
	"	19-20	X		-	-	-	-	-	-	-	-	-	999
	"	24-25	X		-	-	-	-	-	-	-	-	-	1,160
	"	29-30	X		-	-	-	-	-	-	-	-	-	1,220
	"	34-35	X		-	-	-	-	-	-	-	-	-	1,210
	"	39-40	X		-	-	-	-	-	-	-	-	-	1,070
BG-1	11/21/2017	0-1	X		-	-	-	-	-	-	-	-	-	16.2
	"	5	X		-	-	-	-	-	-	-	-	-	105
	"	10	X		-	-	-	-	-	-	-	-	-	8.56
	"	15	X		-	-	-	-	-	-	-	-	-	98.4
	"	20	X		-	-	-	-	-	-	-	-	-	328
	"	25	X		-	-	-	-	-	-	-	-	-	623
	"	30	X		-	-	-	-	-	-	-	-	-	759
	"	35	X		-	-	-	-	-	-	-	-	-	967
	"	40	X		-	-	-	-	-	-	-	-	-	1,120

Table 1
COG Operating LLC.
Illustrated Man Fee Com #1H
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	ORO	Total						
North	8/22/2017	Surface	X		<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	77.8
	"	1	X		<15.0	<15.0	<15.0	<15.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<4.99
South	8/22/2017	Surface	X		<15.0	22.3	<15.0	22.3	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	1,420
	"	1	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	634
East	8/22/2017	Surface	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	**4,720**
	"	1	X		<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	1,750
West	8/22/2017	Surface	X		<15.0	<15.0	<15.0	<15.0	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<4.95
	"	1	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<4.97

(-) Not Analyzed

Proposed Excavation Depths

Appendix A

NM OIL CONSERVATION
ARTESIA DISTRICT
JUL 28 2017
RECEIVED

NM OIL CONSERVATION
ARTESIA DISTRICT
JUL 28 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

nAB1721930866

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: COG Operating LLC OGRID # 229137		Contact:	Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701		Telephone No.	432-683-7443
Facility Name: Illustrated Man Fee Com #001H		Facility Type:	Flowline
Surface Owner: Federal	Mineral Owner: Private		API No. 30-015-41025

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	12	25S	28E	170	North	900	West	Eddy

Latitude 32.166314 **Longitude** -104.056595

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 25 bbls.	Volume Recovered: 20 bbls.
Source of Release: Flowline	Date and Hour of Occurrence: July 26, 2017 9:40 am	Date and Hour of Discovery: July 26, 2017 9:40 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Ms. Weaver – NMOCD / Ms. Tucker – BLM	
By Whom? Dakota Neel	Date and Hour: July 26, 2017 2:35 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The release was caused by a valve failure on a flowline. The flowline was repaired.

Describe Area Affected and Cleanup Action Taken.*

The release occurred on the location of a nearby abandoned SWD. A vacuum truck was dispatched to remove all freestanding fluids. Concho will have the spill area sampled to delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Rebecca Haskell		OIL CONSERVATION DIVISION	
Printed Name:	Rebecca Haskell	Approved by Environmental Specialist:	
Title:	Senior HSE Coordinator	Approval Date: 8/7/17	Expiration Date: N/A
E-mail Address:	rhaskell@concho.com	Conditions of Approval: See attached	Attached ☒
Date: July 28, 2017	Phone: 432-683-7443		

* Attach Additional Sheets If Necessary

2RP-4320

7/31/17 AB

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - Illustrated Man Fee Com #1H
Eddy County, New Mexico

24 South 27 East

6	5	4	3	2	1
7	8 17 26	9 43	10	11	12 27
18 30 34	17	16	15	14	13 30 31
19	20	21	22 70	23	24
30	29	28	27	26	25
31	32	33	34	35	36

24 South 28 East

6 70	5 30	4 30	3	2 55	1 60
7	8 50	9	10 17	11 20	12 73
18	17 42	16 29	15 18	14 52	13 34
19	20 48	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

24 South 29 East

6	5	4	3	2	1
7 160	8	9	10	11	12
18	17 4	16 18	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

25 South 27 East

6	5	4	3	2	1
7	8	9	10	11	12 92
18	17	16	15	14	13
19	20	21	22	23	
30	29	28	27	26	25
31	32	33 19	34	35	36

25 South 28 East

6	5 59	4 35	3 32	2	1
7	8	9	10	11	12
18 67	17	16	15 48 49	14	13
19	20 96	21	22	23	24
30	29 15	28 90	27	26 40	25
31	32	33	34	35	36 40

25 South 29 East

6 40	5	4	3	2 98	1
7	8	9	10 40	11	12
18	17	16 165	15 60 140	14	13
19	20	21	22	23	24
30 30	29	28	27	26	25
31	32 115	33	34	35	36

26 South 27 East

6	5 12	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13 35
19	20	21	22 50	23	24
30	29	28	27	26	25
31	32	33	34	35	36

26 South 28 East

6	5	4	3	2 120 21	1
7	8	9	10	11	12 100
18	17	16	15	14 120	13 56
19	20	21	22 120	23	24
30	29	28	27	26	25
31	32	33	34	35	36

26 South 29 East

6	5 78	4	3	2	1
7	8	9	10	11	12
18	17	16 125	15	14	13
19	20	21	22 57 69	23	24
30	29	28	27	26	25
31	32	33	34	35	36

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)

Geology and Groundwater Resources of Eddy County, NM (Report 3)

34 NMOCD - Groundwater Data

123 Tetra Tech installed temporary wells and field water level

143 NMOCD Groundwater map well location

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

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

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

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 01278	C	ED		4	3	28	25S	28E	585470	3551338*	205	90	115
C 01411	C	ED	4	4	2	04	25S	28E	586289	3558522*	69	35	34
C 01453	C	ED		1	2	26	25S	28E	589096	3552612*	70	40	30
C 01522	C	ED			1	22	25S	28E	586843	3554004*	150		
C 01573 POD1	C	ED	3	1	4	20	25S	28E	584144	3553361	176	96	80
C 02668	C	ED	2	1	2	09	25S	28E	585890	3557525*	150		
C 03263 POD1	C	ED	1	1	1	07	25S	28E	581628	3557501*	133		
C 03836 POD1	C	ED	2	2	4	29	25S	28E	584682	3551934	300	30	270
C 03861 POD1	C	ED	4	2	3	18	25S	28E	582266	3554864	91	63	28

Average Depth to Water: **59 feet**

Minimum Depth: **30 feet**

Maximum Depth: **96 feet**

Record Count: 9

PLSS Search:

Township: 25S **Range:** 28E

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

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

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

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

(NAD83 UTM in meters)

(In feet)

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

Average Depth to Water: **42 feet**

Minimum Depth: **30 feet**

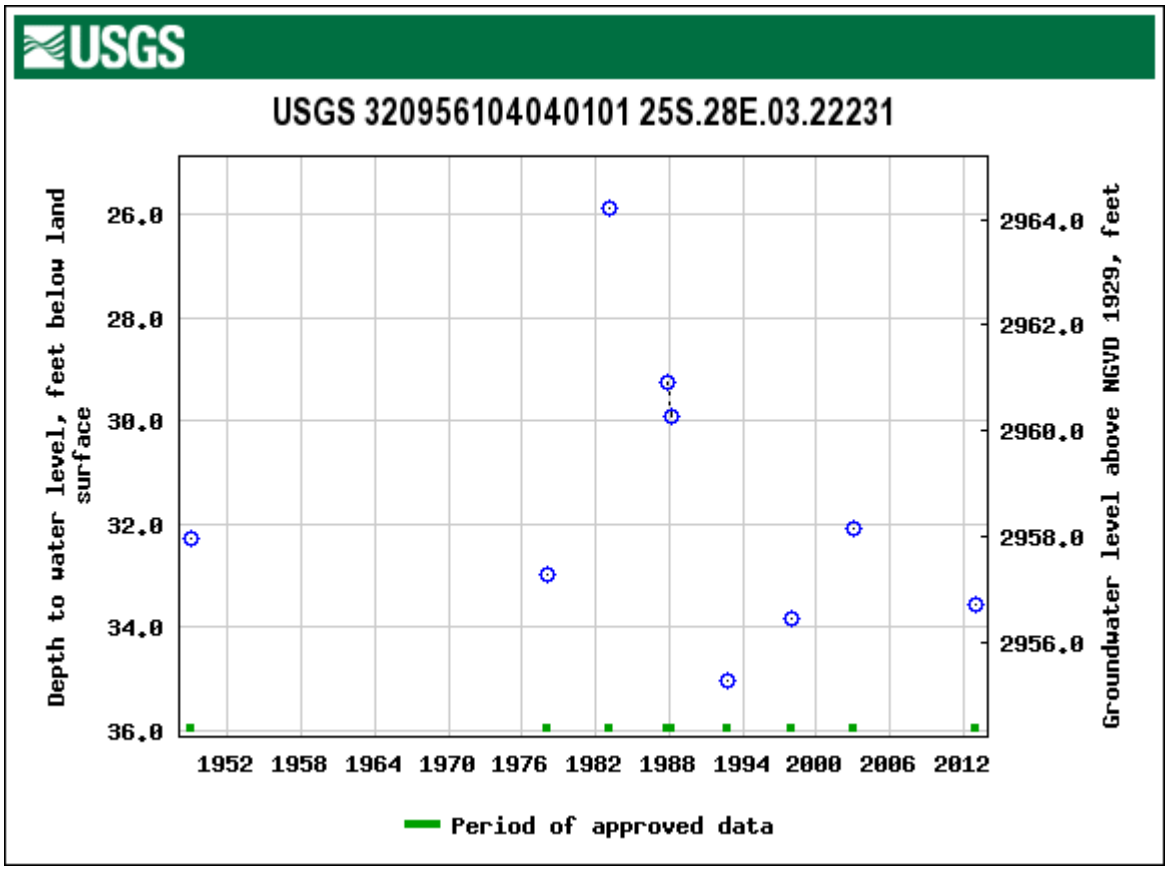
Maximum Depth: **60 feet**

Record Count: 7

PLSS Search:

Township: 25S **Range:** 29E

***UTM location was derived from PLSS - see Help**


USGS
USGS 320956104040101 25S.28E.03.22231
Depth to water level, feet below land surface
26.0
28.0
30.0
32.0
34.0
36.0
Groundwater level above NGVD 1929, feet
2964.0
2962.0
2960.0
2958.0
2956.0
1952 1958 1964 1970 1976 1982 1988 1994 2000 2006 2012
Period of approved data

Appendix C

Certificate of Analysis Summary 561411

COG Operating LLC, Artesia, NM

Project Name: Illustrated man fee #001 H

Project Id:

Contact: Aaron Lieb

Project Location: Illustrated Man fee

Date Received in Lab: Sat Aug-26-17 02:00 pm

Report Date: 11-SEP-17

Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	561411-001		561411-002		561411-003		561411-004		561411-005		561411-006	
	Field Id:	T1		T1		T1		T1		T1		T1	
	Depth:			1- ft		2- ft		3- ft		4- ft		6- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-22-17 09:00		Aug-22-17 09:00		Aug-22-17 09:00		Aug-22-17 09:00		Aug-22-17 09:00		Aug-22-17 09:00	
BTEX by EPA 8021B	***Extracted:***	Aug-30-17 08:00		Aug-30-17 08:00		Aug-30-17 08:00		Aug-30-17 08:00					
	Analyzed:	Aug-30-17 18:34		Aug-30-17 18:53		Aug-30-17 19:10		Aug-30-17 12:02					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00202	0.00202	<0.00201	0.00201	<0.00201	0.00201	<0.00200	0.00200				
Toluene		<0.00202	0.00202	<0.00201	0.00201	<0.00201	0.00201	<0.00200	0.00200				
Ethylbenzene		<0.00202	0.00202	<0.00201	0.00201	<0.00201	0.00201	<0.00200	0.00200				
m,p-Xylenes		<0.00404	0.00404	<0.00402	0.00402	<0.00402	0.00402	<0.00401	0.00401				
o-Xylene		<0.00202	0.00202	0.00253	0.00201	<0.00201	0.00201	<0.00200	0.00200				
Total Xylenes		<0.00202	0.00202	0.00253	0.00201	<0.00201	0.00201	<0.00200	0.00200				
Total BTEX		<0.00202	0.00202	0.00253	0.00201	<0.00201	0.00201	<0.00200	0.00200				
Inorganic Anions by EPA 300/300.1	***Extracted:***	Sep-01-17 14:25		Sep-01-17 14:25		Sep-01-17 14:25		Sep-01-17 14:25		Sep-01-17 14:25		Sep-01-17 14:25	
	Analyzed:	Sep-02-17 00:19		Sep-02-17 00:29		Sep-02-17 00:39		Sep-02-17 00:50		Sep-02-17 01:00		Sep-02-17 01:10	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		9270	49.2	9540	49.4	355	5.02	177	24.8	1200	24.7	5850	49.8
TPH By SW8015 Mod	***Extracted:***	Aug-29-17 11:00		Aug-29-17 11:00		Aug-29-17 11:00		Aug-29-17 11:00					
	Analyzed:	Sep-05-17 09:28		Sep-05-17 09:28		Sep-05-17 09:28		Sep-05-17 09:28					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9				
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9				
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9				

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 561411

COG Operating LLC, Artesia, NM

Project Name: Illustrated man fee #001 H

Project Id:
Contact: Aaron Lieb
Project Location: Illustrated Man fee

Date Received in Lab: Sat Aug-26-17 02:00 pm
Report Date: 11-SEP-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	561411-007		561411-008		561411-009		561411-010		561411-011		561411-012	
	Field Id:	T1		T1		T1		T1		T1		T1	
	Depth:	8- ft		10- ft		12- ft		14- ft		16- ft		18- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-22-17 09:00		Aug-22-17 09:00		Aug-22-17 09:00		Aug-22-17 09:00		Aug-22-17 09:00		Aug-22-17 09:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Sep-01-17 14:25		Sep-01-17 16:10		Sep-01-17 16:10		Sep-01-17 16:10		Sep-01-17 16:10		Sep-01-17 16:10	
	Analyzed:	Sep-02-17 01:21		Sep-02-17 15:07		Sep-02-17 15:38		Sep-02-17 15:48		Sep-02-17 15:58		Sep-02-17 16:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1450	24.5	168	5.03	430	4.95	539	5.00	572	4.99	573	4.96

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 561411

COG Operating LLC, Artesia, NM

Project Name: Illustrated man fee #001 H

Project Id:
Contact: Aaron Lieb
Project Location: Illustrated Man fee

Date Received in Lab: Sat Aug-26-17 02:00 pm
Report Date: 11-SEP-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	561411-013		561411-014		561411-015		561411-016		561411-017		561411-018	
	Field Id:	T1		T1		T1		T2		T2		T2	
	Depth:	20- ft		22- ft		24- ft				1- ft		2- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-22-17 09:00		Aug-22-17 09:00		Aug-22-17 09:00		Aug-22-17 11:00		Aug-22-17 11:00		Aug-22-17 11:00	
BTEX by EPA 8021B	***Extracted:***					Aug-30-17 08:00		Aug-30-17 16:50		Aug-30-17 16:50		Aug-30-17 16:50	
	Analyzed:					Aug-30-17 19:29		Aug-31-17 12:13		Aug-31-17 12:33		Aug-31-17 12:52	
	Units/RL:					mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene						<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Toluene						<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Ethylbenzene						<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
m,p-Xylenes						<0.00398	0.00398	<0.00401	0.00401	<0.00403	0.00403	<0.00398	0.00398
o-Xylene						<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Total Xylenes						<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Total BTEX						<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Inorganic Anions by EPA 300/300.1	***Extracted:***	Sep-01-17 16:10		Sep-01-17 16:10		Sep-01-17 16:10		Sep-01-17 16:10		Sep-01-17 16:10		Sep-01-17 16:10	
	Analyzed:	Sep-02-17 16:40		Sep-02-17 16:50		Sep-02-17 17:00		Sep-02-17 17:11		Sep-02-17 17:21		Sep-05-17 11:51	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		776	4.92	529	5.00	614	4.90	3170	24.8	5940	24.9	3590	24.9
TPH By SW8015 Mod	***Extracted:***					Aug-29-17 11:00		Aug-29-17 11:00		Aug-29-17 11:00		Aug-29-17 11:00	
	Analyzed:					Sep-05-17 09:28		Sep-05-17 09:28		Sep-05-17 09:28		Sep-05-17 09:28	
	Units/RL:					mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)						<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)						<15.0	15.0	191	14.9	<15.0	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)						<15.0	15.0	23.7	14.9	<15.0	15.0	<15.0	15.0
Total TPH						<15.0	15.0	215	14.9	<15.0	15.0	<15.0	15.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 561411

COG Operating LLC, Artesia, NM

Project Name: Illustrated man fee #001 H

Project Id:
Contact: Aaron Lieb
Project Location: Illustrated Man fee

Date Received in Lab: Sat Aug-26-17 02:00 pm
Report Date: 11-SEP-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	561411-019		561411-020		561411-021		561411-022		561411-023		561411-024	
	Field Id:	T2		T2		T2		T2		T2		T2	
	Depth:	3- ft		4- ft		8- ft		8- ft		10- ft		12- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-22-17 11:00		Aug-22-17 11:00		Aug-23-17 11:00		Aug-23-17 11:00		Aug-23-17 11:00		Aug-23-17 11:00	
BTEX by EPA 8021B	***Extracted:***	Aug-30-17 16:50											
	Analyzed:	Aug-31-17 13:11											
	Units/RL:	mg/kg	RL										
Benzene		<0.00199	0.00199										
Toluene		<0.00199	0.00199										
Ethylbenzene		<0.00199	0.00199										
m,p-Xylenes		<0.00398	0.00398										
o-Xylene		<0.00199	0.00199										
Total Xylenes		<0.00199	0.00199										
Total BTEX		<0.00199	0.00199										
Inorganic Anions by EPA 300/300.1	***Extracted:***	Sep-01-17 16:10		Sep-01-17 16:10		Sep-01-17 16:10		Sep-01-17 16:10		Sep-01-17 16:10		Sep-01-17 16:10	
	Analyzed:	Sep-02-17 18:02		Sep-02-17 18:13		Sep-02-17 18:44		Sep-02-17 18:54		Sep-02-17 19:05		Sep-02-17 19:15	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1390	50.1	1720	49.3	342	24.9	203	4.95	1050	4.87	1160	5.03
TPH By SW8015 Mod	***Extracted:***	Aug-29-17 11:00											
	Analyzed:	Sep-05-17 09:28											
	Units/RL:	mg/kg	RL										
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0										
Diesel Range Organics (DRO)		<15.0	15.0										
Oil Range Hydrocarbons (ORO)		<15.0	15.0										
Total TPH		<15.0	15.0										

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 561411

COG Operating LLC, Artesia, NM

Project Name: Illustrated man fee #001 H

Project Id:

Contact: Aaron Lieb

Project Location: Illustrated Man fee

Date Received in Lab: Sat Aug-26-17 02:00 pm

Report Date: 11-SEP-17

Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	561411-025		561411-026		561411-027		561411-028		561411-029		561411-030	
	Field Id:	T2		T2		T2		T2		T2		T2	
	Depth:	14- ft		16- ft		18- ft		20- ft		22- ft		24- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-23-17 11:00		Aug-23-17 11:00		Aug-23-17 11:00		Aug-23-17 11:00		Aug-23-17 11:00		Aug-23-17 11:00	
BTEX by EPA 8021B	***Extracted:***											Aug-30-17 16:50	
	Analyzed:											Aug-31-17 13:30	
	Units/RL:											mg/kg	RL
Benzene												<0.00198	0.00198
Toluene												<0.00198	0.00198
Ethylbenzene												<0.00198	0.00198
m,p-Xylenes												<0.00396	0.00396
o-Xylene												<0.00198	0.00198
Total Xylenes												<0.00198	0.00198
Total BTEX												<0.00198	0.00198
Inorganic Anions by EPA 300/300.1	***Extracted:***	Sep-01-17 16:10		Sep-01-17 16:10		Sep-01-17 16:10		Sep-02-17 11:30		Sep-02-17 11:30		Sep-02-17 11:30	
	Analyzed:	Sep-02-17 19:25		Sep-02-17 19:36		Sep-02-17 19:46		Sep-05-17 12:40		Sep-02-17 21:19		Sep-02-17 21:29	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		840	5.00	905	4.98	1010	5.03	1500	4.90	823	4.95	972	5.00
TPH By SW8015 Mod	***Extracted:***											Aug-29-17 11:00	
	Analyzed:											Sep-05-17 09:28	
	Units/RL:											mg/kg	RL
Gasoline Range Hydrocarbons (GRO)												<15.0	15.0
Diesel Range Organics (DRO)												<15.0	15.0
Oil Range Hydrocarbons (ORO)												<15.0	15.0
Total TPH												<15.0	15.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 561411

COG Operating LLC, Artesia, NM

Project Name: Illustrated man fee #001 H

Project Id:
Contact: Aaron Lieb
Project Location: Illustrated Man fee

Date Received in Lab: Sat Aug-26-17 02:00 pm
Report Date: 11-SEP-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	561411-031		561411-032		561411-033		561411-034		561411-035		561411-036	
	Field Id:	T3		T3		T3		T3		T3		T3	
	Depth:			1- ft		2- ft		3- ft		4- ft		5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-22-17 12:30		Aug-22-17 12:30		Aug-22-17 12:30		Aug-22-17 12:30		Aug-22-17 12:30		Aug-22-17 12:30	
BTEX by EPA 8021B	***Extracted:***	Aug-30-17 16:50		Aug-31-17 16:40		Aug-31-17 16:40		Aug-31-17 16:40					
	Analyzed:	Aug-31-17 13:49		Sep-01-17 04:55		Sep-01-17 04:36		Sep-01-17 04:17					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198	<0.00201	0.00201				
Toluene		<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198	<0.00201	0.00201				
Ethylbenzene		<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198	<0.00201	0.00201				
m,p-Xylenes		<0.00402	0.00402	<0.00398	0.00398	<0.00396	0.00396	<0.00402	0.00402				
o-Xylene		<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198	<0.00201	0.00201				
Total Xylenes		<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198	<0.00201	0.00201				
Total BTEX		<0.00201	0.00201	<0.00199	0.00199	<0.00198	0.00198	<0.00201	0.00201				
Inorganic Anions by EPA 300/300.1	***Extracted:***	Sep-02-17 11:30		Sep-02-17 11:30		Sep-02-17 11:30		Sep-02-17 11:30		Sep-02-17 11:30		Sep-02-17 11:30	
	Analyzed:	Sep-02-17 21:40		Sep-02-17 21:50		Sep-02-17 22:21		Sep-02-17 22:31		Sep-02-17 22:42		Sep-02-17 22:52	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2740	25.3	2050	25.0	625	25.2	139	25.0	531	49.6	246	25.0
TPH By SW8015 Mod	***Extracted:***	Aug-29-17 11:00		Aug-29-17 11:00		Aug-29-17 11:00		Aug-29-17 11:00					
	Analyzed:	Sep-05-17 09:28		Sep-05-17 09:28		Sep-05-17 09:28		Sep-05-17 09:28					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		75.0	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Oil Range Hydrocarbons (ORO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Total TPH		75.0	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0				

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 561411

COG Operating LLC, Artesia, NM

Project Name: Illustrated man fee #001 H

Project Id:
Contact: Aaron Lieb
Project Location: Illustrated Man fee

Date Received in Lab: Sat Aug-26-17 02:00 pm
Report Date: 11-SEP-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	561411-037		561411-038		561411-039		561411-040		561411-041		561411-042	
	Field Id:	T3		T3		T3		T3		T3		T3	
	Depth:	6- ft		8- ft		10- ft		12- ft		18- ft		18- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-22-17 12:30		Aug-22-17 12:30		Aug-22-17 12:30		Aug-22-17 12:30		Aug-22-17 12:30		Aug-22-17 12:30	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Sep-02-17 11:30		Sep-02-17 11:30		Sep-02-17 11:30		Sep-02-17 11:30		Sep-02-17 11:30		Sep-02-17 11:30	
	Analyzed:	Sep-02-17 23:02		Sep-02-17 23:13		Sep-02-17 23:44		Sep-02-17 23:54		Sep-03-17 00:25		Sep-03-17 00:36	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		450	25.2	713	4.92	722	4.97	472	4.95	960	5.01	1100	4.92

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 561411

COG Operating LLC, Artesia, NM

Project Name: Illustrated man fee #001 H

Project Id:
Contact: Aaron Lieb
Project Location: Illustrated Man fee

Date Received in Lab: Sat Aug-26-17 02:00 pm
Report Date: 11-SEP-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	561411-043		561411-044		561411-045							
	Field Id:	T3		T3		T3							
	Depth:	20- ft		22- ft		24- ft							
	Matrix:	SOIL		SOIL		SOIL							
	Sampled:	Aug-22-17 12:30		Aug-22-17 12:30		Aug-22-17 12:30							
BTEX by EPA 8021B	***Extracted:***					Aug-31-17 16:40							
	Analyzed:					Sep-01-17 07:50							
	Units/RL:					mg/kg	RL						
Benzene						<0.00202	0.00202						
Toluene						<0.00202	0.00202						
Ethylbenzene						<0.00202	0.00202						
m,p-Xylenes						<0.00404	0.00404						
o-Xylene						<0.00202	0.00202						
Total Xylenes						<0.00202	0.00202						
Total BTEX						<0.00202	0.00202						
Inorganic Anions by EPA 300/300.1	***Extracted:***	Sep-02-17 11:30		Sep-02-17 11:30		Sep-02-17 11:30							
	Analyzed:	Sep-03-17 00:46		Sep-03-17 00:56		Sep-03-17 01:07							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Chloride		1000	5.01	753	25.0	746	5.03						
TPH By SW8015 Mod	***Extracted:***					Aug-29-17 11:00							
	Analyzed:					Sep-05-17 09:28							
	Units/RL:					mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)						<15.0	15.0						
Diesel Range Organics (DRO)						<15.0	15.0						
Oil Range Hydrocarbons (ORO)						<15.0	15.0						
Total TPH						<15.0	15.0						

Kelsey Brooks
Project Manager

Analytical Report 561411

for

COG Operating LLC

Project Manager: Aaron Lieb

Illustrated man fee #001 H

11-SEP-17

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

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

11-SEP-17

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

Reference: XENCO Report No(s): **561411**
Illustrated man fee #001 H
Project Address: Illustrated Man fee

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) 561411. 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. 561411 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 561411

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T1	S	08-22-17 09:00		561411-001
T1	S	08-22-17 09:00	1 ft	561411-002
T1	S	08-22-17 09:00	2 ft	561411-003
T1	S	08-22-17 09:00	3 ft	561411-004
T1	S	08-22-17 09:00	4 ft	561411-005
T1	S	08-22-17 09:00	6 ft	561411-006
T1	S	08-22-17 09:00	8 ft	561411-007
T1	S	08-22-17 09:00	10 ft	561411-008
T1	S	08-22-17 09:00	12 ft	561411-009
T1	S	08-22-17 09:00	14 ft	561411-010
T1	S	08-22-17 09:00	16 ft	561411-011
T1	S	08-22-17 09:00	18 ft	561411-012
T1	S	08-22-17 09:00	20 ft	561411-013
T1	S	08-22-17 09:00	22 ft	561411-014
T1	S	08-22-17 09:00	24 ft	561411-015
T2	S	08-22-17 11:00		561411-016
T2	S	08-22-17 11:00	1 ft	561411-017
T2	S	08-22-17 11:00	2 ft	561411-018
T2	S	08-22-17 11:00	3 ft	561411-019
T2	S	08-22-17 11:00	4 ft	561411-020
T2	S	08-23-17 11:00	8 ft	561411-021
T2	S	08-23-17 11:00	8 ft	561411-022
T2	S	08-23-17 11:00	10 ft	561411-023
T2	S	08-23-17 11:00	12 ft	561411-024
T2	S	08-23-17 11:00	14 ft	561411-025
T2	S	08-23-17 11:00	16 ft	561411-026
T2	S	08-23-17 11:00	18 ft	561411-027
T2	S	08-23-17 11:00	20 ft	561411-028
T2	S	08-23-17 11:00	22 ft	561411-029
T2	S	08-23-17 11:00	24 ft	561411-030
T3	S	08-22-17 12:30		561411-031
T3	S	08-22-17 12:30	1 ft	561411-032
T3	S	08-22-17 12:30	2 ft	561411-033
T3	S	08-22-17 12:30	3 ft	561411-034
T3	S	08-22-17 12:30	4 ft	561411-035
T3	S	08-22-17 12:30	5 ft	561411-036
T3	S	08-22-17 12:30	6 ft	561411-037
T3	S	08-22-17 12:30	8 ft	561411-038
T3	S	08-22-17 12:30	10 ft	561411-039
T3	S	08-22-17 12:30	12 ft	561411-040
T3	S	08-22-17 12:30	18 ft	561411-041
T3	S	08-22-17 12:30	18 ft	561411-042
T3	S	08-22-17 12:30	20 ft	561411-043

T3	S	08-22-17 12:30	22 ft	561411-044
T3	S	08-22-17 12:30	24 ft	561411-045

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3026250 BTEX by EPA 8021B
Lab Sample ID 561411-004 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 561411-001, -002, -003, -004, -015.
The Laboratory Control Sample for m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3026349 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3026428 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3026729 Inorganic Anions by EPA 300/300.1
Lab Sample ID 561411-018 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 561411-008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020, -021, -022, -023, -024, -025, -026, -027.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3026731 Inorganic Anions by EPA 300/300.1
Lab Sample ID 561411-038 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 561411-028, -029, -030, -031, -032, -033, -034, -035, -036, -037, -038, -039, -040, -041, -042, -043, -044, -045.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Client Name: COG Operating LLC

Project Name: Illustrated man fee #001 H

Project ID:
Work Order Number(s): *561411*

Report Date: *11-SEP-17*
Date Received: *08/26/2017*

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T1**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-001	Date Collected:	08.22.17 09.00		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 14.25	Basis:	Wet Weight
Seq Number:	3026651				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9270**	49.2	mg/kg	09.02.17 00.19		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 11.00	Basis:	Wet Weight
Seq Number:	3026603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.05.17 09.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	09.05.17 09.28	
o-Terphenyl	84-15-1	107	%	70-135	09.05.17 09.28	

Certificate of Analytical Results 561411

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T1**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-001	Date Collected:	08.22.17 09.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.30.17 08.00	Basis:	Wet Weight
Seq Number:	3026250				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	08.30.17 18.34	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	08.30.17 18.34	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	08.30.17 18.34	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	08.30.17 18.34	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	08.30.17 18.34	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	08.30.17 18.34	U	1
Total BTEX		<0.00202	0.00202	mg/kg	08.30.17 18.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	90	%	80-120	08.30.17 18.34	
1,4-Difluorobenzene	540-36-3	94	%	80-120	08.30.17 18.34	

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T1**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-002	Date Collected:	08.22.17 09.00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 14.25	Basis:	Wet Weight
Seq Number:	3026651				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9540**	49.4	mg/kg	09.02.17 00.29		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 11.00	Basis:	Wet Weight
Seq Number:	3026603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.05.17 09.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	09.05.17 09.28	
o-Terphenyl	84-15-1	106	%	70-135	09.05.17 09.28	

Certificate of Analytical Results 561411

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T1**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-002	Date Collected:	08.22.17 09.00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.30.17 08.00	Basis:	Wet Weight
Seq Number:	3026250				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	08.30.17 18.53	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	08.30.17 18.53	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	08.30.17 18.53	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	08.30.17 18.53	U	1
o-Xylene	95-47-6	**0.00253**	0.00201	mg/kg	08.30.17 18.53		1
Total Xylenes	1330-20-7	**0.00253**	0.00201	mg/kg	08.30.17 18.53		1
Total BTEX		**0.00253**	0.00201	mg/kg	08.30.17 18.53		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	82	%	80-120	08.30.17 18.53	
1,4-Difluorobenzene	540-36-3	110	%	80-120	08.30.17 18.53	

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T1**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-003	Date Collected:	08.22.17 09.00	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 14.25	Basis:	Wet Weight
Seq Number:	3026651				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**355**	5.02	mg/kg	09.02.17 00.39		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 11.00	Basis:	Wet Weight
Seq Number:	3026603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.05.17 09.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	09.05.17 09.28	
o-Terphenyl	84-15-1	104	%	70-135	09.05.17 09.28	

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T1**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-003	Date Collected:	08.22.17 09.00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.30.17 08.00	Basis:	Wet Weight
Seq Number:	3026250				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	08.30.17 19.10	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	08.30.17 19.10	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	08.30.17 19.10	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	08.30.17 19.10	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	08.30.17 19.10	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	08.30.17 19.10	U	1
Total BTEX		<0.00201	0.00201	mg/kg	08.30.17 19.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	80-120	08.30.17 19.10	
1,4-Difluorobenzene	540-36-3	93	%	80-120	08.30.17 19.10	

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T1**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-004	Date Collected:	08.22.17 09.00	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 14.25	Basis:	Wet Weight
Seq Number:	3026651				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**177**	24.8	mg/kg	09.02.17 00.50		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 11.00	Basis:	Wet Weight
Seq Number:	3026603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	09.05.17 09.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	09.05.17 09.28	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	09.05.17 09.28	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	09.05.17 09.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	09.05.17 09.28	
o-Terphenyl	84-15-1	105	%	70-135	09.05.17 09.28	

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T1**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-004	Date Collected:	08.22.17 09.00	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.30.17 08.00	Basis:	Wet Weight
Seq Number:	3026250				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.30.17 12.02	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.30.17 12.02	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.30.17 12.02	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	08.30.17 12.02	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.30.17 12.02	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.30.17 12.02	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.30.17 12.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	86	%	80-120	08.30.17 12.02	
1,4-Difluorobenzene	540-36-3	97	%	80-120	08.30.17 12.02	

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T1**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-005	Date Collected:	08.22.17 09.00	Sample Depth:	4 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 14.25	Basis:	Wet Weight
Seq Number:	3026651				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1200**	24.7	mg/kg	09.02.17 01.00		5

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T1**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-006	Date Collected:	08.22.17 09.00	Sample Depth:	6 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 14.25	Basis:	Wet Weight
Seq Number:	3026651				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5850**	49.8	mg/kg	09.02.17 01.10		10

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T1**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-007	Date Collected:	08.22.17 09.00	Sample Depth:	8 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 14.25	Basis:	Wet Weight
Seq Number:	3026651				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1450**	24.5	mg/kg	09.02.17 01.21		5

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T1**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-008	Date Collected:	08.22.17 09.00	Sample Depth:	10 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 16.10	Basis:	Wet Weight
Seq Number:	3026729				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**168**	5.03	mg/kg	09.02.17 15.07		1

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T1**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-009	Date Collected:	08.22.17 09.00	Sample Depth:	12 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 16.10	Basis:	Wet Weight
Seq Number:	3026729				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**430**	4.95	mg/kg	09.02.17 15.38		1

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T1**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-010	Date Collected:	08.22.17 09.00	Sample Depth:	14 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 16.10	Basis:	Wet Weight
Seq Number:	3026729				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**539**	5.00	mg/kg	09.02.17 15.48		1

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T1**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-011	Date Collected:	08.22.17 09.00	Sample Depth:	16 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 16.10	Basis:	Wet Weight
Seq Number:	3026729				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**572**	4.99	mg/kg	09.02.17 15.58		1

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T1**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-012	Date Collected:	08.22.17 09.00	Sample Depth:	18 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 16.10	Basis:	Wet Weight
Seq Number:	3026729				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**573**	4.96	mg/kg	09.02.17 16.09		1

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T1**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-013	Date Collected:	08.22.17 09.00	Sample Depth:	20 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 16.10	Basis:	Wet Weight
Seq Number:	3026729				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**776**	4.92	mg/kg	09.02.17 16.40		1

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T1**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-014	Date Collected:	08.22.17 09.00	Sample Depth:	22 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 16.10	Basis:	Wet Weight
Seq Number:	3026729				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**529**	5.00	mg/kg	09.02.17 16.50		1

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T1**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-015	Date Collected:	08.22.17 09.00	Sample Depth:	24 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 16.10	Basis:	Wet Weight
Seq Number:	3026729				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**614**	4.90	mg/kg	09.02.17 17.00		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 11.00	Basis:	Wet Weight
Seq Number:	3026603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.05.17 09.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	09.05.17 09.28	
o-Terphenyl	84-15-1	104	%	70-135	09.05.17 09.28	

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T1**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-015	Date Collected:	08.22.17 09.00	Sample Depth:	24 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.30.17 08.00	Basis:	Wet Weight
Seq Number:	3026250				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.30.17 19.29	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.30.17 19.29	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.30.17 19.29	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.30.17 19.29	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.30.17 19.29	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.30.17 19.29	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.30.17 19.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	93	%	80-120	08.30.17 19.29	
4-Bromofluorobenzene	460-00-4	89	%	80-120	08.30.17 19.29	

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T2**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-016	Date Collected:	08.22.17 11.00		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 16.10	Basis:	Wet Weight
Seq Number:	3026729				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3170**	24.8	mg/kg	09.02.17 17.11		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 11.00	Basis:	Wet Weight
Seq Number:	3026603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	09.05.17 09.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	**191**	14.9	mg/kg	09.05.17 09.28		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**23.7**	14.9	mg/kg	09.05.17 09.28		1
Total TPH	PHC635	**215**	14.9	mg/kg	09.05.17 09.28		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	09.05.17 09.28	
o-Terphenyl	84-15-1	105	%	70-135	09.05.17 09.28	

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T2**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-016	Date Collected:	08.22.17 11.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.30.17 16.50	Basis:	Wet Weight
Seq Number:	3026349				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.31.17 12.13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.31.17 12.13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.31.17 12.13	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	08.31.17 12.13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.31.17 12.13	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.31.17 12.13	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.31.17 12.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	96	%	80-120	08.31.17 12.13	
4-Bromofluorobenzene	460-00-4	89	%	80-120	08.31.17 12.13	

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T2**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-017	Date Collected:	08.22.17 11.00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 16.10	Basis:	Wet Weight
Seq Number:	3026729				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5940**	24.9	mg/kg	09.02.17 17.21		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 11.00	Basis:	Wet Weight
Seq Number:	3026603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.05.17 09.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	09.05.17 09.28	
o-Terphenyl	84-15-1	106	%	70-135	09.05.17 09.28	

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Illustrated man fee #001 H

Sample Id:	**T2**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-017	Date Collected:	08.22.17 11.00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.30.17 16.50	Basis:	Wet Weight
Seq Number:	3026349				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	08.31.17 12.33	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	08.31.17 12.33	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	08.31.17 12.33	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	08.31.17 12.33	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	08.31.17 12.33	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	08.31.17 12.33	U	1
Total BTEX		<0.00202	0.00202	mg/kg	08.31.17 12.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	90	%	80-120	08.31.17 12.33	
1,4-Difluorobenzene	540-36-3	95	%	80-120	08.31.17 12.33	

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Illustrated man fee #001 H

Sample Id:	**T2**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-018	Date Collected:	08.22.17 11.00	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 16.10	Basis:	Wet Weight
Seq Number:	3026729				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3590**	24.9	mg/kg	09.05.17 11.51		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 11.00	Basis:	Wet Weight
Seq Number:	3026603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.05.17 09.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	09.05.17 09.28	
o-Terphenyl	84-15-1	102	%	70-135	09.05.17 09.28	

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T2**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-018	Date Collected:	08.22.17 11.00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.30.17 16.50	Basis:	Wet Weight
Seq Number:	3026349				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.31.17 12.52	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.31.17 12.52	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.31.17 12.52	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.31.17 12.52	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.31.17 12.52	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.31.17 12.52	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.31.17 12.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	85	%	80-120	08.31.17 12.52	
1,4-Difluorobenzene	540-36-3	94	%	80-120	08.31.17 12.52	

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T2**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-019	Date Collected:	08.22.17 11.00	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 16.10	Basis:	Wet Weight
Seq Number:	3026729				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1390**	50.1	mg/kg	09.02.17 18.02		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 11.00	Basis:	Wet Weight
Seq Number:	3026603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.05.17 09.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	09.05.17 09.28	
o-Terphenyl	84-15-1	106	%	70-135	09.05.17 09.28	

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T2**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-019	Date Collected:	08.22.17 11.00	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.30.17 16.50	Basis:	Wet Weight
Seq Number:	3026349				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.31.17 13.11	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.31.17 13.11	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.31.17 13.11	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.31.17 13.11	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.31.17 13.11	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.31.17 13.11	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.31.17 13.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	80-120	08.31.17 13.11	
1,4-Difluorobenzene	540-36-3	96	%	80-120	08.31.17 13.11	

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T2**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-020	Date Collected:	08.22.17 11.00	Sample Depth:	4 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 16.10	Basis:	Wet Weight
Seq Number:	3026729				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1720**	49.3	mg/kg	09.02.17 18.13		10

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T2**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-021	Date Collected:	08.23.17 11.00	Sample Depth:	8 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 16.10	Basis:	Wet Weight
Seq Number:	3026729				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**342**	24.9	mg/kg	09.02.17 18.44		5

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T2**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-022	Date Collected:	08.23.17 11.00	Sample Depth:	8 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 16.10	Basis:	Wet Weight
Seq Number:	3026729				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**203**	4.95	mg/kg	09.02.17 18.54		1

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T2**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-023	Date Collected:	08.23.17 11.00	Sample Depth:	10 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 16.10	Basis:	Wet Weight
Seq Number:	3026729				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1050**	4.87	mg/kg	09.02.17 19.05		1

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T2**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-024	Date Collected:	08.23.17 11.00	Sample Depth:	12 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 16.10	Basis:	Wet Weight
Seq Number:	3026729				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1160**	5.03	mg/kg	09.02.17 19.15		1

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T2**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-025	Date Collected:	08.23.17 11.00	Sample Depth:	14 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 16.10	Basis:	Wet Weight
Seq Number:	3026729				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**840**	5.00	mg/kg	09.02.17 19.25		1

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T2**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-026	Date Collected:	08.23.17 11.00	Sample Depth:	16 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 16.10	Basis:	Wet Weight
Seq Number:	3026729				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**905**	4.98	mg/kg	09.02.17 19.36		1

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T2**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-027	Date Collected:	08.23.17 11.00	Sample Depth:	18 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.01.17 16.10	Basis:	Wet Weight
Seq Number:	3026729				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1010**	5.03	mg/kg	09.02.17 19.46		1

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Illustrated man fee #001 H

Sample Id:	**T2**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-028	Date Collected:	08.23.17 11.00	Sample Depth:	20 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.02.17 11.30	Basis:	Wet Weight
Seq Number:	3026731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1500**	4.90	mg/kg	09.05.17 12.40		1

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T2**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-029	Date Collected:	08.23.17 11.00	Sample Depth:	22 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.02.17 11.30	Basis:	Wet Weight
Seq Number:	3026731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**823**	4.95	mg/kg	09.02.17 21.19		1

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T2**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-030	Date Collected:	08.23.17 11.00	Sample Depth:	24 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.02.17 11.30	Basis:	Wet Weight
Seq Number:	3026731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**972**	5.00	mg/kg	09.02.17 21.29		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 11.00	Basis:	Wet Weight
Seq Number:	3026603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.05.17 09.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	09.05.17 09.28	
o-Terphenyl	84-15-1	104	%	70-135	09.05.17 09.28	

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T2**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-030	Date Collected:	08.23.17 11.00	Sample Depth:	24 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.30.17 16.50	Basis:	Wet Weight
Seq Number:	3026349				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	08.31.17 13.30	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	08.31.17 13.30	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	08.31.17 13.30	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	08.31.17 13.30	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	08.31.17 13.30	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	08.31.17 13.30	U	1
Total BTEX		<0.00198	0.00198	mg/kg	08.31.17 13.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	87	%	80-120	08.31.17 13.30	
1,4-Difluorobenzene	540-36-3	95	%	80-120	08.31.17 13.30	

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T3**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-031	Date Collected:	08.22.17 12.30		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.02.17 11.30	Basis:	Wet Weight
Seq Number:	3026731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2740**	25.3	mg/kg	09.02.17 21.40		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 11.00	Basis:	Wet Weight
Seq Number:	3026603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	09.05.17 09.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	**75.0**	14.9	mg/kg	09.05.17 09.28		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	09.05.17 09.28	U	1
Total TPH	PHC635	**75.0**	14.9	mg/kg	09.05.17 09.28		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	09.05.17 09.28	
o-Terphenyl	84-15-1	102	%	70-135	09.05.17 09.28	

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T3**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-031	Date Collected:	08.22.17 12.30		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.30.17 16.50	Basis:	Wet Weight
Seq Number:	3026349				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	08.31.17 13.49	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	08.31.17 13.49	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	08.31.17 13.49	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	08.31.17 13.49	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	08.31.17 13.49	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	08.31.17 13.49	U	1
Total BTEX		<0.00201	0.00201	mg/kg	08.31.17 13.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	90	%	80-120	08.31.17 13.49	
1,4-Difluorobenzene	540-36-3	95	%	80-120	08.31.17 13.49	

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T3**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-032	Date Collected:	08.22.17 12.30	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.02.17 11.30	Basis:	Wet Weight
Seq Number:	3026731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2050**	25.0	mg/kg	09.02.17 21.50		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 11.00	Basis:	Wet Weight
Seq Number:	3026603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.05.17 09.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	09.05.17 09.28	
o-Terphenyl	84-15-1	106	%	70-135	09.05.17 09.28	

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Illustrated man fee #001 H

Sample Id:	**T3**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-032	Date Collected:	08.22.17 12.30	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.31.17 16.40	Basis:	Wet Weight
Seq Number:	3026428				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.01.17 04.55	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.01.17 04.55	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.01.17 04.55	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.01.17 04.55	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.01.17 04.55	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.01.17 04.55	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.01.17 04.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	93	%	80-120	09.01.17 04.55	
4-Bromofluorobenzene	460-00-4	105	%	80-120	09.01.17 04.55	

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T3**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-033	Date Collected:	08.22.17 12.30	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.02.17 11.30	Basis:	Wet Weight
Seq Number:	3026731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**625**	25.2	mg/kg	09.02.17 22.21		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 11.00	Basis:	Wet Weight
Seq Number:	3026603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.05.17 09.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	09.05.17 09.28	
o-Terphenyl	84-15-1	102	%	70-135	09.05.17 09.28	

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COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T3**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-033	Date Collected:	08.22.17 12.30	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.31.17 16.40	Basis:	Wet Weight
Seq Number:	3026428				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	09.01.17 04.36	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	09.01.17 04.36	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	09.01.17 04.36	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	09.01.17 04.36	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	09.01.17 04.36	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	09.01.17 04.36	U	1
Total BTEX		<0.00198	0.00198	mg/kg	09.01.17 04.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	85	%	80-120	09.01.17 04.36	
4-Bromofluorobenzene	460-00-4	97	%	80-120	09.01.17 04.36	

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T3**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-034	Date Collected:	08.22.17 12.30	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.02.17 11.30	Basis:	Wet Weight
Seq Number:	3026731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**139**	25.0	mg/kg	09.02.17 22.31		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 11.00	Basis:	Wet Weight
Seq Number:	3026603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.05.17 09.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	09.05.17 09.28	
o-Terphenyl	84-15-1	102	%	70-135	09.05.17 09.28	

Certificate of Analytical Results 561411

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T3**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-034	Date Collected:	08.22.17 12.30	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.31.17 16.40	Basis:	Wet Weight
Seq Number:	3026428				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.01.17 04.17	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.01.17 04.17	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.01.17 04.17	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.01.17 04.17	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.01.17 04.17	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.01.17 04.17	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.01.17 04.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	80-120	09.01.17 04.17	
1,4-Difluorobenzene	540-36-3	86	%	80-120	09.01.17 04.17	

Certificate of Analytical Results 561411

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T3**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-035	Date Collected:	08.22.17 12.30	Sample Depth:	4 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.02.17 11.30	Basis:	Wet Weight
Seq Number:	3026731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**531**	49.6	mg/kg	09.02.17 22.42		10

Certificate of Analytical Results 561411

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T3**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-036	Date Collected:	08.22.17 12.30	Sample Depth:	5 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.02.17 11.30	Basis:	Wet Weight
Seq Number:	3026731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**246**	25.0	mg/kg	09.02.17 22.52		5

Certificate of Analytical Results 561411

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T3**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-037	Date Collected:	08.22.17 12.30	Sample Depth:	6 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.02.17 11.30	Basis:	Wet Weight
Seq Number:	3026731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**450**	25.2	mg/kg	09.02.17 23.02		5

Certificate of Analytical Results 561411

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T3**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-038	Date Collected:	08.22.17 12.30	Sample Depth:	8 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.02.17 11.30	Basis:	Wet Weight
Seq Number:	3026731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**713**	4.92	mg/kg	09.02.17 23.13		1

Certificate of Analytical Results 561411

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T3**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-039	Date Collected:	08.22.17 12.30	Sample Depth:	10 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.02.17 11.30	Basis:	Wet Weight
Seq Number:	3026731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**722**	4.97	mg/kg	09.02.17 23.44		1

Certificate of Analytical Results 561411

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T3**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-040	Date Collected:	08.22.17 12.30	Sample Depth:	12 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.02.17 11.30	Basis:	Wet Weight
Seq Number:	3026731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**472**	4.95	mg/kg	09.02.17 23.54		1

Certificate of Analytical Results 561411

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T3**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-041	Date Collected:	08.22.17 12.30	Sample Depth:	18 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.02.17 11.30	Basis:	Wet Weight
Seq Number:	3026731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**960**	5.01	mg/kg	09.03.17 00.25		1

Certificate of Analytical Results 561411

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T3**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-042	Date Collected:	08.22.17 12.30	Sample Depth:	18 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.02.17 11.30	Basis:	Wet Weight
Seq Number:	3026731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1100**	4.92	mg/kg	09.03.17 00.36		1

Certificate of Analytical Results 561411

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T3**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-043	Date Collected:	08.22.17 12.30	Sample Depth:	20 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.02.17 11.30	Basis:	Wet Weight
Seq Number:	3026731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1000**	5.01	mg/kg	09.03.17 00.46		1

Certificate of Analytical Results 561411

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T3**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-044	Date Collected:	08.22.17 12.30	Sample Depth:	22 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.02.17 11.30	Basis:	Wet Weight
Seq Number:	3026731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**753**	25.0	mg/kg	09.03.17 00.56		5

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T3**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-045	Date Collected:	08.22.17 12.30	Sample Depth:	24 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.02.17 11.30	Basis:	Wet Weight
Seq Number:	3026731				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**746**	5.03	mg/kg	09.03.17 01.07		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 11.00	Basis:	Wet Weight
Seq Number:	3026603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.05.17 09.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	09.05.17 09.28	
o-Terphenyl	84-15-1	103	%	70-135	09.05.17 09.28	

Certificate of Analytical Results 561411

COG Operating LLC, Artesia, NM

Illustrated man fee #001 H

Sample Id:	**T3**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561411-045	Date Collected:	08.22.17 12.30	Sample Depth:	24 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.31.17 16.40	Basis:	Wet Weight
Seq Number:	3026428				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.01.17 07.50	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	09.01.17 07.50	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.01.17 07.50	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	09.01.17 07.50	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.01.17 07.50	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.01.17 07.50	U	1
Total BTEX		<0.00202	0.00202	mg/kg	09.01.17 07.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	80-120	09.01.17 07.50	
1,4-Difluorobenzene	540-36-3	89	%	80-120	09.01.17 07.50	

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 561411

COG Operating LLC

Illustrated man fee #001 H

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3026651 Matrix: Solid Date Prep: 09.01.17
MB Sample Id: 730327-1-BLK LCS Sample Id: 730327-1-BKS LCSD Sample Id: 730327-1-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	249	100	249	100	90-110	0	20	mg/kg	09.01.17 20:31	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3026729 Matrix: Solid Date Prep: 09.01.17
MB Sample Id: 730335-1-BLK LCS Sample Id: 730335-1-BKS LCSD Sample Id: 730335-1-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	248	99	249	100	90-110	0	20	mg/kg	09.02.17 14:46	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3026731 Matrix: Solid Date Prep: 09.02.17
MB Sample Id: 730336-1-BLK LCS Sample Id: 730336-1-BKS LCSD Sample Id: 730336-1-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	253	101	253	101	90-110	0	20	mg/kg	09.02.17 20:27	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3026651 Matrix: Soil Date Prep: 09.01.17
Parent Sample Id: 561317-002 MS Sample Id: 561317-002 S MSD Sample Id: 561317-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1180	245	1410	94	1410	94	90-110	0	20	mg/kg	09.01.17 21:02	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3026651 Matrix: Soil Date Prep: 09.01.17
Parent Sample Id: 561526-001 MS Sample Id: 561526-001 S MSD Sample Id: 561526-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	199	246	459	106	458	105	90-110	0	20	mg/kg	09.01.17 23:27	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3026729 Matrix: Soil Date Prep: 09.01.17
Parent Sample Id: 561411-008 MS Sample Id: 561411-008 S MSD Sample Id: 561411-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	168	252	425	102	426	102	90-110	0	20	mg/kg	09.02.17 15:17	

QC Summary 561411

COG Operating LLC

Illustrated man fee #001 H

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3026729 Matrix: Soil Date Prep: 09.01.17
Parent Sample Id: 561411-018 MS Sample Id: 561411-018 S MSD Sample Id: 561411-018 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3590	249	3740	60	3770	72	90-110	1	20	mg/kg	09.05.17 12:20	X

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3026731 Matrix: Soil Date Prep: 09.02.17
Parent Sample Id: 561411-028 MS Sample Id: 561411-028 S MSD Sample Id: 561411-028 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1500	245	1710	86	1710	86	90-110	0	20	mg/kg	09.05.17 12:51	X

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3026731 Matrix: Soil Date Prep: 09.02.17
Parent Sample Id: 561411-038 MS Sample Id: 561411-038 S MSD Sample Id: 561411-038 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	713	246	1030	129	1030	129	90-110	0	20	mg/kg	09.02.17 23:23	X

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3026603 Matrix: Solid Date Prep: 08.29.17
MB Sample Id: 730142-1-BLK LCS Sample Id: 730142-1-BKS LCSD Sample Id: 730142-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	922	92	940	94	70-135	2	35	mg/kg	09.05.17 09:28	
Diesel Range Organics (DRO)	<15.0	1000	1130	113	1110	111	70-135	2	35	mg/kg	09.05.17 09:28	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	112		113		107		70-135	%	09.05.17 09:28
o-Terphenyl	114		112		105		70-135	%	09.05.17 09:28

QC Summary 561411

COG Operating LLC

Illustrated man fee #001 H

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3026603 Matrix: Soil Date Prep: 08.29.17
Parent Sample Id: 561411-001 MS Sample Id: 561411-001 S MSD Sample Id: 561411-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	939	94	961	96	70-135	2	35	mg/kg	09.05.17 09:28	
Diesel Range Organics (DRO)	<15.0	999	1120	112	1140	114	70-135	2	35	mg/kg	09.05.17 09:28	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		105		70-135	%	09.05.17 09:28
o-Terphenyl	108		102		70-135	%	09.05.17 09:28

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3026250 Matrix: Solid Date Prep: 08.30.17
MB Sample Id: 730108-1-BLK LCS Sample Id: 730108-1-BKS LCSD Sample Id: 730108-1-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	0.116	116	0.114	114	70-130	2	35	mg/kg	08.30.17 10:00	
Toluene	<0.00200	0.0998	0.114	114	0.112	112	70-130	2	35	mg/kg	08.30.17 10:00	
Ethylbenzene	<0.00200	0.0998	0.115	115	0.113	113	71-129	2	35	mg/kg	08.30.17 10:00	
m,p-Xylenes	<0.00399	0.200	0.225	113	0.221	110	70-135	2	35	mg/kg	08.30.17 10:00	
o-Xylene	<0.00200	0.0998	0.109	109	0.107	107	71-133	2	35	mg/kg	08.30.17 10:00	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		91		84		80-120	%	08.30.17 10:00
4-Bromofluorobenzene	84		87		80		80-120	%	08.30.17 10:00

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3026349 Matrix: Solid Date Prep: 08.30.17
MB Sample Id: 730163-1-BLK LCS Sample Id: 730163-1-BKS LCSD Sample Id: 730163-1-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	0.116	116	0.114	114	70-130	2	35	mg/kg	08.30.17 10:00	
Toluene	<0.00200	0.0998	0.114	114	0.112	112	70-130	2	35	mg/kg	08.30.17 10:00	
Ethylbenzene	<0.00200	0.0998	0.115	115	0.113	113	71-129	2	35	mg/kg	08.30.17 10:00	
m,p-Xylenes	<0.00399	0.200	0.225	113	0.221	110	70-135	2	35	mg/kg	08.30.17 10:00	
o-Xylene	<0.00200	0.0998	0.109	109	0.107	107	71-133	2	35	mg/kg	08.30.17 10:00	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		91		84		80-120	%	08.30.17 10:00
4-Bromofluorobenzene	84		87		80		80-120	%	08.30.17 10:00

QC Summary 561411

COG Operating LLC

Illustrated man fee #001 H

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

Seq Number: 3026428 Matrix: Solid Date Prep: 08.31.17

MB Sample Id: 730213-1-BLK LCS Sample Id: 730213-1-BKS LCSD Sample Id: 730213-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.115	115	0.110	110	70-130	4	35	mg/kg	09.01.17 02:04	
Toluene	<0.00201	0.100	0.115	115	0.108	108	70-130	6	35	mg/kg	09.01.17 02:04	
Ethylbenzene	<0.00201	0.100	0.117	117	0.110	110	71-129	6	35	mg/kg	09.01.17 02:04	
m,p-Xylenes	<0.00402	0.201	0.227	113	0.213	107	70-135	6	35	mg/kg	09.01.17 02:04	
o-Xylene	<0.00201	0.100	0.111	111	0.105	105	71-133	6	35	mg/kg	09.01.17 02:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	82		93		93		80-120	%	09.01.17 02:04
4-Bromofluorobenzene	86		110		104		80-120	%	09.01.17 02:04

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

Seq Number: 3026250 Matrix: Soil Date Prep: 08.30.17

Parent Sample Id: 561411-004 MS Sample Id: 561411-004 S MSD Sample Id: 561411-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0803	80	0.0761	75	70-130	5	35	mg/kg	08.30.17 10:38	
Toluene	<0.00202	0.101	0.0760	75	0.0710	70	70-130	7	35	mg/kg	08.30.17 10:38	
Ethylbenzene	<0.00202	0.101	0.0732	72	0.0662	66	71-129	10	35	mg/kg	08.30.17 10:38	X
m,p-Xylenes	<0.00403	0.202	0.143	71	0.128	63	70-135	11	35	mg/kg	08.30.17 10:38	X
o-Xylene	<0.00202	0.101	0.0724	72	0.0685	68	71-133	6	35	mg/kg	08.30.17 10:38	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		103		80-120	%	08.30.17 10:38
4-Bromofluorobenzene	98		96		80-120	%	08.30.17 10:38

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

Seq Number: 3026349 Matrix: Soil Date Prep: 08.30.17

Parent Sample Id: 561417-003 MS Sample Id: 561417-003 S MSD Sample Id: 561417-003 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	0.0991	98	0.0908	91	70-130	9	35	mg/kg	08.30.17 20:43	
Toluene	<0.00202	0.101	0.0940	93	0.0842	84	70-130	11	35	mg/kg	08.30.17 20:43	
Ethylbenzene	<0.00202	0.101	0.0858	85	0.0740	74	71-129	15	35	mg/kg	08.30.17 20:43	
m,p-Xylenes	<0.00404	0.202	0.166	82	0.142	71	70-135	16	35	mg/kg	08.30.17 20:43	
o-Xylene	<0.00202	0.101	0.0831	82	0.0719	72	71-133	14	35	mg/kg	08.30.17 20:43	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		102		80-120	%	08.30.17 20:43
4-Bromofluorobenzene	93		98		80-120	%	08.30.17 20:43

QC Summary 561411

COG Operating LLC

Illustrated man fee #001 H

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

Seq Number: 3026428 Matrix: Soil Date Prep: 08.31.17

Parent Sample Id: 561418-003 MS Sample Id: 561418-003 S MSD Sample Id: 561418-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00353	0.177	0.0453	26	0.0419	24	70-130	8	35	mg/kg	09.01.17 02:42	X
Toluene	<0.00353	0.177	0.0705	40	0.0647	37	70-130	9	35	mg/kg	09.01.17 02:42	X
Ethylbenzene	<0.00353	0.177	0.101	57	0.0940	54	71-129	7	35	mg/kg	09.01.17 02:42	X
m,p-Xylenes	<0.00707	0.353	0.202	57	0.187	54	70-135	8	35	mg/kg	09.01.17 02:42	X
o-Xylene	<0.00353	0.177	0.116	66	0.109	63	71-133	6	35	mg/kg	09.01.17 02:42	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		92		80-120	%	09.01.17 02:42
4-Bromofluorobenzene	107		91		80-120	%	09.01.17 02:42

CHAIN OF CUSTODY

Page 1 Of 5

XENCO LABORATORIES

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San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
Phoenix, Arizona (480-355-0900)
www.xenco.com

Xenco Quote #
Xenco Job # 561411

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: Illustrated Man Fee #001H
Project Location: Illustrated Man Fee
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/ EXTENDED	BTEX	Chloride	Field Comments
1	T1	SURF'	8-22-17	9:00 AM											X	X	X	
2	T1	1'	8-22-17												X	X	X	
3	T1	2'													X	X	X	
4	T1	3'													X	X	X	
5	T1	4'															X	
6	T1	6'															X	
7	T1	8'															X	
8	T1	10'															X	
9	T1	12'															X	
10	T1	14'	↓	↓													X	

Turnaround Time (Business days)

- ☐ Same Day TAT
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- ☐ 3 Day EMERGENCY

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

Notes:

Temp: 2.8 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 2.6

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			1	2		2
3	Relinquished by: Dan A	Date Time: 8-25-17 12:30 PM	Received By: Sid Butler 8-25-17 12:30p	Relinquished By: Sid Butler	Date Time: 8-25-17 245 p	Received By: 4
5	Relinquished by: TRACESCO	Date Time: 8-26-17 14:00	Received By: 5	Custody Seal #	Preserved where applicable ☐	On Ice ✓ Cooler Temp. 8.6 c Thermo. Corr. Factor

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 of samples and shall not assume any responsibility for 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 but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

CHAIN OF CUSTODY

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

www.xenco.com

Xenco Quote # | Xenco Job # 561411

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: Illustrated Man Fee #001H

Project Location: Illustrated Man Fee

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/ EXTENDED	BTEX	Chloride	Field Comments
1	T1	16'	8-22-17	9.00AM													X	
2	T1	18'	8-22-17														X	
3	T1	20'															X	
4	T1	22'															X	
5	T1	24'													X	X	X	
6	T2	SURF	8-22-17	11:00AM											X	X	X	
7	T2	1'													X	X	X	
8	T2	2'													X	X	X	
9	T2	3'													X	X	X	
10	T2	4'															X	

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	Relinquished by	Date Time	Received By	Relinquished By	Date Time	Received By
1	Sampler:					
2						
3	Dton	8-25-17 1230 pm	Sid Butler 8-25-17 12:30 p	Sid Butler 8-25-17 12:30p		
4						
5	ARCESIO	8-26-17 14:00		Custody Seal #	Preserved where applicable	On Ice ✓ Cooler Temp. 8.6 C Thermo. Corr. Factor

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Samplers's Name- Aaron Lieb

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1	T2	6'	8-22-17	11:00 Am													X	
2	T2	8'															X	
3	T2	10'															X	
4	T2	12'															X	
5	T2	14'															X	
6	T2	16'															X	
7	T2	18'															X	
8	T2	20'															X	
9	T2	22'															X	
10	T2	24'													X	X	X	

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

Notes:

Temp: 2.8 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 2.6

FED-EX / UPS: Tracking #

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	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1						
2						
3	Relinquished by:	Date Time: 8-25-17 12:30	Received By: 8-25-17 12:30	Relinquished By:	Date Time: 8-25-17 245	Received By:
4						
5	Relinquished by: ARCESIO	Date Time: 8-26-17 14:00	Received By:	Custody Seal #	Preserved where applicable	On Ice ✓ Cooler Temp. 8.6° Thermo. Corr. Factor

CHAIN OF CUSTODY

Page 4 Of 5

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1	T3	SURF	8-22-17	12:30 PM											X	X	—	
2	T3	1'	8-22-17	12:30 PM											X	X	X	
3	T3	2'													X	X	X	
4	T3	3'													X	X	X	
5	T3	4'															X	
6	T3	6'															X	
7	T3	8'															X	
8	T3	10'															X	
9	T3	12'															X	
10	T3	14'															X	

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

Notes:

Temp: 2.8 IR ID:R-8

CF:(0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: 2.6

FED-EX / UPS: Tracking #

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	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1						
2						
3	Relinquished by: Dakota	Date Time: 8-25-17 1230PM	Received By: Sid Butler 8-25-17 12:30p	Relinquished By: Sid Butler	Date Time: 8-25-17 245p	Received By:
4						
5	Relinquished by: ARCESIO	Date Time: 8-26-17 14:00	Received By:	Custody Seal #	Preserved where applicable	On Ice: ✓ Cooler Temp. 8.6c Thermo. Corr. Factor

CHAIN OF CUSTODY

Page 5 Of 5

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Project Contact: Aaron Lieb
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Project Name/Number: Illustrated Man Fee #001H
Project Location: Illustrated Man Fee
Invoice To: COG Operating LLC, Attn: Robert Mcneill, 600 W. Illinois, Midland TX 79701
PO Number:

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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/ EXTENDED	BTEX	Chloride	Field Comments
1		16'	8-22-17	12:30PM													X	
2		18'	8-22-17	12:30PM													X	
3		20'	"	"													X	
4		22'	"	"													X	
5		24'	"	"											X	X	X	
6																		
7																		
8																		
9																		
10																		

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

Notes:

Temp: 2.8 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 2.6

FED-EX / UPS: Tracking #

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

	Relinquished by	Date Time	Received By	Relinquished By	Date Time	Received By
1	Sampler:					
2						
3	[signature]	8-25-17 12:30PM	Sid Butler 8-25-17 12:30	Sid Butler 8-25-17 245		
4						
5	ARCESIO	8-26-17 14:00				

Custody Seal # | Preserved where applicable | On Ice: ✓ | Cooler Temp. 8.6°C | Thermo. Corr. Factor

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 08/26/2017 02:00:00 PM

Work Order #: 561411

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)?	2.6
#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)?	**No**
#21 VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Shawnee Smith Date: 08/28/2017
Shawnee Smith

Checklist reviewed by: Kelsey Brooks Date: 08/29/2017
Kelsey Brooks

Certificate of Analysis Summary 561417

COG Operating LLC, Artesia, NM

Project Name: Illustrated Man Fee #001H

Project Id:
Contact: Aaron Lieb
Project Location: Illustrated Man fee

Date Received in Lab: Sat Aug-26-17 02:00 pm
Report Date: 07-SEP-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	561417-001		561417-002		561417-003		561417-004		561417-005		561417-006	
	Field Id:	North		North		South		South		East		East	
	Depth:			1- ft				1- ft				1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-22-17 13:30		Aug-22-17 13:30		Aug-22-17 13:30		Aug-22-17 13:30		Aug-22-17 13:30		Aug-22-17 13:30	
BTEX by EPA 8021B	***Extracted:***	Aug-30-17 16:50		Aug-30-17 16:50		Aug-30-17 16:50		Aug-30-17 16:50		Aug-30-17 16:50		Aug-30-17 16:50	
	Analyzed:	Aug-31-17 08:46		Aug-31-17 09:05		Aug-31-17 08:27		Aug-31-17 09:24		Aug-31-17 09:43		Aug-31-17 10:02	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Toluene		<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Ethylbenzene		<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
m,p-Xylenes		<0.00402	0.00402	<0.00404	0.00404	<0.00401	0.00401	<0.00401	0.00401	<0.00399	0.00399	<0.00402	0.00402
o-Xylene		<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Total Xylenes		<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Total BTEX		<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201
Inorganic Anions by EPA 300/300.1	***Extracted:***	Sep-06-17 15:25		Sep-06-17 15:25		Sep-06-17 15:25		Sep-06-17 15:25		Sep-06-17 15:25		Sep-06-17 15:25	
	Analyzed:	Sep-06-17 21:09		Sep-06-17 21:34		Sep-06-17 21:42		Sep-06-17 21:50		Sep-06-17 21:58		Sep-06-17 22:23	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		77.8	4.95	<4.99	4.99	1420	24.9	634	4.96	4720	24.9	1750	24.9
TPH By SW8015 Mod	***Extracted:***	Aug-29-17 11:00		Aug-29-17 11:00		Aug-29-17 11:00		Aug-29-17 11:00		Aug-29-17 11:00		Aug-29-17 16:00	
	Analyzed:	Sep-05-17 09:28		Sep-05-17 09:29		Sep-05-17 09:29		Sep-05-17 09:29		Sep-05-17 09:29		Sep-05-17 09:32	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	22.3	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<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	22.3	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 561417

COG Operating LLC, Artesia, NM

Project Name: Illustrated Man Fee #001H

Project Id:
Contact: Aaron Lieb
Project Location: Illustrated Man fee

Date Received in Lab: Sat Aug-26-17 02:00 pm
Report Date: 07-SEP-17
Project Manager: Kelsey Brooks

Analysis Requested								
	Lab Id:	561417-007		561417-008				
	Field Id:	West		West				
	Depth:			1- ft				
	Matrix:	SOIL		SOIL				
	Sampled:	Aug-22-17 13:30		Aug-22-17 13:30				
BTEX by EPA 8021B	***Extracted:***	Aug-30-17 16:50		Aug-30-17 16:50				
	Analyzed:	Aug-31-17 10:21		Aug-31-17 10:40				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Benzene		<0.00202	0.00202	<0.00200	0.00200			
Toluene		<0.00202	0.00202	<0.00200	0.00200			
Ethylbenzene		<0.00202	0.00202	<0.00200	0.00200			
m,p-Xylenes		<0.00403	0.00403	<0.00399	0.00399			
o-Xylene		<0.00202	0.00202	<0.00200	0.00200			
Total Xylenes		<0.00202	0.00202	<0.00200	0.00200			
Total BTEX		<0.00202	0.00202	<0.00200	0.00200			
Inorganic Anions by EPA 300/300.1	***Extracted:***	Sep-06-17 15:25		Sep-06-17 15:25				
	Analyzed:	Sep-06-17 22:31		Sep-06-17 22:39				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Chloride		<4.95	4.95	<4.97	4.97			
TPH By SW8015 Mod	***Extracted:***	Aug-29-17 16:00		Aug-29-17 16:00				
	Analyzed:	Sep-05-17 09:32		Sep-05-17 09:32				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0			
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0			
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0			
Total TPH		<15.0	15.0	<15.0	15.0			

Kelsey Brooks
Project Manager

Analytical Report 561417

for

COG Operating LLC

Project Manager: Aaron Lieb

Illustrated Man Fee #001H

07-SEP-17

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

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

07-SEP-17

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

Reference: XENCO Report No(s): **561417**
Illustrated Man Fee #001H
Project Address: Illustrated Man fee

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) 561417. 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. 561417 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Sample Cross Reference 561417

COG Operating LLC, Artesia, NM

Illustrated Man Fee #001H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
North	S	08-22-17 13:30		561417-001
North	S	08-22-17 13:30	1 ft	561417-002
South	S	08-22-17 13:30		561417-003
South	S	08-22-17 13:30	1 ft	561417-004
East	S	08-22-17 13:30		561417-005
East	S	08-22-17 13:30	1 ft	561417-006
West	S	08-22-17 13:30		561417-007
West	S	08-22-17 13:30	1 ft	561417-008

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3026349 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3026948 Inorganic Anions by EPA 300/300.1
Lab Sample ID 561418-003 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: 561417-001, -002, -003, -004, -005, -006, -007, -008.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analytical Results 561417

COG Operating LLC, Artesia, NM

Illustrated Man Fee #001H

Sample Id:	**North**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561417-001	Date Collected:	08.22.17 13.30		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.06.17 15.25	Basis:	Wet Weight
Seq Number:	3026948				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**77.8**	4.95	mg/kg	09.06.17 21.09		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 11.00	Basis:	Wet Weight
Seq Number:	3026603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.05.17 09.28	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.05.17 09.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	09.05.17 09.28	
o-Terphenyl	84-15-1	103	%	70-135	09.05.17 09.28	

Certificate of Analytical Results 561417

COG Operating LLC, Artesia, NM

Illustrated Man Fee #001H

Sample Id:	**North**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561417-001	Date Collected:	08.22.17 13.30		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.30.17 16.50	Basis:	Wet Weight
Seq Number:	3026349				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	08.31.17 08.46	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	08.31.17 08.46	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	08.31.17 08.46	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	08.31.17 08.46	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	08.31.17 08.46	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	08.31.17 08.46	U	1
Total BTEX		<0.00201	0.00201	mg/kg	08.31.17 08.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	80-120	08.31.17 08.46	
4-Bromofluorobenzene	460-00-4	84	%	80-120	08.31.17 08.46	

Certificate of Analytical Results 561417

COG Operating LLC, Artesia, NM

Illustrated Man Fee #001H

Sample Id:	**North**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561417-002	Date Collected:	08.22.17 13.30	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.06.17 15.25	Basis:	Wet Weight
Seq Number:	3026948				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	09.06.17 21.34	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 11.00	Basis:	Wet Weight
Seq Number:	3026603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.05.17 09.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.05.17 09.29	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.05.17 09.29	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.05.17 09.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	09.05.17 09.29	
o-Terphenyl	84-15-1	103	%	70-135	09.05.17 09.29	

Certificate of Analytical Results 561417

COG Operating LLC, Artesia, NM

Illustrated Man Fee #001H

Sample Id:	**North**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561417-002	Date Collected:	08.22.17 13.30	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.30.17 16.50	Basis:	Wet Weight
Seq Number:	3026349				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	08.31.17 09.05	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	08.31.17 09.05	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	08.31.17 09.05	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	08.31.17 09.05	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	08.31.17 09.05	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	08.31.17 09.05	U	1
Total BTEX		<0.00202	0.00202	mg/kg	08.31.17 09.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	86	%	80-120	08.31.17 09.05	
1,4-Difluorobenzene	540-36-3	95	%	80-120	08.31.17 09.05	

COG Operating LLC, Artesia, NM

Illustrated Man Fee #001H

Sample Id:	**South**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561417-003	Date Collected:	08.22.17 13.30		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.06.17 15.25	Basis:	Wet Weight
Seq Number:	3026948				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1420**	24.9	mg/kg	09.06.17 21.42		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 11.00	Basis:	Wet Weight
Seq Number:	3026603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.05.17 09.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	**22.3**	15.0	mg/kg	09.05.17 09.29		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.05.17 09.29	U	1
Total TPH	PHC635	**22.3**	15.0	mg/kg	09.05.17 09.29		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	09.05.17 09.29	
o-Terphenyl	84-15-1	103	%	70-135	09.05.17 09.29	

Certificate of Analytical Results 561417

COG Operating LLC, Artesia, NM

Illustrated Man Fee #001H

Sample Id:	**South**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561417-003	Date Collected:	08.22.17 13.30		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.30.17 16.50	Basis:	Wet Weight
Seq Number:	3026349				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.31.17 08.27	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.31.17 08.27	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.31.17 08.27	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	08.31.17 08.27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.31.17 08.27	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.31.17 08.27	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.31.17 08.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	80-120	08.31.17 08.27	
4-Bromofluorobenzene	460-00-4	90	%	80-120	08.31.17 08.27	

COG Operating LLC, Artesia, NM

Illustrated Man Fee #001H

Sample Id:	**South**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561417-004	Date Collected:	08.22.17 13.30	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.06.17 15.25	Basis:	Wet Weight
Seq Number:	3026948				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**634**	4.96	mg/kg	09.06.17 21.50		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 11.00	Basis:	Wet Weight
Seq Number:	3026603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.05.17 09.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.05.17 09.29	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.05.17 09.29	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.05.17 09.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	09.05.17 09.29	
o-Terphenyl	84-15-1	107	%	70-135	09.05.17 09.29	

Certificate of Analytical Results 561417

COG Operating LLC, Artesia, NM

Illustrated Man Fee #001H

Sample Id:	**South**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561417-004	Date Collected:	08.22.17 13.30	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.30.17 16.50	Basis:	Wet Weight
Seq Number:	3026349				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.31.17 09.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.31.17 09.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.31.17 09.24	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	08.31.17 09.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.31.17 09.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.31.17 09.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.31.17 09.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	87	%	80-120	08.31.17 09.24	
1,4-Difluorobenzene	540-36-3	115	%	80-120	08.31.17 09.24	

COG Operating LLC, Artesia, NM

Illustrated Man Fee #001H

Sample Id:	**East**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561417-005	Date Collected:	08.22.17 13.30		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.06.17 15.25	Basis:	Wet Weight
Seq Number:	3026948				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4720**	24.9	mg/kg	09.06.17 21.58		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 11.00	Basis:	Wet Weight
Seq Number:	3026603				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.05.17 09.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.05.17 09.29	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.05.17 09.29	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.05.17 09.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	09.05.17 09.29	
o-Terphenyl	84-15-1	106	%	70-135	09.05.17 09.29	

Certificate of Analytical Results 561417

COG Operating LLC, Artesia, NM

Illustrated Man Fee #001H

Sample Id:	**East**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561417-005	Date Collected:	08.22.17 13.30		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.30.17 16.50	Basis:	Wet Weight
Seq Number:	3026349				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.31.17 09.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.31.17 09.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.31.17 09.43	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.31.17 09.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.31.17 09.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.31.17 09.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.31.17 09.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	80-120	08.31.17 09.43	
1,4-Difluorobenzene	540-36-3	95	%	80-120	08.31.17 09.43	

COG Operating LLC, Artesia, NM

Illustrated Man Fee #001H

Sample Id:	**East**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561417-006	Date Collected:	08.22.17 13.30	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.06.17 15.25	Basis:	Wet Weight
Seq Number:	3026948				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1750**	24.9	mg/kg	09.06.17 22.23		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 16.00	Basis:	Wet Weight
Seq Number:	3026605				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.05.17 09.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.05.17 09.32	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.05.17 09.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.05.17 09.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	09.05.17 09.32	
o-Terphenyl	84-15-1	107	%	70-135	09.05.17 09.32	

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COG Operating LLC, Artesia, NM

Illustrated Man Fee #001H

Sample Id:	**East**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561417-006	Date Collected:	08.22.17 13.30	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.30.17 16.50	Basis:	Wet Weight
Seq Number:	3026349				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	08.31.17 10.02	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	08.31.17 10.02	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	08.31.17 10.02	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	08.31.17 10.02	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	08.31.17 10.02	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	08.31.17 10.02	U	1
Total BTEX		<0.00201	0.00201	mg/kg	08.31.17 10.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	80-120	08.31.17 10.02	
4-Bromofluorobenzene	460-00-4	87	%	80-120	08.31.17 10.02	

COG Operating LLC, Artesia, NM

Illustrated Man Fee #001H

Sample Id:	**West**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561417-007	Date Collected:	08.22.17 13.30		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.06.17 15.25	Basis:	Wet Weight
Seq Number:	3026948				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.95	4.95	mg/kg	09.06.17 22.31	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 16.00	Basis:	Wet Weight
Seq Number:	3026605				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.05.17 09.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.05.17 09.32	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.05.17 09.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.05.17 09.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	09.05.17 09.32	
o-Terphenyl	84-15-1	92	%	70-135	09.05.17 09.32	

Certificate of Analytical Results 561417

COG Operating LLC, Artesia, NM

Illustrated Man Fee #001H

Sample Id:	**West**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561417-007	Date Collected:	08.22.17 13.30		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.30.17 16.50	Basis:	Wet Weight
Seq Number:	3026349				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	08.31.17 10.21	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	08.31.17 10.21	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	08.31.17 10.21	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	08.31.17 10.21	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	08.31.17 10.21	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	08.31.17 10.21	U	1
Total BTEX		<0.00202	0.00202	mg/kg	08.31.17 10.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	80-120	08.31.17 10.21	
4-Bromofluorobenzene	460-00-4	86	%	80-120	08.31.17 10.21	

COG Operating LLC, Artesia, NM

Illustrated Man Fee #001H

Sample Id:	**West**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561417-008	Date Collected:	08.22.17 13.30	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.06.17 15.25	Basis:	Wet Weight
Seq Number:	3026948				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	09.06.17 22.39	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	08.29.17 16.00	Basis:	Wet Weight
Seq Number:	3026605				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.05.17 09.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.05.17 09.32	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.05.17 09.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.05.17 09.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	09.05.17 09.32	
o-Terphenyl	84-15-1	106	%	70-135	09.05.17 09.32	

Certificate of Analytical Results 561417

COG Operating LLC, Artesia, NM

Illustrated Man Fee #001H

Sample Id:	**West**	Matrix:	Soil	Date Received:	08.26.17 14.00
Lab Sample Id:	561417-008	Date Collected:	08.22.17 13.30	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	08.30.17 16.50	Basis:	Wet Weight
Seq Number:	3026349				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.31.17 10.40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.31.17 10.40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.31.17 10.40	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.31.17 10.40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.31.17 10.40	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.31.17 10.40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.31.17 10.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	80-120	08.31.17 10.40	
4-Bromofluorobenzene	460-00-4	89	%	80-120	08.31.17 10.40	

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

	Phone	Fax
4147 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282	(602) 437-0330	

QC Summary 561417

COG Operating LLC

Illustrated Man Fee #001H

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3026948 Matrix: Solid Date Prep: 09.06.17
MB Sample Id: 730456-1-BLK LCS Sample Id: 730456-1-BKS LCSD Sample Id: 730456-1-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	264	106	264	106	90-110	0	20	mg/kg	09.06.17 10:18	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3026948 Matrix: Soil Date Prep: 09.06.17
Parent Sample Id: 561417-001 MS Sample Id: 561417-001 S MSD Sample Id: 561417-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	77.8	248	355	112	354	111	90-110	0	20	mg/kg	09.06.17 21:17	X

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3026948 Matrix: Soil Date Prep: 09.06.17
Parent Sample Id: 561418-003 MS Sample Id: 561418-003 S MSD Sample Id: 561418-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5.62	247	292	116	293	116	90-110	0	20	mg/kg	09.06.17 23:12	X

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3026603 Matrix: Solid Date Prep: 08.29.17
MB Sample Id: 730142-1-BLK LCS Sample Id: 730142-1-BKS LCSD Sample Id: 730142-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	922	92	940	94	70-135	2	35	mg/kg	09.05.17 09:28	
Diesel Range Organics (DRO)	<15.0	1000	1130	113	1110	111	70-135	2	35	mg/kg	09.05.17 09:28	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	112		113		107		70-135	%	09.05.17 09:28
o-Terphenyl	114		112		105		70-135	%	09.05.17 09:28

QC Summary 561417

COG Operating LLC

Illustrated Man Fee #001H

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3026605 Matrix: Solid Date Prep: 08.29.17
MB Sample Id: 730143-1-BLK LCS Sample Id: 730143-1-BKS LCSD Sample Id: 730143-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	904	90	851	85	70-135	6	35	mg/kg	09.05.17 09:32	
Diesel Range Organics (DRO)	<15.0	1000	1140	114	1030	103	70-135	10	35	mg/kg	09.05.17 09:32	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		120		97		70-135	%	09.05.17 09:32
o-Terphenyl	109		108		100		70-135	%	09.05.17 09:32

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3026603 Matrix: Soil Date Prep: 08.29.17
Parent Sample Id: 561411-001 MS Sample Id: 561411-001 S MSD Sample Id: 561411-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	939	94	961	96	70-135	2	35	mg/kg	09.05.17 09:28	
Diesel Range Organics (DRO)	<15.0	999	1120	112	1140	114	70-135	2	35	mg/kg	09.05.17 09:28	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		105		70-135	%	09.05.17 09:28
o-Terphenyl	108		102		70-135	%	09.05.17 09:28

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3026605 Matrix: Soil Date Prep: 08.29.17
Parent Sample Id: 561417-006 MS Sample Id: 561417-006 S MSD Sample Id: 561417-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	889	89	886	89	70-135	0	35	mg/kg	09.05.17 09:32	
Diesel Range Organics (DRO)	<15.0	999	1100	110	1100	110	70-135	0	35	mg/kg	09.05.17 09:32	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		117		70-135	%	09.05.17 09:32
o-Terphenyl	103		107		70-135	%	09.05.17 09:32

QC Summary 561417

COG Operating LLC

Illustrated Man Fee #001H

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

Seq Number: 3026349 Matrix: Solid Date Prep: 08.30.17

MB Sample Id: 730163-1-BLK LCS Sample Id: 730163-1-BKS LCSD Sample Id: 730163-1-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	0.116	116	0.114	114	70-130	2	35	mg/kg	08.30.17 10:00	
Toluene	<0.00200	0.0998	0.114	114	0.112	112	70-130	2	35	mg/kg	08.30.17 10:00	
Ethylbenzene	<0.00200	0.0998	0.115	115	0.113	113	71-129	2	35	mg/kg	08.30.17 10:00	
m,p-Xylenes	<0.00399	0.200	0.225	113	0.221	110	70-135	2	35	mg/kg	08.30.17 10:00	
o-Xylene	<0.00200	0.0998	0.109	109	0.107	107	71-133	2	35	mg/kg	08.30.17 10:00	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		91		84		80-120	%	08.30.17 10:00
4-Bromofluorobenzene	84		87		80		80-120	%	08.30.17 10:00

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

Seq Number: 3026349 Matrix: Soil Date Prep: 08.30.17

Parent Sample Id: 561417-003 MS Sample Id: 561417-003 S MSD Sample Id: 561417-003 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	0.0991	98	0.0908	91	70-130	9	35	mg/kg	08.30.17 20:43	
Toluene	<0.00202	0.101	0.0940	93	0.0842	84	70-130	11	35	mg/kg	08.30.17 20:43	
Ethylbenzene	<0.00202	0.101	0.0858	85	0.0740	74	71-129	15	35	mg/kg	08.30.17 20:43	
m,p-Xylenes	<0.00404	0.202	0.166	82	0.142	71	70-135	16	35	mg/kg	08.30.17 20:43	
o-Xylene	<0.00202	0.101	0.0831	82	0.0719	72	71-133	14	35	mg/kg	08.30.17 20:43	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		102		80-120	%	08.30.17 20:43
4-Bromofluorobenzene	93		98		80-120	%	08.30.17 20:43

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

Setting the Standard since 1990

Stafford,Texas (281-240-4200)
Dallas Texas (214-902-0300)
San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
Phoenix, Arizona (480-355-0900)
www.xenco.com

Xenco Quote #
Xenco Job # 561417

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: Illustrated Man Fee #001H
Project Location: Illustrated Man Fee
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
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH/ EXTENDED	BTEX	Chloride								Field Comments
1	NORTH	SURF	8-22-17	1:30PM											X	X	X								
2	NORTH	1'	8-22-17	1:30PM											X	X	X								
3	SOUTH	SURF													X	X	X								
4	SOUTH	~~SURF~~ 1'													X	X	X								
5	EAST	~~1'~~ SURF													X	X	X								
6	EAST	1'													X	X	X								
7	WEST	SURF													X	X	X								
8	WEST	1'													X	X	X								
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 III Std QC+ Forms
- ☐ Level 3 (CLP Forms)
- ☐ TRRP Checklist
- ☐ Level IV (Full Data Pkg /raw data)
- ☐ TRRP Level IV
- ☐ UST / RG -411

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						
2						
3		8-25-17 12:30PM	Sid Butler 8-25-17 12:30	Sid Butler	8-25-17 2:45	
4						
5	ARCESIO	8-26-17 14:00		Custody Seal #	Preserved where applicable	On Ice ✓ Cooler Temp. 8.6 C Thermo. Corr. Factor

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 of samples and shall not assume any responsibility for 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 but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

Setting the Standard since 1990

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www.xenco.com
Phoenix, Arizona (480-355-0900)

Xenco Quote #
Xenco Job # 561417

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: Illustrated Man Fee #001H
Project Location: Illustrated Man Fee
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
WI = Wipe
O = Oil
WW= Waste Water
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/ EXTENDED	BTEX	Chloride	Field Comments
1	NORTH	SURF	8-22-17	1:30PM											X	X	X	
2	NORTH	1'	8-22-17	1:30PM											X	X	X	
3	SOUTH	SURF													X	X	X	
4	SOUTH	~~SURF~~ 1'													X	X	X	
5	EAST	SURF													X	X	X	
6	EAST	1'													X	X	X	
7	WEST	SURF													X	X	X	
8	WEST	1'													X	X	X	
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

Temp: 2.8 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 2.6

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		1	2		2
3	8-25-17 12:30PM	3 Sid Butler 8-25-17 12:30	4 Sid Butler	8-25-17 2:45 P	4
5 ARCESIO	8-26-17 14:00	5	Custody Seal #	Preserved where applicable	On Ice: 1 Cooler Temp: 8.6 C Thermo. Corr. Factor

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 of samples and shall not assume any responsibility for 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 but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

Final 1.000

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 08/26/2017 02:00:00 PM

Work Order #: 561417

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)?	2.6
#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)?	**No**
#21 VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Shawnee Smith Date: 08/29/2017
Shawnee Smith

Checklist reviewed by: Kelsey Brooks Date: 08/29/2017
Kelsey Brooks

Analytical Report 569375

for

Tetra Tech- Midland

Project Manager: Ike Tavarez

Illustrated Man Fee Com #1 H

212C-MD-00958 Task #12

05-DEC-17

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

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

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

05-DEC-17

Project Manager: **Ike Tavarez**
Tetra Tech- Midland
4000 N. Big Spring Suite 401
Midland, TX 79705

Reference: XENCO Report No(s): **569375**
Illustrated Man Fee Com #1 H
Project Address: Eddy County,New Mexico

Ike Tavarez:

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) 569375. 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. 569375 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Mike Kimmel
Client Services Manager

Sample Cross Reference 569375

Tetra Tech- Midland, Midland, TX

Illustrated Man Fee Com #1 H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH #1 (0-1')	S	11-21-17 00:00		569375-001
BH #1 (2-3')	S	11-21-17 00:00		569375-002
BH #1 (4-5')	S	11-21-17 00:00		569375-003
BH #1 (6-7')	S	11-21-17 00:00		569375-004
BH #1 (9-10')	S	11-21-17 00:00		569375-005
BH #1 (14-15')	S	11-21-17 00:00		569375-006
BH #1 (19-20')	S	11-21-17 00:00		569375-007
BH #1 (24-25')	S	11-21-17 00:00		569375-008
BH #1 (29-30')	S	11-21-17 00:00		569375-009
BH #1 (34-35')	S	11-21-17 00:00		569375-010
BH #1 (39-40')	S	11-21-17 00:00		569375-011
BH #2 (0-1')	S	11-21-17 00:00		569375-016
BH #2 (2-3')	S	11-21-17 00:00		569375-017
BH #2 (4-5')	S	11-21-17 00:00		569375-018
BH #2 (9-10')	S	11-21-17 00:00		569375-019
BH #2 (14-15')	S	11-21-17 00:00		569375-020
BH #2 (19-20')	S	11-21-17 00:00		569375-021
BH #2 (24-25')	S	11-21-17 00:00		569375-022
BH #2 (29-30')	S	11-21-17 00:00		569375-023
BH #2 (34-35')	S	11-21-17 00:00		569375-024
BH #2 (39-40')	S	11-21-17 00:00		569375-025
BH #3 (0-1')	S	11-21-17 00:00		569375-026
BH #3 (2-3')	S	11-21-17 00:00		569375-027
BH #3 (4-5')	S	11-21-17 00:00		569375-028
BH #3 (6-7')	S	11-21-17 00:00		569375-029
BH #3 (9-10')	S	11-21-17 00:00		569375-030
BH #3 (14-15')	S	11-21-17 00:00		569375-031
BH #3 (19-20')	S	11-21-17 00:00		569375-032
BH #3 (24-25')	S	11-21-17 00:00		569375-033
BH #3 (29-30')	S	11-21-17 00:00		569375-034
BH #3 (34-35')	S	11-21-17 00:00		569375-035
BH #3 (39-40')	S	11-21-17 00:00		569375-036
BG#1 (0-1')	S	11-21-17 00:00		569375-039
BG#1 (5')	S	11-21-17 00:00		569375-040
BG#1 (10')	S	11-21-17 00:00		569375-041
BG#1 (5')	S	11-21-17 00:00		569375-042
BG#1 (20')	S	11-21-17 00:00		569375-043
BG#1 (25')	S	11-21-17 00:00		569375-044
BG#1 (30')	S	11-21-17 00:00		569375-045
BG#1 (35')	S	11-21-17 00:00		569375-046
BG#1 (40')	S	11-21-17 00:00		569375-047
BH #1 (44-45')	S	11-21-17 00:00		Not Analyzed
BH #1 (49-50')	S	11-21-17 00:00		Not Analyzed

BH #1 (54-55')	S	11-21-17 00:00	Not Analyzed
BH #1 (59-60')	S	11-21-17 00:00	Not Analyzed
BH #3 (44-45')	S	11-21-17 00:00	Not Analyzed
BH #3 (49-50')	S	11-21-17 00:00	Not Analyzed

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3035034 Inorganic Anions by EPA 300/300.1

Lab Sample ID 569375-046 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 569375-044, -045, -046, -047.

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

Certificate of Analysis Summary 569375

Tetra Tech- Midland, Midland, TX

Project Name: Illustrated Man Fee Com #1 H

Project Id: 212C-MD-00958 Task #12
Contact: Ike Tavarez
Project Location: Eddy County,New Mexico

Date Received in Lab: Mon Nov-27-17 03:26 pm
Report Date: 05-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	569375-001		569375-002		569375-003		569375-004		569375-005		569375-006	
	Field Id:	BH #1 (0-1')		BH #1 (2-3')		BH #1 (4-5')		BH #1 (6-7')		BH #1 (9-10')		BH #1 (14-15')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Dec-04-17 09:00		Dec-04-17 13:30		Dec-04-17 13:30		Dec-04-17 13:30		Dec-04-17 13:30		Dec-04-17 13:30	
	Analyzed:	Dec-04-17 12:37		Dec-04-17 17:39		Dec-04-17 17:56		Dec-04-17 18:02		Dec-04-17 18:08		Dec-04-17 18:14	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		20.2	4.95	52.6	4.96	810	24.9	920	24.6	1060	25.0	714	25.0

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 569375

Tetra Tech- Midland, Midland, TX

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Contact: Ike Tavarez
Project Location: Eddy County,New Mexico

Date Received in Lab: Mon Nov-27-17 03:26 pm
Report Date: 05-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	569375-007		569375-008		569375-009		569375-010		569375-011		569375-016	
	Field Id:	BH #1 (19-20')		BH #1 (24-25')		BH #1 (29-30')		BH #1 (34-35')		BH #1 (39-40')		BH #2 (0-1')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Dec-04-17 13:30		Dec-04-17 13:30		Dec-04-17 13:30		Dec-04-17 13:30		Dec-04-17 13:30		Dec-04-17 13:30	
	Analyzed:	Dec-04-17 18:32		Dec-04-17 18:38		Dec-04-17 18:44		Dec-04-17 18:50		Dec-04-17 18:56		Dec-04-17 19:02	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		772	24.6	864	24.6	1110	24.6	1040	25.0	1280	24.8	4700	49.0

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 569375

Tetra Tech- Midland, Midland, TX

Project Name: Illustrated Man Fee Com #1 H

Project Id: 212C-MD-00958 Task #12
Contact: Ike Tavarez
Project Location: Eddy County,New Mexico

Date Received in Lab: Mon Nov-27-17 03:26 pm
Report Date: 05-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	569375-017		569375-018		569375-019		569375-020		569375-021		569375-022	
	Field Id:	BH #2 (2-3')		BH #2 (4-5')		BH #2 (9-10')		BH #2 (14-15')		BH #2 (19-20')		BH #2 (24-25')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Dec-04-17 13:30		Dec-04-17 13:30		Dec-04-17 13:30		Dec-04-17 13:30		Dec-04-17 13:30		Dec-04-17 14:00	
	Analyzed:	Dec-04-17 19:07		Dec-04-17 19:13		Dec-04-17 19:19		Dec-04-17 19:25		Dec-04-17 19:43		Dec-04-17 20:48	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2780	24.5	453	24.6	531	49.1	590	4.91	797	4.99	993	25.0

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 569375

Tetra Tech- Midland, Midland, TX

Project Name: Illustrated Man Fee Com #1 H

Project Id: 212C-MD-00958 Task #12
Contact: Ike Tavarez
Project Location: Eddy County,New Mexico

Date Received in Lab: Mon Nov-27-17 03:26 pm
Report Date: 05-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	569375-023		569375-024		569375-025		569375-026		569375-027		569375-028	
	Field Id:	BH #2 (29-30')		BH #2 (34-35')		BH #2 (39-40')		BH #3 (0-1')		BH #3 (2-3')		BH #3 (4-5')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Dec-04-17 14:00		Dec-04-17 14:00		Dec-04-17 14:00		Dec-04-17 14:00		Dec-04-17 14:00		Dec-04-17 14:00	
	Analyzed:	Dec-04-17 20:54		Dec-04-17 21:00		Dec-04-17 21:06		Dec-04-17 21:24		Dec-04-17 21:30		Dec-04-17 21:36	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1010	25.0	1060	24.9	1010	24.9	3300	25.0	3120	24.7	106	25.0

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 569375

Tetra Tech- Midland, Midland, TX

Project Name: Illustrated Man Fee Com #1 H

Project Id: 212C-MD-00958 Task #12
Contact: Ike Tavarez
Project Location: Eddy County,New Mexico

Date Received in Lab: Mon Nov-27-17 03:26 pm
Report Date: 05-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	569375-029		569375-030		569375-031		569375-032		569375-033		569375-034	
	Field Id:	BH #3 (6-7')		BH #3 (9-10')		BH #3 (14-15')		BH #3 (19-20')		BH #3 (24-25')		BH #3 (29-30')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Dec-04-17 14:00		Dec-04-17 14:00		Dec-04-17 14:00		Dec-04-17 14:00		Dec-04-17 14:00		Dec-04-17 14:00	
	Analyzed:	Dec-04-17 21:42		Dec-04-17 21:48		Dec-04-17 21:53		Dec-04-17 22:11		Dec-04-17 22:17		Dec-04-17 22:35	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		446	24.6	475	24.7	919	24.9	999	25.0	1160	24.7	1220	24.7

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 569375

Tetra Tech- Midland, Midland, TX

Project Name: Illustrated Man Fee Com #1 H

Project Id: 212C-MD-00958 Task #12
Contact: Ike Tavarez
Project Location: Eddy County,New Mexico

Date Received in Lab: Mon Nov-27-17 03:26 pm
Report Date: 05-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	569375-035		569375-036		569375-039		569375-040		569375-041		569375-042	
	Field Id:	BH #3 (34-35')		BH #3 (39-40')		BG#1 (0-1')		BG#1 (5')		BG#1 (10')		BG#1 (5')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Dec-04-17 14:00		Dec-04-17 14:00		Dec-04-17 14:00		Dec-04-17 14:00		Dec-04-17 14:00		Dec-04-17 14:00	
	Analyzed:	Dec-04-17 22:41		Dec-04-17 22:47		Dec-04-17 20:31		Dec-04-17 22:53		Dec-05-17 13:33		Dec-04-17 23:05	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1210	24.7	1070	24.7	16.2	4.98	105	24.8	8.56	4.94	98.4	24.7

Mike Kimmel
Client Services Manager

Certificate of Analysis Summary 569375

Tetra Tech- Midland, Midland, TX

Project Name: Illustrated Man Fee Com #1 H

Project Id: 212C-MD-00958 Task #12
Contact: Ike Tavarez
Project Location: Eddy County,New Mexico

Date Received in Lab: Mon Nov-27-17 03:26 pm
Report Date: 05-DEC-17
Project Manager: Kelsey Brooks

Analysis Requested												
	Lab Id:	569375-043		569375-044		569375-045		569375-046		569375-047		
	Field Id:	BG#1 (20')		BG#1 (25')		BG#1 (30')		BG#1 (35')		BG#1 (40')		
	Depth:											
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		
	Sampled:	Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		Nov-21-17 00:00		
Inorganic Anions by EPA 300/300.1	***Extracted:***	Dec-04-17 14:00		Dec-05-17 10:00		Dec-05-17 10:00		Dec-05-17 10:00		Dec-05-17 10:00		
	Analyzed:	Dec-04-17 23:10		Dec-05-17 14:14		Dec-05-17 14:32		Dec-05-17 15:37		Dec-05-17 14:38		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Chloride		328	24.7	623	4.94	759	24.9	967	4.92	1120	24.8	

Mike Kimmel
Client Services Manager

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

	Phone	Fax
4147 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282	(602) 437-0330	

BS / BSD Recoveries

Project Name: Illustrated Man Fee Com #1 H

Work Order #: 569375 **Project ID:** 212C-MD-00958 Task #12

Analyst: OJS **Date Prepared:** 12/04/2017 **Date Analyzed:** 12/04/2017

Lab Batch ID: 3034908 **Sample:** 7635380-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	226	90	250	227	91	0	90-110	20	

Analyst: MNV **Date Prepared:** 12/04/2017 **Date Analyzed:** 12/04/2017

Lab Batch ID: 3034969 **Sample:** 7635386-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	252	101	250	251	100	0	90-110	20	

Analyst: MNV **Date Prepared:** 12/04/2017 **Date Analyzed:** 12/04/2017

Lab Batch ID: 3034970 **Sample:** 7635394-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	233	93	250	226	90	3	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Version: 1.%

BS / BSD Recoveries

Project Name: Illustrated Man Fee Com #1 H

Work Order #: 569375 **Project ID:** 212C-MD-00958 Task #12

Analyst: MNV **Date Prepared:** 12/05/2017 **Date Analyzed:** 12/05/2017

Lab Batch ID: 3035034 **Sample:** 7635433-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	254	102	250	249	100	2	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Version: 1.%

Form 3 - MS / MSD Recoveries

Project Name: Illustrated Man Fee Com #1 H

Work Order # : 569375 **Project ID:** 212C-MD-00958 Task #12

Lab Batch ID: 3034908 **QC- Sample ID:** 569343-010 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/04/2017 **Date Prepared:** 12/04/2017 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	5.00	246	262	104	246	260	104	1	90-110	20	

Lab Batch ID: 3034908 **QC- Sample ID:** 569374-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/04/2017 **Date Prepared:** 12/04/2017 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	969	249	1120	61	249	1150	73	3	90-110	20	X

Lab Batch ID: 3034969 **QC- Sample ID:** 569375-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/04/2017 **Date Prepared:** 12/04/2017 **Analyst:** MNV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	52.6	248	313	105	248	308	103	2	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: Illustrated Man Fee Com #1 H

Work Order # : 569375 **Project ID:** 212C-MD-00958 Task #12

Lab Batch ID: 3034969 **QC- Sample ID:** 569375-021 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/04/2017 **Date Prepared:** 12/04/2017 **Analyst:** MNV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	797	250	1030	93	250	1030	93	0	90-110	20	

Lab Batch ID: 3034970 **QC- Sample ID:** 569375-031 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/04/2017 **Date Prepared:** 12/04/2017 **Analyst:** MNV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	919	249	1150	93	249	1170	101	2	90-110	20	

Lab Batch ID: 3034970 **QC- Sample ID:** 569375-039 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/04/2017 **Date Prepared:** 12/04/2017 **Analyst:** MNV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	16.2	249	284	108	249	287	109	1	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: Illustrated Man Fee Com #1 H

Work Order # : 569375 **Project ID:** 212C-MD-00958 Task #12

Lab Batch ID: 3035034 **QC- Sample ID:** 569375-044 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/05/2017 **Date Prepared:** 12/05/2017 **Analyst:** MNV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	623	247	847	91	247	852	93	1	90-110	20	

Lab Batch ID: 3035034 **QC- Sample ID:** 569375-046 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 12/05/2017 **Date Prepared:** 12/05/2017 **Analyst:** MNV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	967	246	1140	70	246	1130	66	1	90-110	20	X

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

569375

Client Name:	COG	**Site Manager:**	Ike Tavarez
Project Name:	Illustrated Man Fee Com #1H		
Project Location: (county, state)	Eddy County, New Mexico	**Project #:**	212C-MD-00958 Task#12
Invoice to:	COG		
Receiving Laboratory:	Xenco Midland Tx	**Sampler Signature:**	Mike Carmona
Comments:			

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2017 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance					Hold
	BH #1 (0-1')	11/21/2017			X				X			1	N															X								
	BH #1 (2-3')	11/21/2017			X				X			1	N															X								
	BH #1 (4-5')	11/21/2017			X				X			1	N															X								
	BH #1 (6-7')	11/21/2017			X				X			1	N															X								
	BH #1 (9-10')	11/21/2017			X				X			1	N															X								
	BH #1 (14-15')	11/21/2017			X				X			1	N															X								
	BH #1 (19-20')	11/21/2017			X				X			1	N															X								
	BH #1 (24-25')	11/21/2017			X				X			1	N															X								
	BH #1 (29-30')	11/21/2017			X				X			1	N															X								
	BH #1 (34-35')	11/21/2017			X				X			1	N															X								

Relinquished by: Mike Carmona	Date: 11/27/17	Time: 1525	Received by:	Date: 11.27.17	Time: 15:26
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature

REMARKS:

STANDARD

☐ **RUSH:** Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

AND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Temp: 4.0 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 3.8

Final 1.000

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

569375

Client Name: COG	**Site Manager:** Ike Tavarez
Project Name: Illustrated Man Fee Com #1H	
Project Location: (county, state) Eddy County, New Mexico	**Project #:** 212C-MD-00958 Task#12
Invoice to: COG	
Receiving Laboratory: Xenco Midland Tx	**Sampler Signature:** Mike Carmona
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2017 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				Hold
	BH #1 (39-40')	11/21/2017			X				X			1	N															X							
	BH #1 (44-45')	11/21/2017			X				X			1	N																						X
	BH #1 (49-50')	11/21/2017			X				X			1	N																						X
	BH #1 (54-55')	11/21/2017			X				X			1	N																						X
	BH #1 (59-60')	11/21/2017			X				X			1	N																						X
	BH #2 (0-1')	11/21/2017			X				X			1	N															X							
	BH #2 (2-3')	11/21/2017			X				X			1	N															X							
	BH #2 (4-5')	11/21/2017			X				X			1	N															X							
	BH #2 (9-10')	11/21/2017			X				X			1	N															X							
	BH #2 (14-15')	11/21/2017			X				X			1	N															X							

Relinquished by: mike Carmona	Date: 11/27/17	Time: 1525	Received by: [signature]
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Date: 11.27.17 Time: 15:26

LAB USE ONLY

Sample Temperature

REMARKS:

STANDARD

☐ **RUSH:** Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

cle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL C

Temp: 4.0 IR ID:R-8

CF:(0-6: -0.2°C)

(6-23: +0.2°C)

Corrected Temp: 3.8

Final 1.000

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

569375

Client Name: COG	**Site Manager:** Ike Tavarez
Project Name: Illustrated Man Fee Com #1H	
Project Location: (county, state) Eddy County, New Mexico	**Project #:** 212C-MD-00958 Task#12
Invoice to: COG	
Receiving Laboratory: Xenco Midland Tx	**Sampler Signature:** Mike Carmona
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2017 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance					Hold
	BH #2 (19-20')	11/21/2017			X				X			1	N															X								
	BH #2 (24-25')	11/21/2017			X				X			1	N															X								
	BH #2 (29-30')	11/21/2017			X				X			1	N															X								
	BH #2 (34-35')	11/21/2017			X				X			1	N															X								
	BH #2 (39-40')	11/21/2017			X				X			1	N															X								
	BH #3 (0-1')	11/21/2017			X				X			1	N															X								
	BH #3 (2-3')	11/21/2017			X				X			1	N															X								
	BH #3 (4-5')	11/21/2017			X				X			1	N															X								
	BH #3 (6-7')	11/21/2017			X				X			1	N															X								
	BH #3 (9-10')	11/21/2017			X				X			1	N															X								

Relinquished by: Mike Carmona	Date: 11/27/17	Time: 1525	Received by: [signature]
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Date: 11.27.17 Time: 15:26

LAB USE ONLY

Sample Temperature

REMARKS:

STANDARD

☐ **RUSH:** Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

DELIVERED FEDEX UPS Tracking #:

ORIGINAL COPY

Temp: 4.0 IR ID:R-8

CF:(0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: 3.8

Final 1.000

Page 21 of 24

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

569375

Client Name: COG	**Site Manager:** Ike Tavarez
Project Name: Illustrated Man Fee Com #1H	
Project Location: (county, state) Eddy County, New Mexico	**Project #:** 212C-MD-00958 Task#12
Invoice to: COG	
Receiving Laboratory: Xenco Midland Tx	**Sampler Signature:** Mike Carmona
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2017 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				Hold
	BH #3 (14-15')	11/21/2017			X				X			1	N															X							
	BH #3 (19-20')	11/21/2017			X				X			1	N															X							
	BH #3 (24-25')	11/21/2017			X				X			1	N															X							
	BH #3 (29-30')	11/21/2017			X				X			1	N															X							
	BH #3 (34-35')	11/21/2017			X				X			1	N															X							
	BH #3 (39-40')	11/21/2017			X				X			1	N															X							
	BH #3 (44-45')	11/21/2017			X				X			1	N																						X
	BH #3 (49-50')	11/21/2017			X				X			1	N																						X
	BG#1 (0-1')	11/21/2017			X				X			1	N															X							
	BG#1 (5')	11/21/2017			X				X			1	N															X							

Relinquished by: mike Carmona	Date: 11/27/17	Time: 1525	Received by:	Date: 11.27.17	Time: 15:26
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature

REMARKS:

STANDARD

☐ **RUSH:** Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

D DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Temp: 4.0 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 3.8

Final 1.000

Page 22 of 24

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

569375

Client Name: COG	**Site Manager:** Ike Tavarez
Project Name: Illustrated Man Fee Com #1H	
Project Location: (county, state) Eddy County, New Mexico	**Project #:** 212C-MD-00958 Task#12
Invoice to: COG	
Receiving Laboratory: Xenco Midland Tx	**Sampler Signature:** Mike Carmona
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: 2017 DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD None	PRESERVATIVE METHOD	# CONTAINERS	FILTERED (Y/N)	BTEX 8021B BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance				Hold
	BG #1 (10')	11/21/2017			X				X			1	N															X							
	BG #1 (15')	11/21/2017			X				X			1	N															X							
	BG #1 (20')	11/21/2017			X				X			1	N															X							
	BG #1 (25')	11/21/2017			X				X			1	N															X							
	BG #1 (30')	11/21/2017			X				X			1	N															X							
	BG #1 (35')	11/21/2017			X				X			1	N															X							
	BG #1 (40')	11/21/2017			X				X			1	N															X							

Relinquished by: Mike Carmona	Date: 11/27/17	Time: 1525	Received by: [signature]
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Date: 11.27.17 Time: 15:26

LAB USE ONLY

Sample Temperature

REMARKS:

STANDARD

☐ **RUSH:** Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COF

Temp: 4.0 IR ID:R-8

CF:(0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: 3.8

Final 1.000

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 11/27/2017 03:26:00 PM

Work Order #: 569375

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)?	3.8
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Shawnee Smith Date: 11/27/2017

Shawnee Smith

Checklist reviewed by: Mike Kimmel Date: 12/01/2017

Mike Kimmel