SITE INFORMATION

Report Type: Closure Report 2RP-4172

General Site Information:						
Site:	McIntyre B #10 Tank Battery					
Company:	COG Operating LLC					
Section, Township and Range	Unit M	Sec. 20	T 17S	R 30E		
Lease Number:	API No. 30-015-34775					
County:	Eddy County					
GPS:	32.815254° N			103.995226° W		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	From the intersection of US 82 and Hagerman Cutoff Rd in Loco Hills, NM, travel WEST on US 82 for approximately 0.30 mi, turn SOUTH onto lease road for 120 yards, turn WEST onto lease road for 0.15 mi, turn SOUTH onto lease road for 0.15 mi to location.					

Release Data:	
Date Released:	4/11/2017
Type Release:	Produced Water
Source of Contamination:	Flowline
Fluid Released:	15 bbls
Fluids Recovered:	12 bbls

Official Communication:			
Name:	Rebecca Haskell		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) 818-2372		(432) 687-8110
Fax:	(432) 684-7137		
Email:	rhaskell@concho.com		Ike.Tavarez@tetratech.com

Ranking Criteria		
Depth to Groundwater:	**Ranking Score**	**Site Data**
<50 ft	20	
50-99 ft	**10**	80'
>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:	**10**	

Acceptable Soil RRAL (mg/kg)		
Benzene	**Total BTEX**	**TPH**
10	50	1,000

TETRA TECH

April 5, 2018

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

Re: Closure Report for the COG Operating LLC., McIntyre B #10 Tank Battery, Unit M, Section 20, Township 17 South, Range 30 East, Eddy County, New Mexico. 2RP-4172.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC., (COG) to prepare a work plan and perform the remediation for a release that occurred at the McIntyre B #10 Tank Battery, Unit M, Section 20, Township 17 South, Range 30 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.815254º, W 103.995226º. 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 April 11, 2017, and released approximately fifteen (15) barrels of produced water due to a corroded three-inch nipple and hammer union on a flowline. Approximately twelve (12) barrels of produced water was recovered. The release occurred on the facility pad area and measured approximately 40’ x 200’ and 10’ x 115’. The release occurred in an area that was previously remediated in 2013 and a clay cap installed in areas, as shown on Figure 3. The initial C-141 form is included in Appendix A.

Groundwater

One water well is listed within Section 20 on the New Mexico Office of the State Engineer (NMOSE) database, which shows a depth to groundwater of 80’ below surface. No wells are listed on the USGS National Water Information System or in the Geology and Ground-Water Resources of Eddy County, New Mexico (Report 3). According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in the area is between 75’ and 100’ 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

TETRA TECH

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 1,000 mg/kg.

Soil Assessment and Analytical Results

On May 2, 2017, COG personnel evaluated and sampled the release area using a trackhoe. A total of five (5) sample trenches (T-1, T-2, T-3, T-4, and T-5) were installed to total depths ranging from 4.0' and 18.0' below surface. Additionally, six (6) trenches (T-1 East, T-1 North, T-1 South, West, T-4 South, and T-4 North) were installed to evaluate 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, all of the samples showed TPH, benzene, and total BTEX concentrations below the RRALs. In addition, none of the six (6) trenches (T-1 East, T-1 North, T-1 South, West T-4 South, and T-4 North) showed any significant chloride concentrations to the soils.

The area of trench (T-1) showed elevated chlorides concentrations in the shallow soils which quickly declined with depth from 29,100 mg/kg (Surface) to 575 mg/kg (6.0') below surface. However, a chloride spike was detected at 10.0' below surface with a concentration of 1,620 mg/kg and this chloride spike may be from possible cross contamination from the shallow soils. Trench (T-1) showed a bottom trench chloride concentration of 134 mg/kg at 18.0' below surface.

The areas of trenches (T-2 and T-4) showed chloride impact in the shallow soils with chloride highs of 12,500 mg/kg (Surface) and 1,520 mg/kg (2.0'), respectively. The chloride concentrations then declined with depth and both showed bottom trench concentrations of 153 mg/kg at 11' (T-2) and 4.0' (T-4). The area of trench (T-3) showed a chloride high of 4,870 mg/kg at 1.0', which declined with depth to 520 mg/kg at 12.0' and showed a bottom trench concentration of 167 mg/kg at 17.0' below surface. The area of trench (T-5) did not show any significant chloride impact to the area.

TETRA TECH

Remediation Activities

Between January 30 and February 7, 2018, Tetra Tech personnel were onsite to supervise the excavation and remediation activities. The remediation was performed in accordance to the approved work plan. The excavated areas and depths are shown on Figure 4 and highlighted (green) in Table 1. The area of trench (T-1) was excavated to approximately 4.0', the area of trench (T-2) was excavated to approximately 2.0', the area of trench (T-3) was excavated to approximately 6.0' and the area of trench (T-4) was excavated to approximately 3.0' below surface to remove the impacted soils. During the excavation activities, two areas were identified as having subsurface electrical lines, as shown on Figure 4. Due to safety concerns, these areas were not excavated.

To confirm proper removal, Tetra Tech collected confirmation samples from the excavations. A total of seven (7) bottom hole samples (AH-1 Bottom hole through AH-7 Bottom hole) and seventeen (17) sidewall samples were collected for confirmation. The confirmation samples were analyzed for chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The sample locations are shown on Figure 4.

Referring to Table 1, the confirmation samples (North Sidewall 3 and North Sidewall 4) collected in the area of trench (T-2) showed elevated chloride concentrations of 1,330 mg/kg and 801 mg/kg, respectively. In order to remove the impacted material in the area, trench (T-2) was excavated an additional 1.0' to the north and collected an additional confirmation samples. Once excavated, the areas of (North Sidewall 3 and North Sidewall 4) showed chloride concentrations of 467 mg/kg and 55.2 mg/kg, respectively. Additionally, the confirmation sample (AH-3 Bottom hole) collected in the area of trench (T-2) showed a chloride concentration of 810 mg/kg.

The confirmation samples (AH-1 Bottom hole) collected in the area of trench (T-4) showed a chloride concentration of 1,070 mg/kg at 3.0' below surface. Based on the data, the area of trench (T-4) was excavated to a total depth of approximately 4.0' below surface. The bottom hole sample (AH-7 Bottom hole) collected at the 4.0' excavation depth showed a chloride concentration of 577 mg/kg. None of the remaining confirmation samples collected showed significant chloride impact to the soils, with concentrations ranging from <4.96 mg/kg to 615 mg/kg. Once completed, the excavated area was backfilled with clean material to surface grade. Approximately 920 cubic yards of material was excavated and hauled to proper disposal.

TETRA TECH

Conclusion

Based on the soil assessment and remediation work performed at the site, COG requests closure of this spill. The final C-141 is enclosed in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities for this site, please call me at (432) 682-4559.

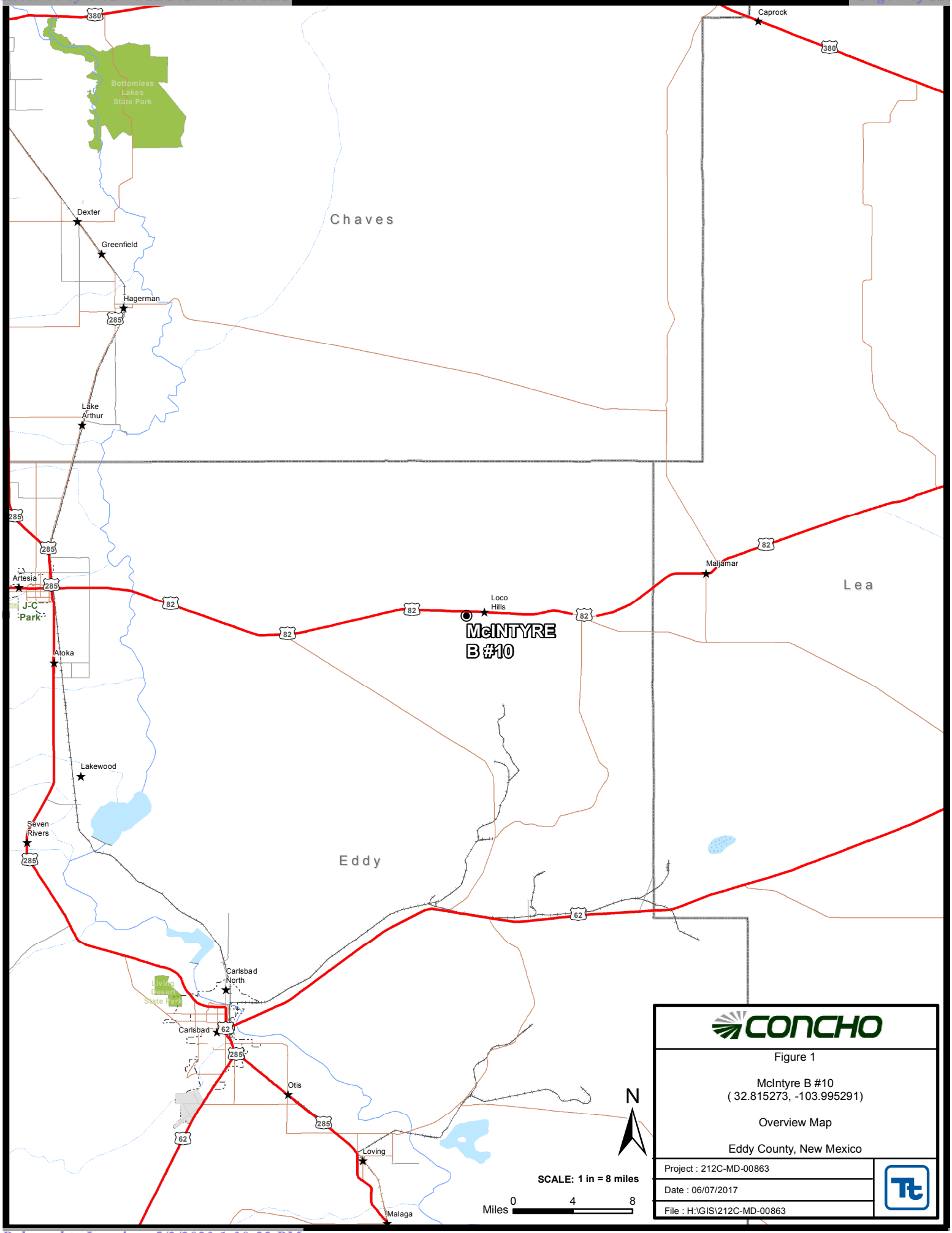
Respectfully submitted,
TETRA TECH

Clair Gonzales,
Geologist I

Ike Tavarez,
Senior Project Manager, P.G.

cc: Robert McNeill – COG
Dakota Neel – COG
Rebecca Haskell – COG
Shelly Tucker - BLM

Figures


Caprock
380
Bottomless Lakes State Park
Dexter
Greenfield
Hagerman
285
Chaves
Lake Arthur
285
Artesia
285
J-C Park
82
Loco Hills
McINTYRE B #10
Maljamar
Lea
Atoka
Lakewood
Seven Rivers
285
Eddy
62
Carlsbad North
Living Desert State Park
Carlsbad
62
285
Otis
285
62
Loving
Malaga
N
SCALE: 1 in = 8 miles
Miles 0 4 8
CONCHO
Figure 1
McIntyre B #10
(32.815273, -103.995291)
Overview Map
Eddy County, New Mexico
Project : 212C-MD-00863
Date : 06/07/2017
File : H:\GIS\212C-MD-00863

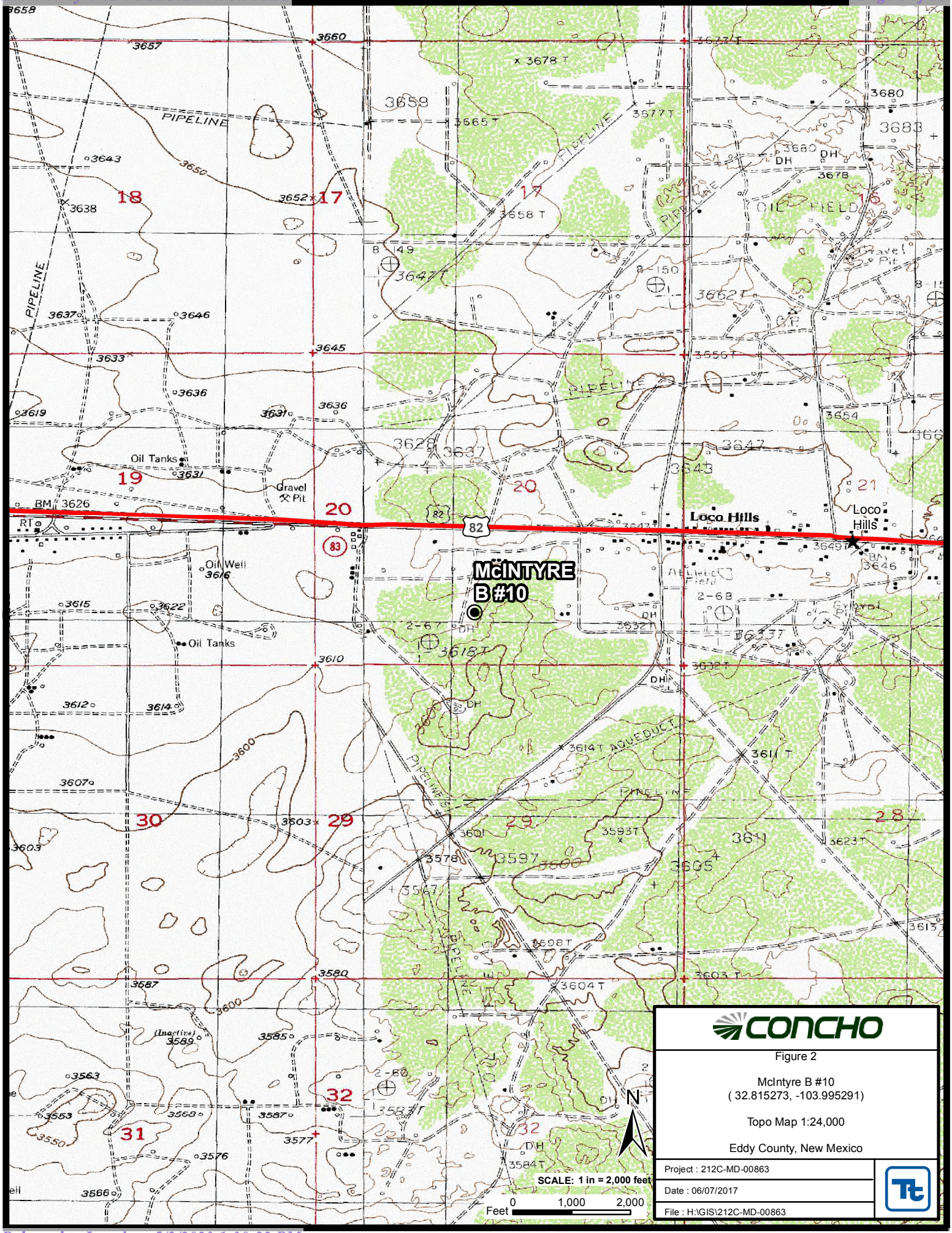


Figure 2

McIntyre B #10
(32.815273, -103.995291)

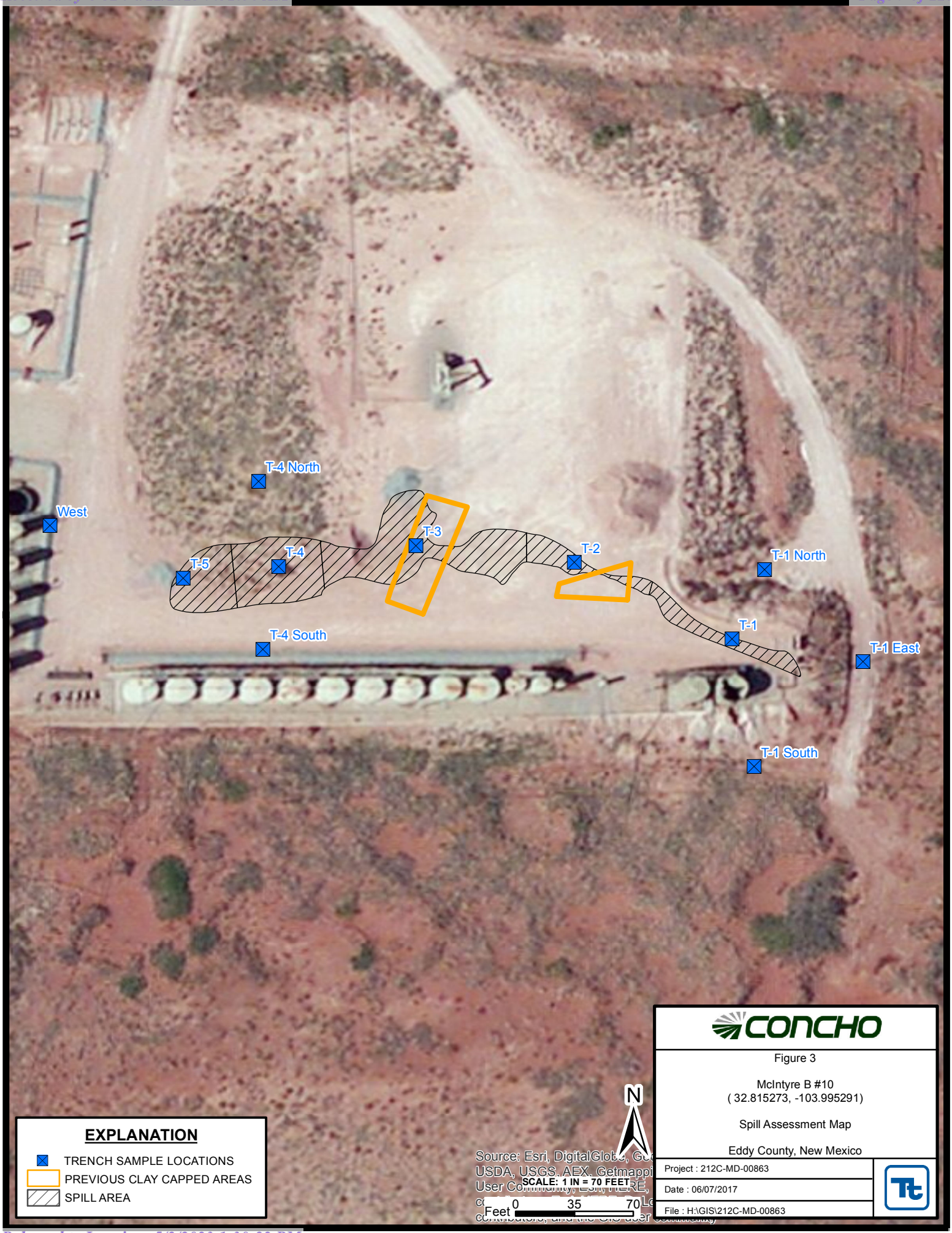
Topo Map 1:24,000

Eddy County, New Mexico

Project : 212C-MD-00863

Date : 06/07/2017

File : H:\GIS\212C-MD-00863



EXPLANATION

- TRENCH SAMPLE LOCATIONS
- PREVIOUS CLAY CAPPED AREAS
- SPILL AREA

CONCHO

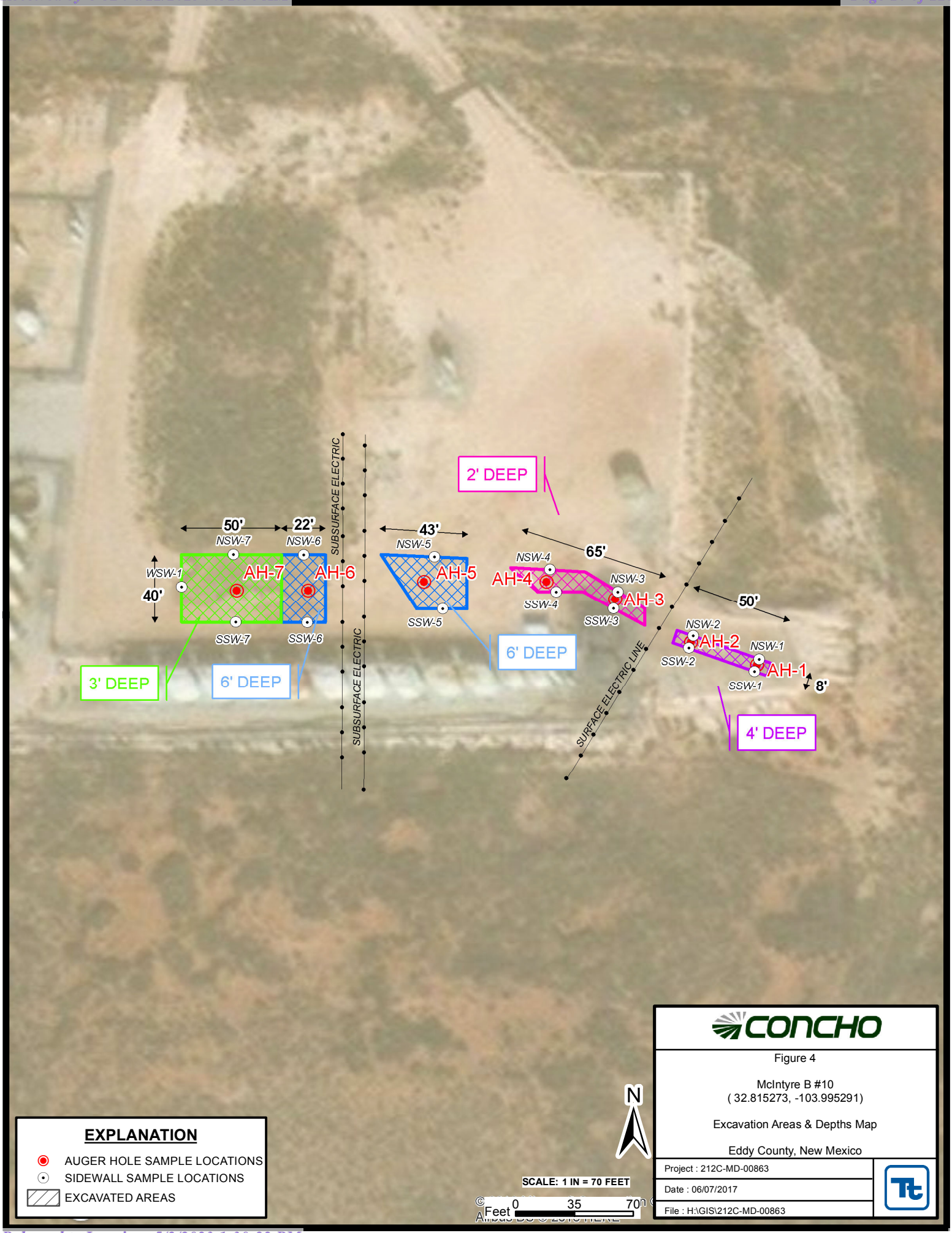
Figure 3

McIntyre B #10
(32.815273, -103.995291)

Spill Assessment Map

Eddy County, New Mexico

Project : 212C-MD-00863	
Date : 06/07/2017	
File : H:\GIS\212C-MD-00863	



EXPLANATION

- AUGER HOLE SAMPLE LOCATIONS
- SIDEWALL SAMPLE LOCATIONS
- EXCAVATED AREAS

CONCHO

Figure 4

McIntyre B #10
(32.815273, -103.995291)

Excavation Areas & Depths Map

Eddy County, New Mexico

Project : 212C-MD-00863	
Date : 06/07/2017	
File : H:\GIS\212C-MD-00863	

Tables

Table 1
COG Operating LLC.
McIntyre B #10 Tank Battery
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	C6-C10	C10-C28	Total						
T-1	5/2/2017	Surface	-		X	<15.0	23.9	23.9	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	**29,100**
	"	1	-		X	<15.0	<15.0	<15.0	<0.00332	<0.00332	<0.00332	<0.00332	<0.00332	**19,300**
	"	2	-		X	<14.9	<14.9	<14.9	<0.00326	<0.00326	<0.00326	<0.00326	<0.00326	**2,630**
	"	3	-		X	-	-	-	-	-	-	-	-	**1,970**
	"	4	-		X	-	-	-	-	-	-	-	-	**1,040**
	"	6	-	X		-	-	-	-	-	-	-	-	575
	"	8	-	X		-	-	-	-	-	-	-	-	**765**
	"	10	-	X		-	-	-	-	-	-	-	-	**1,620**
	"	12	-	X		-	-	-	-	-	-	-	-	430
	"	14	-	X		-	-	-	-	-	-	-	-	336
	"	18	-	X		-	-	-	-	-	-	-	-	134
AH-1 (Bottomhole)	2/5/2018	-	4-5	X		-	-	-	-	-	-	-	-	180
NSW-1	2/5/2018	-	-	X		-	-	-	-	-	-	-	-	615
SSW-1	2/5/2018	-	-	X		-	-	-	-	-	-	-	-	367
AH-2 (Bottomhole)	2/5/2018	-	4-5	X		-	-	-	-	-	-	-	-	138
NSW-2	2/5/2018	-	-	X		-	-	-	-	-	-	-	-	491
SSW-2	2/5/2018	-	-	X		-	-	-	-	-	-	-	-	473
T-2	5/2/2017	Surface	Surface		X	<15.0	<15.0	<15.0	<0.00339	<0.00339	<0.00339	<0.00339	<0.00339	**12,500**
	"	1	1		X	<15.0	<15.0	<15.0	<0.00348	<0.00348	<0.00348	<0.00348	<0.00348	**4,640**
	"	2	2		X	<15.0	<15.0	<15.0	<0.00345	<0.00345	<0.00345	<0.00345	<0.00345	**1,080**
	"	3	3	X		-	-	-	-	-	-	-	-	86.8
	"	4	4	X		-	-	-	-	-	-	-	-	130
	"	6	6	X		-	-	-	-	-	-	-	-	210
	"	9	9	X		-	-	-	-	-	-	-	-	98.3
	"	11	11	X		-	-	-	-	-	-	-	-	153
AH-3 (Bottomhole)	2/5/2018	-	2-3	X		-	-	-	-	-	-	-	-	810
NSW-3	2/5/2018	-	-		X	-	-	-	-	-	-	-	-	**1,330**
NSW-3 (1')	2/6/2018	-	-	X		-	-	-	-	-	-	-	-	467
SSW-3	2/5/2018	-	-	X		-	-	-	-	-	-	-	-	180
AH-4 (Bottomhole)	2/5/2018	-	2-3	X		-	-	-	-	-	-	-	-	294
NSW-4	2/5/2018	-	-		X	-	-	-	-	-	-	-	-	**801**
NSW-4 (1')	2/6/2018	-	-	X		-	-	-	-	-	-	-	-	55.2
SSW-4	2/6/2018	-	-	X		-	-	-	-	-	-	-	-	473

Table 1
COG Operating LLC.
McIntyre B #10 Tank Battery
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	C6-C10	C10-C28	Total						
T-3	5/2/2017	Surface	Surface		X	<15.0	<15.0	<15.0	<0.00344	<0.00344	<0.00344	<0.00344	<0.00344	**1,730**
	"	1	1		X	<15.0	<15.0	<15.0	<0.00341	<0.00341	<0.00341	<0.00341	<0.00341	**4,870**
	"	2	2		X	<15.0	<15.0	<15.0	<0.00327	<0.00327	<0.00327	<0.00327	<0.00327	**1,090**
	"	3	3		X	-	-	-	-	-	-	-	-	**1,270**
	"	4	4		X	-	-	-	-	-	-	-	-	**2,940**
	"	6	6		X	-	-	-	-	-	-	-	-	**1,690**
	"	8	8	X		-	-	-	-	-	-	-	-	**671**
	"	10	10	X		-	-	-	-	-	-	-	-	**884**
	"	12	12	X		-	-	-	-	-	-	-	-	520
	"	14	14	X		-	-	-	-	-	-	-	-	462
	"	17	17	X		-	-	-	-	-	-	-	-	167
AH-5 (Bottomhole)	2/6/2018	-	6-7	X		-	-	-	-	-	-	-	-	93.6
NSW-5	2/6/2018	-	-	X		-	-	-	-	-	-	-	-	148
SSW-5	2/6/2018	-	-	X		-	-	-	-	-	-	-	-	<4.96
AH-6 (Bottomhole)	2/6/2018	-	6-7	X		-	-	-	-	-	-	-	-	608
NSW-6	2/6/2018	-	-	X		-	-	-	-	-	-	-	-	184
SSW-6	2/6/2018	-	-	X		-	-	-	-	-	-	-	-	89.3
T-4	5/2/2017	2	2		X	<15.0	<15.0	<15.0	<0.00345	0.00453	0.02000	<0.00345	0.02450	**1,520**
	"	4	4	X		<15.0	<15.0	<15.0	<0.00351	<0.00351	<0.00351	0.00468	0.00468	153
AH-7 (Bottomhole)	2/6/2018	-	3		X	-	-	-	-	-	-	-	-	**1,070**
	2/7/2018	-	4	X		-	-	-	-	-	-	-	-	577
NSW-7	2/6/2018	-	-	X		-	-	-	-	-	-	-	-	28.5
SSW-7	2/6/2018	-	-	X		-	-	-	-	-	-	-	-	84.5
WSW-7	2/6/2018	-	-	X		-	-	-	-	-	-	-	-	253
T-5	5/2/2017	2	2	X		<15.0	<15.0	<15.0	<0.00346	<0.00346	<0.00346	<0.00346	<0.00346	86.0
	"	4	4	X		<14.9	<14.9	<14.9	<0.00353	<0.00353	<0.00353	<0.00353	<0.00353	66.4
T-1 East	5/2/2017	0	0	X		<15.0	<15.0	<15.0	<0.00341	<0.00341	<0.00341	<0.00341	<0.00341	104
	"	1	1	X		<14.9	<14.9	<14.9	<0.00328	0.00467	0.00538	<0.00328	0.0101	102

Table 1
COG Operating LLC.
McIntyre B #10 Tank Battery
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	C6-C10	C10-C28	Total						
T-1 North	5/2/2017	0	0	X		<15.0	16.1	16.1	<0.00369	<0.00369	<0.00369	<0.00369	<0.00369	<4.89
	"	1	1	X		<15.0	23.3	23.3	<0.00350	<0.00350	<0.00350	<0.00350	<0.00350	<4.98
T-1 South	5/2/2017	0	0	X		<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	110
	"	1	1	X		<15.0	<15.0	<15.0	<0.00328	<0.00328	0.00803	<0.00328	0.00803	81.5
West	5/2/2017	0	0	X		<15.0	<15.0	<15.0	<0.00328	<0.00328	<0.00328	<0.00328	<0.00328	107
	"	1	1	X		<15.0	<15.0	<15.0	<0.00385	<0.00385	<0.00385	<0.00385	<0.00385	136
T-4 South	5/2/2017	0	0	X		93.7	<15.0	<15.0	<15.0	<0.00370	<0.00370	<0.00370	<0.00370	93.7
	"	1	1	X		24.3	<15.0	<15.0	<15.0	<0.00344	<0.00344	<0.00344	<0.00344	24.3
T-4 North	5/2/2017	0	0	X		<5.00	<15.0	<15.0	<15.0	<0.00353	<0.00353	<0.00353	<0.00353	<5.00
	"	1	1	X		8.21	<15.0	<15.0	<15.0	<0.00204	<0.00204	<0.00204	<0.00204	8.21

(-) Not Analyzed

Excavation Depths

212C-MD-00863.200 XENCO LABS

Photos

COG Operating LLC
McIntyre B #10 Tank Battery
Eddy County, New Mexico

TETRA TECH

View East – Excavated Area of T-1

View East – Excavated Area of T-2

COG Operating LLC
McIntyre B #10 Tank Battery
Eddy County, New Mexico

TETRA TECH

View West – Excavated Area of T-3

View Southwest – Excavated Area of T-4

COG Operating LLC
McIntyre B #10 Tank Battery
Eddy County, New Mexico

TETRA TECH

View East – Backfilled Area of T-1

View West – Backfilled Areas of T-2, T-3, and T-4

Appendix A

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: COG Operating LLC OGRID # 229137		Contact:	Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701		Telephone No.	432-683-7443
Facility Name: McIntyre B #10 Tank Battery		Facility Type:	Tank Battery
Surface Owner: Federal	Mineral Owner:		API No. 30-015-34775

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	20	17S	30E	330	South	990	West	Eddy

Latitude 32.815254 **Longitude** -103.995226

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 15 bbls	Volume Recovered: 12 bbls
Source of Release: Flowline	Date and Hour of Occurrence: April 11, 2017 7:30 am	Date and Hour of Discovery: April 11, 2017 7:30 am
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The release was due to corrosion at a three-inch nipple and hammer union. The nipple and hammer union were replaced.

Describe Area Affected and Cleanup Action Taken.*

The release was on location. 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

Printed Name: Rebecca Haskell

Title: Senior HSE Coordinator

E-mail Address: rhaskell@concho.com

Date: April 13, 2017 Phone: 432-683-7443

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: Expiration Date:

Conditions of Approval: Attached ☐

Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company **COG Operating LLC**	Contact **Rebecca Haskell**
Address: **600 West Illinoise Ave., Midland, TX 79701**	Telephone No. **(432) 818-2372**
Facility Name: McIntyre B #10 Tank Battery	Facility Type **Tank Battery**

Surface Owner: Federal	Mineral Owner	API No. 30-015-34775

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	20	17S	30E	330	South	990	West	Eddy

Latitude N 32.815254° **Longitude** W 103.995226°

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release 15 bbls	Volume Recovered 12 bbls
Source of Release: Flowline	Date and Hour of Occurrence 04/11/2017 7:30am	Date and Hour of Discovery 04/11/2017 7:30am
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

The release occurred due to corrosion on a thre-inch nipple and hammer union. The release occurred on the pad area.

Describe Area Affected and Cleanup Action Taken.*

The release area was inspected and samples were collected to define spills extent. Soil that exceeded RRAL was removed and hauled away for proper disposal. Site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD for review.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Ike Tavarez	Approved by District Supervisor: Brittany Hall
Title: Project Manager	Approval Date: 5/2/2023 Expiration Date: N/A
E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval: none Attached ☐
Date: 03/08/2018 Phone: (432) 682-4559	

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - McIntyre B #10 Tank Battery
Eddy County, New Mexico

16 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14 220 dry	13
19 110	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

16 South 30 East

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

16 South 31 East

6	5	4	3	2 290	1
7	8	9	10	11	12 288
18	17	16	15	14 113 314	13 299
19	20	21	22	23	24
30	29	28	27	26	25
31 290	32	33	34	35	36

17 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22 76 80	23	24
30	29 210 208	28	27	26	25
31	32	33	34	35 153	36

17 South 30 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20 80	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

17 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34 271	35	36

18 South 29 East

6	5	4	3	2	1
7	8	9	10 95	11	12
18	17	16	15	14	13
19	20	21	22	23	24 158
30	29	28	27	26	25
31	32	33	34	35	36

18 South 30 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23 44	24
30	29	28	27	26	25
31	32	33	34	35	36

18 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12 400
18	17	16	15 98	14 317	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35 261	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	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Depth Well	Depth Water	Water Column
RA 11914 POD1			ED	2	4	2	20	17S	30E	594801	3632002	85	80	5

Average Depth to Water: **80 feet**

Minimum Depth: **80 feet**

Maximum Depth: **80 feet**

Record Count: 1

PLSS Search:

Township: 17S **Range:** 30E

5/23/17 2:33 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Appendix C

Certificate of Analysis Summary 552583

COG Operating LLC, Artesia, NM

Project Name: McIntyre B #10 Tank Battery

Project Id:

Contact: Aaron Lieb

Project Location: McIntyre B #10 Tank Battery

Date Received in Lab: Fri May-05-17 11:00 am

Report Date: 18-MAY-17

Project Manager: Liz Givens

Analysis Requested													
	Lab Id:	552583-001		552583-002		552583-003		552583-004		552583-005		552583-006	
	Field Id:	T1-East		T1-East		T1-North		T1-North		T1-South		T1-South	
	Depth:			1 ft				1 ft				1 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-02-17 14:00		May-02-17 14:00		May-02-17 14:00		May-02-17 14:00		May-02-17 14:00		May-02-17 14:00	
BTEX by EPA 8021B	***Extracted:***	May-08-17 16:00		May-08-17 16:00		May-08-17 16:00		May-08-17 16:00		May-08-17 16:00		May-09-17 09:30	
	Analyzed:	May-09-17 13:29		May-09-17 13:45		May-09-17 14:00		May-09-17 14:17		May-09-17 14:33		May-09-17 22:58	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00341	0.00341	<0.00328	0.00328	<0.00369	0.00369	<0.00350	0.00350	<0.00200	0.00200	<0.00328	0.00328
Toluene		<0.00341	0.00341	0.00467	0.00328	<0.00369	0.00369	<0.00350	0.00350	<0.00200	0.00200	<0.00328	0.00328
Ethylbenzene		<0.00341	0.00341	0.00538	0.00328	<0.00369	0.00369	<0.00350	0.00350	<0.00200	0.00200	0.00803	0.00328
m,p-Xylenes		<0.00683	0.00683	<0.00656	0.00656	<0.00738	0.00738	<0.00699	0.00699	<0.00401	0.00401	<0.00656	0.00656
o-Xylene		<0.00341	0.00341	<0.00328	0.00328	<0.00369	0.00369	<0.00350	0.00350	<0.00200	0.00200	<0.00328	0.00328
Total Xylenes		<0.00341	0.00341	<0.00328	0.00328	<0.00369	0.00369	<0.00350	0.00350	<0.00200	0.00200	<0.00328	0.00328
Total BTEX		<0.00341	0.00341	0.0101	0.00328	<0.00369	0.00369	<0.00350	0.00350	<0.00200	0.00200	0.00803	0.00328
Inorganic Anions by EPA 300/300.1	***Extracted:***	May-15-17 09:00		May-15-17 09:00		May-15-17 09:00		May-15-17 09:00		May-15-17 09:00		May-15-17 09:00	
	Analyzed:	May-15-17 11:47		May-15-17 12:10		May-15-17 12:17		May-15-17 12:25		May-15-17 12:32		May-15-17 12:55	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		104	4.88	102	4.89	<4.89	4.89	<4.98	4.98	110	4.97	81.5	4.94
TPH By SW8015 Mod	***Extracted:***	May-09-17 07:00		May-09-17 07:00		May-09-17 07:00		May-09-17 07:00		May-09-17 07:00		May-09-17 07:00	
	Analyzed:	May-09-17 11:31		May-09-17 11:51		May-09-17 12:11		May-09-17 12:31		May-09-17 13:31		May-09-17 13:51	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
C10-C28 Diesel Range Hydrocarbons		<15.0	15.0	<14.9	14.9	16.1	15.0	23.3	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<14.9	14.9	16.1	15.0	23.3	15.0	<15.0	15.0	<15.0	15.0

Brandi Ritcherson
Project Manager

Final 1.000

Certificate of Analysis Summary 552583

COG Operating LLC, Artesia, NM

Project Name: McIntyre B #10 Tank Battery

Project Id:

Contact: Aaron Lieb

Project Location: McIntyre B #10 Tank Battery

Date Received in Lab: Fri May-05-17 11:00 am

Report Date: 18-MAY-17

Project Manager: Liz Givens

Analysis Requested													
	Lab Id:	552583-007		552583-008		552583-009		552583-010		552583-011		552583-012	
	Field Id:	WEST		WEST		T4-South		T4-South		T4-North		T4-North	
	Depth:			1 ft				1 ft				1 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-02-17 14:00		May-02-17 14:00		May-02-17 14:30		May-02-17 14:30		May-02-17 14:30		May-02-17 14:30	
BTEX by EPA 8021B	***Extracted:***	May-10-17 16:00		May-10-17 09:30		May-10-17 16:00		May-10-17 16:00		May-10-17 16:00		May-10-17 16:00	
	Analyzed:	** ** ** **		May-10-17 18:08		** ** ** **		** ** ** **		** ** ** **		** ** ** **	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00328	0.00328	<0.00385	0.00385	<0.00370	0.00370	<0.00344	0.00344	<0.00353	0.00353	<0.00204	0.00204
Toluene		<0.00328	0.00328	<0.00385	0.00385	<0.00370	0.00370	<0.00344	0.00344	<0.00353	0.00353	<0.00204	0.00204
Ethylbenzene		<0.00328	0.00328	<0.00385	0.00385	<0.00370	0.00370	<0.00344	0.00344	<0.00353	0.00353	<0.00204	0.00204
m,p-Xylenes		<0.00656	0.00656	<0.00769	0.00769	<0.00741	0.00741	<0.00687	0.00687	<0.00707	0.00707	<0.00408	0.00408
o-Xylene		<0.00328	0.00328	<0.00385	0.00385	<0.00370	0.00370	<0.00344	0.00344	<0.00353	0.00353	<0.00204	0.00204
Total Xylenes		<0.00328	0.00328	<0.00385	0.00385	<0.00370	0.00370	<0.00344	0.00344	<0.00353	0.00353	<0.00204	0.00204
Total BTEX		<0.00328	0.00328	<0.00385	0.00385	<0.00370	0.00370	<0.00344	0.00344	<0.00353	0.00353	<0.00204	0.00204
Inorganic Anions by EPA 300/300.1	***Extracted:***	May-15-17 09:00		May-15-17 09:00		May-15-17 09:00		May-15-17 09:00		May-15-17 09:00		May-15-17 09:00	
	Analyzed:	May-15-17 13:03		May-15-17 13:10		May-15-17 13:18		May-15-17 13:25		May-15-17 13:33		May-15-17 13:56	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		107	4.98	136	4.94	93.7	4.87	24.3	4.93	<5.00	5.00	8.21	4.97
TPH By SW8015 Mod	***Extracted:***	May-09-17 07:00		May-09-17 07:00		May-09-17 07:00		May-09-17 07:00		May-09-17 07:00		May-09-17 07:00	
	Analyzed:	May-09-17 14:12		May-09-17 14:32		May-09-17 14:53		May-09-17 15:13		May-09-17 15:34		May-09-17 15:54	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
C10-C28 Diesel Range Hydrocarbons		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0

Brandi Ritcherson
Project Manager

Final 1.000

Analytical Report 552583

for

COG Operating LLC

Project Manager: Aaron Lieb

McIntyre B #10 Tank Battery

18-MAY-17

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

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

18-MAY-17

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

Reference: XENCO Report No(s): **552583**
McIntyre B #10 Tank Battery
Project Address: McIntyre B #10 Tank Battery

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) 552583. 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. 552583 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Brandi Ritcherson
Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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

Sample Cross Reference 552583

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T1-East	S	05-02-17 14:00	N/A	552583-001
T1-East	S	05-02-17 14:00	- 1 ft	552583-002
T1-North	S	05-02-17 14:00	N/A	552583-003
T1-North	S	05-02-17 14:00	- 1 ft	552583-004
T1-South	S	05-02-17 14:00	N/A	552583-005
T1-South	S	05-02-17 14:00	- 1 ft	552583-006
WEST	S	05-02-17 14:00	N/A	552583-007
WEST	S	05-02-17 14:00	- 1 ft	552583-008
T4-South	S	05-02-17 14:30	N/A	552583-009
T4-South	S	05-02-17 14:30	- 1 ft	552583-010
T4-North	S	05-02-17 14:30	N/A	552583-011
T4-North	S	05-02-17 14:30	- 1 ft	552583-012

CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: McIntyre B #10 Tank Battery

Project ID:
Work Order Number(s): *552583*

Report Date: *18-MAY-17*
Date Received: *05/05/2017*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3017044 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3017045 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3017047 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3017048 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3017476 Inorganic Anions by EPA 300/300.1
Lab Sample ID 552583-011 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: 552583-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analytical Results 552583

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id: **T1-East** Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552583-001 Date Collected: 05.02.17 14.00

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.15.17 09.00 Basis: Wet Weight

Seq Number: 3017476

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**104**	4.88	mg/kg	05.15.17 11.47		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 05.09.17 07.00 Basis: Wet Weight

Seq Number: 3016886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 11.31	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.09.17 11.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.17 11.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	05.09.17 11.31	
o-Terphenyl	84-15-1	101	%	70-135	05.09.17 11.31	

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

Tech: ALJ % Moisture:

Analyst: ALJ Date Prep: 05.08.17 16.00 Basis: Wet Weight

Seq Number: 3017044

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00341	0.00341	mg/kg	05.09.17 13.29	U	1
Toluene	108-88-3	<0.00341	0.00341	mg/kg	05.09.17 13.29	U	1
Ethylbenzene	100-41-4	<0.00341	0.00341	mg/kg	05.09.17 13.29	U	1
m,p-Xylenes	179601-23-1	<0.00683	0.00683	mg/kg	05.09.17 13.29	U	1
o-Xylene	95-47-6	<0.00341	0.00341	mg/kg	05.09.17 13.29	U	1
Total Xylenes	1330-20-7	<0.00341	0.00341	mg/kg	05.09.17 13.29	U	1
Total BTEX		<0.00341	0.00341	mg/kg	05.09.17 13.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	80-120	05.09.17 13.29	
1,4-Difluorobenzene	540-36-3	113	%	80-120	05.09.17 13.29	

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T1-East**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552583-002	Date Collected:	05.02.17 14.00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 09.00	Basis:	Wet Weight
Seq Number:	3017476				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**102**	4.89	mg/kg	05.15.17 12.10		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.17 07.00	Basis:	Wet Weight
Seq Number:	3016886				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<14.9	14.9	mg/kg	05.09.17 11.51	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<14.9	14.9	mg/kg	05.09.17 11.51	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	05.09.17 11.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	05.09.17 11.51	
o-Terphenyl	84-15-1	106	%	70-135	05.09.17 11.51	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.08.17 16.00	Basis:	Wet Weight
Seq Number:	3017044				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00328	0.00328	mg/kg	05.09.17 13.45	U	1
Toluene	108-88-3	**0.00467**	0.00328	mg/kg	05.09.17 13.45		1
Ethylbenzene	100-41-4	**0.00538**	0.00328	mg/kg	05.09.17 13.45		1
m,p-Xylenes	179601-23-1	<0.00656	0.00656	mg/kg	05.09.17 13.45	U	1
o-Xylene	95-47-6	<0.00328	0.00328	mg/kg	05.09.17 13.45	U	1
Total Xylenes	1330-20-7	<0.00328	0.00328	mg/kg	05.09.17 13.45	U	1
Total BTEX		**0.0101**	0.00328	mg/kg	05.09.17 13.45		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	118	%	80-120	05.09.17 13.45	
4-Bromofluorobenzene	460-00-4	88	%	80-120	05.09.17 13.45	

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id: **T1-North** Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552583-003 Date Collected: 05.02.17 14.00

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.15.17 09.00 Basis: Wet Weight

Seq Number: 3017476

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.89	4.89	mg/kg	05.15.17 12.17	U	1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 05.09.17 07.00 Basis: Wet Weight

Seq Number: 3016886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 12.11	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	**16.1**	15.0	mg/kg	05.09.17 12.11		1
Total TPH	PHC635	**16.1**	15.0	mg/kg	05.09.17 12.11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	05.09.17 12.11	
o-Terphenyl	84-15-1	99	%	70-135	05.09.17 12.11	

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

Tech: ALJ % Moisture:

Analyst: ALJ Date Prep: 05.08.17 16.00 Basis: Wet Weight

Seq Number: 3017044

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00369	0.00369	mg/kg	05.09.17 14.00	U	1
Toluene	108-88-3	<0.00369	0.00369	mg/kg	05.09.17 14.00	U	1
Ethylbenzene	100-41-4	<0.00369	0.00369	mg/kg	05.09.17 14.00	U	1
m,p-Xylenes	179601-23-1	<0.00738	0.00738	mg/kg	05.09.17 14.00	U	1
o-Xylene	95-47-6	<0.00369	0.00369	mg/kg	05.09.17 14.00	U	1
Total Xylenes	1330-20-7	<0.00369	0.00369	mg/kg	05.09.17 14.00	U	1
Total BTEX		<0.00369	0.00369	mg/kg	05.09.17 14.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	120	%	80-120	05.09.17 14.00	
4-Bromofluorobenzene	460-00-4	95	%	80-120	05.09.17 14.00	

Certificate of Analytical Results 552583

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T1-North**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552583-004	Date Collected:	05.02.17 14.00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 09.00	Basis:	Wet Weight
Seq Number:	3017476				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.98	4.98	mg/kg	05.15.17 12.25	U	1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.17 07.00	Basis:	Wet Weight
Seq Number:	3016886				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 12.31	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	**23.3**	15.0	mg/kg	05.09.17 12.31		1
Total TPH	PHC635	**23.3**	15.0	mg/kg	05.09.17 12.31		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	05.09.17 12.31	
o-Terphenyl	84-15-1	101	%	70-135	05.09.17 12.31	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.08.17 16.00	Basis:	Wet Weight
Seq Number:	3017044				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00350	0.00350	mg/kg	05.09.17 14.17	U	1
Toluene	108-88-3	<0.00350	0.00350	mg/kg	05.09.17 14.17	U	1
Ethylbenzene	100-41-4	<0.00350	0.00350	mg/kg	05.09.17 14.17	U	1
m,p-Xylenes	179601-23-1	<0.00699	0.00699	mg/kg	05.09.17 14.17	U	1
o-Xylene	95-47-6	<0.00350	0.00350	mg/kg	05.09.17 14.17	U	1
Total Xylenes	1330-20-7	<0.00350	0.00350	mg/kg	05.09.17 14.17	U	1
Total BTEX		<0.00350	0.00350	mg/kg	05.09.17 14.17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	81	%	80-120	05.09.17 14.17	
1,4-Difluorobenzene	540-36-3	100	%	80-120	05.09.17 14.17	

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id: **T1-South** Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552583-005 Date Collected: 05.02.17 14.00

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.15.17 09.00 Basis: Wet Weight

Seq Number: 3017476

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**110**	4.97	mg/kg	05.15.17 12.32		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 05.09.17 07.00 Basis: Wet Weight

Seq Number: 3016886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 13.31	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.09.17 13.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.17 13.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	05.09.17 13.31	
o-Terphenyl	84-15-1	90	%	70-135	05.09.17 13.31	

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

Tech: ALJ % Moisture:

Analyst: ALJ Date Prep: 05.08.17 16.00 Basis: Wet Weight

Seq Number: 3017044

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.09.17 14.33	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.09.17 14.33	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.09.17 14.33	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.09.17 14.33	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.09.17 14.33	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.09.17 14.33	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.09.17 14.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	85	%	80-120	05.09.17 14.33	
1,4-Difluorobenzene	540-36-3	109	%	80-120	05.09.17 14.33	

Certificate of Analytical Results 552583

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T1-South**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552583-006	Date Collected:	05.02.17 14.00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 09.00	Basis:	Wet Weight
Seq Number:	3017476				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**81.5**	4.94	mg/kg	05.15.17 12.55		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.17 07.00	Basis:	Wet Weight
Seq Number:	3016886				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 13.51	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.09.17 13.51	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.17 13.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	05.09.17 13.51	
o-Terphenyl	84-15-1	110	%	70-135	05.09.17 13.51	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.09.17 09.30	Basis:	Wet Weight
Seq Number:	3017045				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00328	0.00328	mg/kg	05.09.17 22.58	U	1
Toluene	108-88-3	<0.00328	0.00328	mg/kg	05.09.17 22.58	U	1
Ethylbenzene	100-41-4	**0.00803**	0.00328	mg/kg	05.09.17 22.58		1
m,p-Xylenes	179601-23-1	<0.00656	0.00656	mg/kg	05.09.17 22.58	U	1
o-Xylene	95-47-6	<0.00328	0.00328	mg/kg	05.09.17 22.58	U	1
Total Xylenes	1330-20-7	<0.00328	0.00328	mg/kg	05.09.17 22.58	U	1
Total BTEX		**0.00803**	0.00328	mg/kg	05.09.17 22.58		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	82	%	80-120	05.09.17 22.58	
1,4-Difluorobenzene	540-36-3	95	%	80-120	05.09.17 22.58	

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id: **WEST** Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552583-007 Date Collected: 05.02.17 14.00

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.15.17 09.00 Basis: Wet Weight

Seq Number: 3017476

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**107**	4.98	mg/kg	05.15.17 13.03		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 05.09.17 07.00 Basis: Wet Weight

Seq Number: 3016886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 14.12	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.09.17 14.12	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.17 14.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	05.09.17 14.12	
o-Terphenyl	84-15-1	97	%	70-135	05.09.17 14.12	

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

Tech: ALJ % Moisture:

Analyst: ALJ Date Prep: 05.10.17 16.00 Basis: Wet Weight

Seq Number: 3017047

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00328	0.00328	mg/kg	05.10.17 12.05	U	1
Toluene	108-88-3	<0.00328	0.00328	mg/kg	05.10.17 12.05	U	1
Ethylbenzene	100-41-4	<0.00328	0.00328	mg/kg	05.10.17 12.05	U	1
m,p-Xylenes	179601-23-1	<0.00656	0.00656	mg/kg	05.10.17 12.05	U	1
o-Xylene	95-47-6	<0.00328	0.00328	mg/kg	05.10.17 12.05	U	1
Total Xylenes	1330-20-7	<0.00328	0.00328	mg/kg	05.10.17 12.05	U	1
Total BTEX		<0.00328	0.00328	mg/kg	05.10.17 12.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	84	%	80-120	05.10.17 12.05	
1,4-Difluorobenzene	540-36-3	94	%	80-120	05.10.17 12.05	

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**WEST**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552583-008	Date Collected:	05.02.17 14.00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 09.00	Basis:	Wet Weight
Seq Number:	3017476				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**136**	4.94	mg/kg	05.15.17 13.10		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.17 07.00	Basis:	Wet Weight
Seq Number:	3016886				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 14.32	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.09.17 14.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.17 14.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	05.09.17 14.32	
o-Terphenyl	84-15-1	98	%	70-135	05.09.17 14.32	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.10.17 09.30	Basis:	Wet Weight
Seq Number:	3017048				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00385	0.00385	mg/kg	05.10.17 18.08	U	1
Toluene	108-88-3	<0.00385	0.00385	mg/kg	05.10.17 18.08	U	1
Ethylbenzene	100-41-4	<0.00385	0.00385	mg/kg	05.10.17 18.08	U	1
m,p-Xylenes	179601-23-1	<0.00769	0.00769	mg/kg	05.10.17 18.08	U	1
o-Xylene	95-47-6	<0.00385	0.00385	mg/kg	05.10.17 18.08	U	1
Total Xylenes	1330-20-7	<0.00385	0.00385	mg/kg	05.10.17 18.08	U	1
Total BTEX		<0.00385	0.00385	mg/kg	05.10.17 18.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	80-120	05.10.17 18.08	
4-Bromofluorobenzene	460-00-4	95	%	80-120	05.10.17 18.08	

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id: **T4-South** Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552583-009 Date Collected: 05.02.17 14.30

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.15.17 09.00 Basis: Wet Weight

Seq Number: 3017476

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**93.7**	4.87	mg/kg	05.15.17 13.18		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 05.09.17 07.00 Basis: Wet Weight

Seq Number: 3016886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 14.53	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.09.17 14.53	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.17 14.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	05.09.17 14.53	
o-Terphenyl	84-15-1	100	%	70-135	05.09.17 14.53	

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

Tech: ALJ % Moisture:

Analyst: ALJ Date Prep: 05.10.17 16.00 Basis: Wet Weight

Seq Number: 3017047

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00370	0.00370	mg/kg	05.10.17 12.38	U	1
Toluene	108-88-3	<0.00370	0.00370	mg/kg	05.10.17 12.38	U	1
Ethylbenzene	100-41-4	<0.00370	0.00370	mg/kg	05.10.17 12.38	U	1
m,p-Xylenes	179601-23-1	<0.00741	0.00741	mg/kg	05.10.17 12.38	U	1
o-Xylene	95-47-6	<0.00370	0.00370	mg/kg	05.10.17 12.38	U	1
Total Xylenes	1330-20-7	<0.00370	0.00370	mg/kg	05.10.17 12.38	U	1
Total BTEX		<0.00370	0.00370	mg/kg	05.10.17 12.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	80-120	05.10.17 12.38	
1,4-Difluorobenzene	540-36-3	110	%	80-120	05.10.17 12.38	

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T4-South**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552583-010	Date Collected:	05.02.17 14.30	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 09.00	Basis:	Wet Weight
Seq Number:	3017476				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**24.3**	4.93	mg/kg	05.15.17 13.25		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.17 07.00	Basis:	Wet Weight
Seq Number:	3016886				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 15.13	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.09.17 15.13	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.17 15.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	05.09.17 15.13	
o-Terphenyl	84-15-1	92	%	70-135	05.09.17 15.13	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.10.17 16.00	Basis:	Wet Weight
Seq Number:	3017047				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00344	0.00344	mg/kg	05.10.17 12.54	U	1
Toluene	108-88-3	<0.00344	0.00344	mg/kg	05.10.17 12.54	U	1
Ethylbenzene	100-41-4	<0.00344	0.00344	mg/kg	05.10.17 12.54	U	1
m,p-Xylenes	179601-23-1	<0.00687	0.00687	mg/kg	05.10.17 12.54	U	1
o-Xylene	95-47-6	<0.00344	0.00344	mg/kg	05.10.17 12.54	U	1
Total Xylenes	1330-20-7	<0.00344	0.00344	mg/kg	05.10.17 12.54	U	1
Total BTEX		<0.00344	0.00344	mg/kg	05.10.17 12.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	80-120	05.10.17 12.54	
4-Bromofluorobenzene	460-00-4	99	%	80-120	05.10.17 12.54	

Certificate of Analytical Results 552583

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id: **T4-North** Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552583-011 Date Collected: 05.02.17 14.30

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.15.17 09.00 Basis: Wet Weight

Seq Number: 3017476

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	05.15.17 13.33	U	1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 05.09.17 07.00 Basis: Wet Weight

Seq Number: 3016886

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 15.34	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.09.17 15.34	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.17 15.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	05.09.17 15.34	
o-Terphenyl	84-15-1	99	%	70-135	05.09.17 15.34	

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

Tech: ALJ % Moisture:

Analyst: ALJ Date Prep: 05.10.17 16.00 Basis: Wet Weight

Seq Number: 3017047

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00353	0.00353	mg/kg	05.10.17 13.10	U	1
Toluene	108-88-3	<0.00353	0.00353	mg/kg	05.10.17 13.10	U	1
Ethylbenzene	100-41-4	<0.00353	0.00353	mg/kg	05.10.17 13.10	U	1
m,p-Xylenes	179601-23-1	<0.00707	0.00707	mg/kg	05.10.17 13.10	U	1
o-Xylene	95-47-6	<0.00353	0.00353	mg/kg	05.10.17 13.10	U	1
Total Xylenes	1330-20-7	<0.00353	0.00353	mg/kg	05.10.17 13.10	U	1
Total BTEX		<0.00353	0.00353	mg/kg	05.10.17 13.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	112	%	80-120	05.10.17 13.10	
4-Bromofluorobenzene	460-00-4	113	%	80-120	05.10.17 13.10	

Certificate of Analytical Results 552583

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T4-North**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552583-012	Date Collected:	05.02.17 14.30	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 09.00	Basis:	Wet Weight
Seq Number:	3017476				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.21**	4.97	mg/kg	05.15.17 13.56		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.17 07.00	Basis:	Wet Weight
Seq Number:	3016886				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 15.54	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.09.17 15.54	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.17 15.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	05.09.17 15.54	
o-Terphenyl	84-15-1	102	%	70-135	05.09.17 15.54	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.10.17 16.00	Basis:	Wet Weight
Seq Number:	3017047				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00204	0.00204	mg/kg	05.10.17 13.27	U	1
Toluene	108-88-3	<0.00204	0.00204	mg/kg	05.10.17 13.27	U	1
Ethylbenzene	100-41-4	<0.00204	0.00204	mg/kg	05.10.17 13.27	U	1
m,p-Xylenes	179601-23-1	<0.00408	0.00408	mg/kg	05.10.17 13.27	U	1
o-Xylene	95-47-6	<0.00204	0.00204	mg/kg	05.10.17 13.27	U	1
Total Xylenes	1330-20-7	<0.00204	0.00204	mg/kg	05.10.17 13.27	U	1
Total BTEX		<0.00204	0.00204	mg/kg	05.10.17 13.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	112	%	80-120	05.10.17 13.27	
4-Bromofluorobenzene	460-00-4	105	%	80-120	05.10.17 13.27	

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 552583

COG Operating LLC

McIntyre B #10 Tank Battery

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3017476 — Matrix: Solid — Date Prep: 05.15.17
MB Sample Id: 724594-1-BLK — LCS Sample Id: 724594-1-BKS — LCSD Sample Id: 724594-1-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	257	103	260	104	90-110	1	20	mg/kg	05.15.17 10:55	

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3017476 — Matrix: Soil — Date Prep: 05.15.17
Parent Sample Id: 552583-001 — MS Sample Id: 552583-001 S — MSD Sample Id: 552583-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	104	244	397	120	375	111	90-110	6	20	mg/kg	05.15.17 11:54	X

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3017476 — Matrix: Soil — Date Prep: 05.15.17
Parent Sample Id: 552583-011 — MS Sample Id: 552583-011 S — MSD Sample Id: 552583-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	266	106	272	109	90-110	2	20	mg/kg	05.15.17 13:41	

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3016886 — Matrix: Solid — Date Prep: 05.09.17
MB Sample Id: 724310-1-BLK — LCS Sample Id: 724310-1-BKS — LCSD Sample Id: 724310-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	958	96	973	97	70-135	2	35	mg/kg	05.09.17 08:07	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	983	98	946	95	70-135	4	35	mg/kg	05.09.17 08:07	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		98		102		70-135	%	05.09.17 08:07
o-Terphenyl	106		94		100		70-135	%	05.09.17 08:07

QC Summary 552583

COG Operating LLC

McIntyre B #10 Tank Battery

Analytical Method: TPH By SW8015 Mod | Prep Method: TX1005P
Seq Number: 3016886 | Matrix: Soil | Date Prep: 05.09.17
Parent Sample Id: 552582-001 | MS Sample Id: 552582-001 S | MSD Sample Id: 552582-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	970	97	959	96	70-135	1	35	mg/kg	05.09.17 09:11	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	960	96	954	96	70-135	1	35	mg/kg	05.09.17 09:11	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		95		70-135	%	05.09.17 09:11
o-Terphenyl	96		89		70-135	%	05.09.17 09:11

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3017044 | Matrix: Solid | Date Prep: 05.08.17
MB Sample Id: 724323-1-BLK | LCS Sample Id: 724323-1-BKS | LCSD Sample Id: 724323-1-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	0.0942	94	0.0942	94	70-130	0	35	mg/kg	05.09.17 07:15	
Toluene	<0.00200	0.0998	0.0964	97	0.101	101	70-130	5	35	mg/kg	05.09.17 07:15	
Ethylbenzene	<0.00200	0.0998	0.0938	94	0.0898	90	71-129	4	35	mg/kg	05.09.17 07:15	
m,p-Xylenes	<0.00399	0.200	0.186	93	0.186	93	70-135	0	35	mg/kg	05.09.17 07:15	
o-Xylene	<0.00200	0.0998	0.0996	100	0.103	103	71-133	3	35	mg/kg	05.09.17 07:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		97		101		80-120	%	05.09.17 07:15
4-Bromofluorobenzene	92		85		106		80-120	%	05.09.17 07:15

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3017045 | Matrix: Solid | Date Prep: 05.09.17
MB Sample Id: 724324-1-BLK | LCS Sample Id: 724324-1-BKS | LCSD Sample Id: 724324-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0903	90	0.0915	91	70-130	1	35	mg/kg	05.09.17 15:44	
Toluene	<0.00200	0.100	0.0956	96	0.0917	91	70-130	4	35	mg/kg	05.09.17 15:44	
Ethylbenzene	<0.00200	0.100	0.0902	90	0.0835	83	71-129	8	35	mg/kg	05.09.17 15:44	
m,p-Xylenes	<0.00401	0.200	0.181	91	0.171	85	70-135	6	35	mg/kg	05.09.17 15:44	
o-Xylene	<0.00200	0.100	0.0932	93	0.0929	92	71-133	0	35	mg/kg	05.09.17 15:44	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		103		98		80-120	%	05.09.17 15:44
4-Bromofluorobenzene	89		100		98		80-120	%	05.09.17 15:44

QC Summary 552583

COG Operating LLC

McIntyre B #10 Tank Battery

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3017048 — Matrix: Solid — Date Prep: 05.10.17
MB Sample Id: 724408-1-BLK — LCS Sample Id: 724408-1-BKS — LCSD Sample Id: 724408-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.101	101	0.110	111	70-130	9	35	mg/kg	05.10.17 15:02	
Toluene	<0.00199	0.0996	0.106	106	0.120	121	70-130	12	35	mg/kg	05.10.17 15:02	
Ethylbenzene	<0.00199	0.0996	0.0955	96	0.111	112	71-129	15	35	mg/kg	05.10.17 15:02	
m,p-Xylenes	<0.00398	0.199	0.199	100	0.223	112	70-135	11	35	mg/kg	05.10.17 15:02	
o-Xylene	<0.00199	0.0996	0.0986	99	0.120	121	71-133	20	35	mg/kg	05.10.17 15:02	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		101		116		80-120	%	05.10.17 15:02
4-Bromofluorobenzene	109		105		111		80-120	%	05.10.17 15:02

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3017047 — Matrix: Solid — Date Prep: 05.10.17
MB Sample Id: 724407-1-BLK — LCS Sample Id: 724407-1-BKS — LCSD Sample Id: 724407-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0925	93	0.0985	99	70-130	6	35	mg/kg	05.10.17 06:55	
Toluene	<0.00199	0.0996	0.101	101	0.0994	100	70-130	2	35	mg/kg	05.10.17 06:55	
Ethylbenzene	<0.00199	0.0996	0.0849	85	0.0935	94	71-129	10	35	mg/kg	05.10.17 06:55	
m,p-Xylenes	<0.00398	0.199	0.174	87	0.188	94	70-135	8	35	mg/kg	05.10.17 06:55	
o-Xylene	<0.00199	0.0996	0.0839	84	0.109	110	71-133	26	35	mg/kg	05.10.17 06:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		102		93		80-120	%	05.10.17 06:55
4-Bromofluorobenzene	107		87		101		80-120	%	05.10.17 06:55

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3017044 — Matrix: Soil — Date Prep: 05.08.17
Parent Sample Id: 552582-003 — MS Sample Id: 552582-003 S — MSD Sample Id: 552582-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0725	73	0.0485	48	70-130	40	35	mg/kg	05.09.17 07:47	XF
Toluene	<0.00200	0.0998	0.0639	64	0.0348	34	70-130	59	35	mg/kg	05.09.17 07:47	XF
Ethylbenzene	<0.00200	0.0998	0.0539	54	0.0289	29	71-129	60	35	mg/kg	05.09.17 07:47	XF
m,p-Xylenes	<0.00399	0.200	0.105	53	0.0505	25	70-135	70	35	mg/kg	05.09.17 07:47	XF
o-Xylene	<0.00200	0.0998	0.0597	60	0.0353	35	71-133	51	35	mg/kg	05.09.17 07:47	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	112		91		80-120	%	05.09.17 07:47
4-Bromofluorobenzene	105		95		80-120	%	05.09.17 07:47

QC Summary 552583

COG Operating LLC

McIntyre B #10 Tank Battery

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3017045 — Matrix: Soil — Date Prep: 05.09.17
Parent Sample Id: 552586-007 — MS Sample Id: 552586-007 S — MSD Sample Id: 552586-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0826	83	0.0950	96	70-130	14	35	mg/kg	05.09.17 16:15	
Toluene	<0.00200	0.100	0.0872	87	0.0955	96	70-130	9	35	mg/kg	05.09.17 16:15	
Ethylbenzene	<0.00200	0.100	0.0851	85	0.0858	86	71-129	1	35	mg/kg	05.09.17 16:15	
m,p-Xylenes	<0.00401	0.200	0.163	82	0.169	85	70-135	4	35	mg/kg	05.09.17 16:15	
o-Xylene	<0.00200	0.100	0.0958	96	0.0870	88	71-133	10	35	mg/kg	05.09.17 16:15	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		117		80-120	%	05.09.17 16:15
4-Bromofluorobenzene	100		103		80-120	%	05.09.17 16:15

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3017048 — Matrix: Soil — Date Prep: 05.10.17
Parent Sample Id: 552656-004 — MS Sample Id: 552656-004 S — MSD Sample Id: 552656-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0324	32	0.0721	72	70-130	76	35	mg/kg	05.10.17 15:35	XF
Toluene	<0.00201	0.100	0.0294	29	0.0745	75	70-130	87	35	mg/kg	05.10.17 15:35	XF
Ethylbenzene	<0.00201	0.100	0.0307	31	0.0654	66	71-129	72	35	mg/kg	05.10.17 15:35	XF
m,p-Xylenes	<0.00402	0.201	0.0544	27	0.134	67	70-135	85	35	mg/kg	05.10.17 15:35	XF
o-Xylene	<0.00201	0.100	0.0266	27	0.0734	74	71-133	94	35	mg/kg	05.10.17 15:35	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		117		80-120	%	05.10.17 15:35
4-Bromofluorobenzene	107		114		80-120	%	05.10.17 15:35

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3017047 — Matrix: Soil — Date Prep: 05.10.17
Parent Sample Id: 552586-006 — MS Sample Id: 552586-006 S — MSD Sample Id: 552586-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00377	0.189	0.156	83	0.154	83	70-130	1	35	mg/kg	05.10.17 07:28	
Toluene	<0.00377	0.189	0.163	86	0.141	76	70-130	14	35	mg/kg	05.10.17 07:28	
Ethylbenzene	<0.00377	0.189	0.147	78	0.137	74	71-129	7	35	mg/kg	05.10.17 07:28	
m,p-Xylenes	<0.00755	0.377	0.273	72	0.259	70	70-135	5	35	mg/kg	05.10.17 07:28	
o-Xylene	<0.00377	0.189	0.151	80	0.131	71	71-133	14	35	mg/kg	05.10.17 07:28	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		106		80-120	%	05.10.17 07:28
4-Bromofluorobenzene	105		94		80-120	%	05.10.17 07:28

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)

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CHAIN OF CUSTODY

Page 1 Of 2

Xenco Quote #

Xenco Job # 552583

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: McIntyre B #10 Tank Battery

Project Location: McIntyre B #10 Tan

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	CHLORIDES	BTEX	TPH							Field Comments
1	T1 - EAST	SURF	5-2-17	2:00PM											X	X	X							
2	T1 - EAST	1'													X	X	X							
3	T1 - NORTH	SURF													X	X	X							
4	T1 - NORTH	1'													X	X	X							
5	T1 - SOUTH	SURF													X	X	X							
6	T1 - SOUTH	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
- [x] Contract TAT
- [ ] 3 Day EMERGENCY

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

Data Deliverable Information

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

Notes:

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	DAKOTA NEEL	5-5-17 11:00AM	Sid Butler 11:00 AM 5-5-17	2		JRAMER
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice

Temp: 3.1 IR ID:R-9
CF:(0-6: 0.0°C) (6-23: +0.1°C)
Corrected Temp: 3.1

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.

XENCO LABORATORIES

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Phoenix, Arizona (480-355-0900)
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CHAIN OF CUSTODY

Page 1 Of 2

Xenco Quote #

Xenco Job # 557593

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: McIntyre B #10 Tank Battery
Project Location: McIntyre B #10 T
Invoice To: COG Operating LLC, Attn: Robert Mcneill, 600 W. Illinois, Midland TX 79701
PO Number:

Analytical Information

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chlorides	BTEX	TPH	Field Comments
1	T4 - SOUTH	SURF	5-2-17	8:30A											X	X	X	
2	T4 - SOUTH	1'	"	"											X	X	X	
3	T4 - NORTH	SURF	"	"											X	X	X	
4	T4 - NORTH	1'	"	"											X	X	X	
5																		
6																		
7																		
8																		
9																		
10																		

Matrix Codes

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

Turnaround Time (Business days)

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

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

Data Deliverable Information

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

Notes:

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		5-5-17 11:00AM	Sid Butler 11:00 AM 5-5-17	2		2
3	Relinquished by:	Date Time:	Received By:	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: X

Temp: 3.1 IR ID:R-9
CF:(0-6: 0.0°C) (6-23: +0.1°C)
Corrected Temp: 3.1

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.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

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

Work Order #: 552583

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

Temperature Measuring device used : R9

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.1
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seal present on shipping container/ cooler?	**N/A**
#5 *Custody Seals intact on shipping container/ cooler?	**N/A**
#6 Custody Seals intact on sample bottles?	**N/A**
#7 *Custody Seals Signed and dated?	**N/A**
#8 *Chain of Custody present?	**Yes**
#9 Sample instructions complete on Chain of Custody?	**Yes**
#10 Any missing/extra samples?	**No**
#11 Chain of Custody signed when relinquished/ received?	**Yes**
#12 Chain of Custody agrees with sample label(s)?	**Yes**
#13 Container label(s) legible and intact?	**Yes**
#14 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#15 Samples in proper container/ bottle?	**Yes**
#16 Samples properly preserved?	**Yes**
#17 Sample container(s) intact?	**Yes**
#18 Sufficient sample amount for indicated test(s)?	**Yes**
#19 All samples received within hold time?	**Yes**
#20 Subcontract of sample(s)?	**N/A**
#21 VOC samples have zero headspace?	**N/A**
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	**N/A**
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

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

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Kramer
Jessica Kramer
Date: 05/08/2017

Checklist reviewed by: Liz Givens
Liz Givens
Date: 05/08/2017

Certificate of Analysis Summary 552584

COG Operating LLC, Artesia, NM

Project Name: McIntyre B #10 Tank Battery

Project Id:

Contact: Aaron Lieb

Project Location: McIntyre B #10 Tank Battery

Date Received in Lab: Fri May-05-17 11:00 am

Report Date: 18-MAY-17

Project Manager: Liz Givens

Analysis Requested													
	Lab Id:	552584-001		552584-002		552584-003		552584-004		552584-005		552584-006	
	Field Id:	T1-SURF		T1-1'		T1-2'		T1-3'		T1-4'		T1-6'	
	Depth:			1 ft		2 ft		3 ft		4 ft		6 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-02-17 08:30		May-02-17 08:35		May-02-17 08:35		May-02-17 08:37		May-02-17 08:39		May-02-17 08:40	
BTEX by EPA 8021B	***Extracted:***	May-10-17 16:00		May-10-17 16:00		May-10-17 16:00							
	Analyzed:	** ** ** **		** ** ** **		** ** ** **							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Benzene		<0.00199	0.00199	<0.00332	0.00332	<0.00326	0.00326						
Toluene		<0.00199	0.00199	<0.00332	0.00332	<0.00326	0.00326						
Ethylbenzene		<0.00199	0.00199	<0.00332	0.00332	<0.00326	0.00326						
m,p-Xylenes		<0.00398	0.00398	<0.00664	0.00664	<0.00651	0.00651						
o-Xylene		<0.00199	0.00199	<0.00332	0.00332	<0.00326	0.00326						
Total Xylenes		<0.00199	0.00199	<0.00332	0.00332	<0.00326	0.00326						
Total BTEX		<0.00199	0.00199	<0.00332	0.00332	<0.00326	0.00326						
Inorganic Anions by EPA 300/300.1	***Extracted:***	May-15-17 16:00		May-15-17 16:00		May-15-17 16:00		May-15-17 16:00		May-15-17 16:00		May-15-17 16:00	
	Analyzed:	May-15-17 20:47		May-15-17 20:55		May-15-17 21:02		May-15-17 21:10		May-15-17 20:24		May-15-17 21:33	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		29100	247	19300	247	2630	24.7	1970	24.5	1040	4.94	575	4.98
TPH By SW8015 Mod	***Extracted:***	May-09-17 14:00		May-09-17 14:00		May-09-17 14:00							
	Analyzed:	May-09-17 18:10		May-09-17 19:06		May-09-17 19:26							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
C6-C10 Gasoline Range Hydrocarbons		<15.0	15.0	<15.0	15.0	<14.9	14.9						
C10-C28 Diesel Range Hydrocarbons		23.9	15.0	<15.0	15.0	<14.9	14.9						
Total TPH		23.9	15.0	<15.0	15.0	<14.9	14.9						

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Version: 1.%

Liz Givens
Project Manager

Final 1.000

Certificate of Analysis Summary 552584

COG Operating LLC, Artesia, NM

Project Name: McIntyre B #10 Tank Battery

Project Id:

Contact: Aaron Lieb

Project Location: McIntyre B #10 Tank Battery

Date Received in Lab: Fri May-05-17 11:00 am

Report Date: 18-MAY-17

Project Manager: Liz Givens

Analysis Requested													
	Lab Id:	552584-007		552584-008		552584-009		552584-010		552584-011		552584-012	
	Field Id:	T1-8'		T1-10'		T1-12'		T1-14'		T1-18'		T2-SURF	
	Depth:	8 ft		10 ft		12 ft		14 ft		18 ft			
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-02-17 08:45		May-02-17 08:47		May-02-17 08:50		May-02-17 08:55		May-02-17 09:00		May-02-17 09:15	
BTEX by EPA 8021B	***Extracted:***											May-10-17 16:00	
	Analyzed:											** ** ** **	
	Units/RL:											mg/kg	RL
Benzene												<0.00339	0.00339
Toluene												<0.00339	0.00339
Ethylbenzene												<0.00339	0.00339
m,p-Xylenes												<0.00678	0.00678
o-Xylene												<0.00339	0.00339
Total Xylenes												<0.00339	0.00339
Total BTEX												<0.00339	0.00339
Inorganic Anions by EPA 300/300.1	***Extracted:***	May-15-17 16:00		May-15-17 16:00		May-15-17 16:00		May-15-17 16:00		May-15-17 16:00		May-15-17 16:00	
	Analyzed:	May-15-17 21:40		May-15-17 21:48		May-15-17 21:56		May-15-17 22:03		May-15-17 22:11		May-15-17 22:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		765	4.90	1620	24.5	430	4.89	336	4.92	134	4.97	12500	98.4
TPH By SW8015 Mod	***Extracted:***											May-09-17 14:00	
	Analyzed:											May-09-17 19:45	
	Units/RL:											mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons												<15.0	15.0
C10-C28 Diesel Range Hydrocarbons												<15.0	15.0
Total TPH												<15.0	15.0

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Version: 1.%

Liz Givens
Project Manager

Final 1.000

Certificate of Analysis Summary 552584

COG Operating LLC, Artesia, NM

Project Name: McIntyre B #10 Tank Battery

Project Id:

Contact: Aaron Lieb

Project Location: McIntyre B #10 Tank Battery

Date Received in Lab: Fri May-05-17 11:00 am

Report Date: 18-MAY-17

Project Manager: Liz Givens

Analysis Requested													
	Lab Id:	552584-013		552584-014		552584-015		552584-016		552584-017		552584-018	
	Field Id:	T2 - 1'		T2 - 2'		T2 - 3'		T2 - 4'		T2 - 6'		T2 - 9'	
	Depth:	1 ft		2 ft		3 ft		4 ft		6 ft		9 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-02-17 09:20		May-02-17 09:22		May-02-17 09:25		May-02-17 09:30		May-02-17 09:40		May-02-17 09:45	
BTEX by EPA 8021B	***Extracted:***	May-10-17 16:00		May-10-17 16:00									
	Analyzed:	** ** ** **		** ** ** **									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Benzene		<0.00348	0.00348	<0.00345	0.00345								
Toluene		<0.00348	0.00348	<0.00345	0.00345								
Ethylbenzene		<0.00348	0.00348	<0.00345	0.00345								
m,p-Xylenes		<0.00697	0.00697	<0.00690	0.00690								
o-Xylene		<0.00348	0.00348	<0.00345	0.00345								
Total Xylenes		<0.00348	0.00348	<0.00345	0.00345								
Total BTEX		<0.00348	0.00348	<0.00345	0.00345								
Inorganic Anions by EPA 300/300.1	***Extracted:***	May-15-17 16:00		May-15-17 16:00		May-15-17 16:00		May-15-17 16:00		May-15-17 16:00		May-15-17 16:00	
	Analyzed:	May-15-17 22:41		May-15-17 23:04		May-15-17 23:12		May-15-17 23:19		May-15-17 23:27		May-15-17 23:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		4640	24.8	1080	4.87	86.8	4.93	130	4.86	210	4.89	98.3	4.91
TPH By SW8015 Mod	***Extracted:***	May-09-17 14:00		May-09-17 14:00									
	Analyzed:	May-09-17 20:04		May-09-17 20:23									
	Units/RL:	mg/kg	RL	mg/kg	RL								
C6-C10 Gasoline Range Hydrocarbons		<15.0	15.0	<15.0	15.0								
C10-C28 Diesel Range Hydrocarbons		<15.0	15.0	<15.0	15.0								
Total TPH		<15.0	15.0	<15.0	15.0								

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Version: 1.%

Liz Givens
Project Manager

Final 1.000

Certificate of Analysis Summary 552584

COG Operating LLC, Artesia, NM

Project Name: McIntyre B #10 Tank Battery

Project Id:

Contact: Aaron Lieb

Project Location: McIntyre B #10 Tank Battery

Date Received in Lab: Fri May-05-17 11:00 am

Report Date: 18-MAY-17

Project Manager: Liz Givens

Analysis Requested													
	Lab Id:	552584-019		552584-020		552584-021		552584-022		552584-023		552584-024	
	Field Id:	T2 - 11'		T3-SURF		T3-1'		T3-2'		T3-3'		T3-4'	
	Depth:	11 ft				1 ft		2 ft		3 ft		4 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-02-17 09:50		May-02-17 09:55		May-02-17 10:00		May-02-17 10:05		May-02-17 10:08		May-02-17 10:10	
BTEX by EPA 8021B	**Extracted:**			May-10-17 09:30		May-10-17 16:00		May-10-17 16:00					
	Analyzed:			May-10-17 17:35		** ** ** **		** ** ** **					
	Units/RL:			mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene				<0.00344	0.00344	<0.00341	0.00341	<0.00327	0.00327				
Toluene				<0.00344	0.00344	<0.00341	0.00341	<0.00327	0.00327				
Ethylbenzene				<0.00344	0.00344	<0.00341	0.00341	<0.00327	0.00327				
m,p-Xylenes				<0.00687	0.00687	<0.00683	0.00683	<0.00654	0.00654				
o-Xylene				<0.00344	0.00344	<0.00341	0.00341	<0.00327	0.00327				
Total Xylenes				<0.00344	0.00344	<0.00341	0.00341	<0.00327	0.00327				
Total BTEX				<0.00344	0.00344	<0.00341	0.00341	<0.00327	0.00327				
Inorganic Anions by EPA 300/300.1	**Extracted:**	May-15-17 16:00		May-15-17 16:00		May-17-17 18:00		May-17-17 18:00		May-17-17 18:00		May-17-17 18:00	
	Analyzed:	May-15-17 23:42		May-15-17 23:50		May-18-17 05:54		May-18-17 05:31		May-18-17 06:02		May-18-17 06:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		153	4.91	1730	24.5	4870	49.9	1090	4.94	1270	4.87	2940	24.7
TPH By SW8015 Mod	**Extracted:**			May-09-17 14:00		May-09-17 14:00		May-09-17 14:00					
	Analyzed:			May-09-17 20:42		May-09-17 21:02		May-09-17 21:21					
	Units/RL:			mg/kg	RL	mg/kg	RL	mg/kg	RL				
C6-C10 Gasoline Range Hydrocarbons				<15.0	15.0	<15.0	15.0	<15.0	15.0				
C10-C28 Diesel Range Hydrocarbons				<15.0	15.0	<15.0	15.0	<15.0	15.0				
Total TPH				<15.0	15.0	<15.0	15.0	<15.0	15.0				

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Version: 1.%

Liz Givens
Project Manager

Final 1.000

Certificate of Analysis Summary 552584

COG Operating LLC, Artesia, NM

Project Name: McIntyre B #10 Tank Battery

Project Id:

Contact: Aaron Lieb

Project Location: McIntyre B #10 Tank Battery

Date Received in Lab: Fri May-05-17 11:00 am

Report Date: 18-MAY-17

Project Manager: Liz Givens

Analysis Requested													
	Lab Id:	552584-025		552584-026		552584-027		552584-028		552584-029		552584-030	
	Field Id:	T3-6'		T3-8'		T3-10'		T3-12'		T3-14'		T3-17'	
	Depth:	6 ft		8 ft		10 ft		12 ft		14 ft		17 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	May-02-17 10:12		May-02-17 10:15		May-02-17 10:18		May-02-17 10:22		May-02-17 10:25		May-02-17 10:30	
Inorganic Anions by EPA 300/300.1	***Extracted:***	May-17-17 18:00		May-17-17 18:00		May-17-17 18:00		May-17-17 18:00		May-17-17 18:00		May-17-17 18:00	
	Analyzed:	May-18-17 06:17		May-18-17 06:40		May-18-17 06:47		May-18-17 06:55		May-18-17 07:03		May-18-17 07:10	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1690	25.0	671	4.91	884	4.87	520	4.90	462	4.88	167	4.96

Version: 1.%

Liz Givens
Project Manager

Certificate of Analysis Summary 552584

COG Operating LLC, Artesia, NM

Project Name: McIntyre B #10 Tank Battery

Project Id:

Contact: Aaron Lieb

Project Location: McIntyre B #10 Tank Battery

Date Received in Lab: Fri May-05-17 11:00 am

Report Date: 18-MAY-17

Project Manager: Liz Givens

Analysis Requested													
	Lab Id:	552584-031		552584-032		552584-033		552584-034					
	Field Id:	T4-2'		T4-4'		T5-2'		T5-4'					
	Depth:	2 ft		4 ft		2 ft		4 ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	May-02-17 11:00		May-02-17 11:00		May-02-17 11:00		May-02-17 11:00					
BTEX by EPA 8021B	***Extracted:***	May-10-17 16:00		May-10-17 16:00		May-10-17 16:00		May-09-17 09:30					
	Analyzed:	** ** ** **		** ** ** **		** ** ** **		May-09-17 19:44					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00345	0.00345	<0.00351	0.00351	<0.00346	0.00346	<0.00353	0.00353				
Toluene		0.00453	0.00345	<0.00351	0.00351	<0.00346	0.00346	<0.00353	0.00353				
Ethylbenzene		0.0200	0.00345	<0.00351	0.00351	<0.00346	0.00346	<0.00353	0.00353				
m,p-Xylenes		<0.00690	0.00690	<0.00702	0.00702	<0.00692	0.00692	<0.00707	0.00707				
o-Xylene		<0.00345	0.00345	0.00468	0.00351	<0.00346	0.00346	<0.00353	0.00353				
Total Xylenes		<0.00345	0.00345	0.00468	0.00351	<0.00346	0.00346	<0.00353	0.00353				
Total BTEX		0.0245	0.00345	0.00468	0.00351	<0.00346	0.00346	<0.00353	0.00353				
Inorganic Anions by EPA 300/300.1	***Extracted:***	May-17-17 18:00		May-17-17 18:00		May-17-17 18:00		May-17-17 18:00					
	Analyzed:	May-18-17 07:18		May-18-17 07:41		May-18-17 07:48		May-18-17 08:11					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		1520	4.91	153	4.99	86.0	4.92	66.4	4.91				
TPH By SW8015 Mod	***Extracted:***	May-09-17 14:00		May-09-17 14:00		May-09-17 14:00		May-09-17 14:00					
	Analyzed:	May-09-17 21:40		May-09-17 22:38		May-09-17 22:57		May-09-17 23:16					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
C6-C10 Gasoline Range Hydrocarbons		<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9				
C10-C28 Diesel Range Hydrocarbons		<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				

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

Version: 1.%

Liz Givens
Project Manager

Final 1.000

Analytical Report 552584

for

COG Operating LLC

Project Manager: Aaron Lieb

McIntyre B #10 Tank Battery

18-MAY-17

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

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

18-MAY-17

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

Reference: XENCO Report No(s): **552584**
McIntyre B #10 Tank Battery
Project Address: McIntyre B #10 Tank Battery

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) 552584. 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. 552584 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Liz Givens
Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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

Sample Cross Reference 552584

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T1-SURF	S	05-02-17 08:30	N/A	552584-001
T1-1'	S	05-02-17 08:35	- 1 ft	552584-002
T1-2'	S	05-02-17 08:35	- 2 ft	552584-003
T1-3'	S	05-02-17 08:37	- 3 ft	552584-004
T1-4'	S	05-02-17 08:39	- 4 ft	552584-005
T1-6'	S	05-02-17 08:40	- 6 ft	552584-006
T1-8'	S	05-02-17 08:45	- 8 ft	552584-007
T1-10'	S	05-02-17 08:47	- 10 ft	552584-008
T1-12'	S	05-02-17 08:50	- 12 ft	552584-009
T1-14'	S	05-02-17 08:55	- 14 ft	552584-010
T1-18'	S	05-02-17 09:00	- 18 ft	552584-011
T2-SURF	S	05-02-17 09:15	N/A	552584-012
T2 - 1'	S	05-02-17 09:20	- 1 ft	552584-013
T2 - 2'	S	05-02-17 09:22	- 2 ft	552584-014
T2 - 3'	S	05-02-17 09:25	- 3 ft	552584-015
T2 - 4'	S	05-02-17 09:30	- 4 ft	552584-016
T2 - 6'	S	05-02-17 09:40	- 6 ft	552584-017
T2 - 9'	S	05-02-17 09:45	- 9 ft	552584-018
T2 - 11'	S	05-02-17 09:50	- 11 ft	552584-019
T3-SURF	S	05-02-17 09:55	N/A	552584-020
T3-1'	S	05-02-17 10:00	- 1 ft	552584-021
T3-2'	S	05-02-17 10:05	- 2 ft	552584-022
T3-3'	S	05-02-17 10:08	- 3 ft	552584-023
T3-4'	S	05-02-17 10:10	- 4 ft	552584-024
T3-6'	S	05-02-17 10:12	- 6 ft	552584-025
T3-8'	S	05-02-17 10:15	- 8 ft	552584-026
T3-10'	S	05-02-17 10:18	- 10 ft	552584-027
T3-12'	S	05-02-17 10:22	- 12 ft	552584-028
T3-14'	S	05-02-17 10:25	- 14 ft	552584-029
T3-17'	S	05-02-17 10:30	- 17 ft	552584-030
T4-2'	S	05-02-17 11:00	- 2 ft	552584-031
T4-4'	S	05-02-17 11:00	- 4 ft	552584-032
T5-2'	S	05-02-17 11:00	- 2 ft	552584-033
T5-4'	S	05-02-17 11:00	- 4 ft	552584-034

Version: 1.%

CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: McIntyre B #10 Tank Battery

Project ID:
Work Order Number(s): *552584*

Report Date: *18-MAY-17*
Date Received: *05/05/2017*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3017045 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3017047 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3017048 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3017483 Inorganic Anions by EPA 300/300.1
Lab Sample ID 552584-011 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 552584-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3017595 Inorganic Anions by EPA 300/300.1
Lab Sample ID 552584-031 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: 552584-021, -022, -023, -024, -025, -026, -027, -028, -029, -030, -031, -032, -033, -034.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analytical Results 552584

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id: **T1-SURF** Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552584-001 Date Collected: 05.02.17 08.30

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.15.17 16.00 Basis: Wet Weight

Seq Number: 3017483

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**29100**	247	mg/kg	05.15.17 20.47		50

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 05.09.17 14.00 Basis: Wet Weight

Seq Number: 3016887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 18.10	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	**23.9**	15.0	mg/kg	05.09.17 18.10		1
Total TPH	PHC635	**23.9**	15.0	mg/kg	05.09.17 18.10		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	05.09.17 18.10	
o-Terphenyl	84-15-1	120	%	70-135	05.09.17 18.10	

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

Tech: ALJ % Moisture:

Analyst: ALJ Date Prep: 05.10.17 16.00 Basis: Wet Weight

Seq Number: 3017047

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	05.10.17 13.43	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	05.10.17 13.43	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	05.10.17 13.43	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	05.10.17 13.43	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	05.10.17 13.43	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	05.10.17 13.43	U	1
Total BTEX		<0.00199	0.00199	mg/kg	05.10.17 13.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	115	%	80-120	05.10.17 13.43	
4-Bromofluorobenzene	460-00-4	113	%	80-120	05.10.17 13.43	

Certificate of Analytical Results 552584

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T1-1'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-002	Date Collected:	05.02.17 08.35	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 16.00	Basis:	Wet Weight
Seq Number:	3017483				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19300**	247	mg/kg	05.15.17 20.55		50

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.17 14.00	Basis:	Wet Weight
Seq Number:	3016887				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 19.06	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.09.17 19.06	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.17 19.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	05.09.17 19.06	
o-Terphenyl	84-15-1	101	%	70-135	05.09.17 19.06	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.10.17 16.00	Basis:	Wet Weight
Seq Number:	3017047				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00332	0.00332	mg/kg	05.10.17 13.59	U	1
Toluene	108-88-3	<0.00332	0.00332	mg/kg	05.10.17 13.59	U	1
Ethylbenzene	100-41-4	<0.00332	0.00332	mg/kg	05.10.17 13.59	U	1
m,p-Xylenes	179601-23-1	<0.00664	0.00664	mg/kg	05.10.17 13.59	U	1
o-Xylene	95-47-6	<0.00332	0.00332	mg/kg	05.10.17 13.59	U	1
Total Xylenes	1330-20-7	<0.00332	0.00332	mg/kg	05.10.17 13.59	U	1
Total BTEX		<0.00332	0.00332	mg/kg	05.10.17 13.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	107	%	80-120	05.10.17 13.59	
1,4-Difluorobenzene	540-36-3	107	%	80-120	05.10.17 13.59	

Certificate of Analytical Results 552584

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T1-2'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-003	Date Collected:	05.02.17 08.35	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 16.00	Basis:	Wet Weight
Seq Number:	3017483				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2630**	24.7	mg/kg	05.15.17 21.02		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.17 14.00	Basis:	Wet Weight
Seq Number:	3016887				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<14.9	14.9	mg/kg	05.09.17 19.26	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<14.9	14.9	mg/kg	05.09.17 19.26	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	05.09.17 19.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	05.09.17 19.26	
o-Terphenyl	84-15-1	96	%	70-135	05.09.17 19.26	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.10.17 16.00	Basis:	Wet Weight
Seq Number:	3017047				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00326	0.00326	mg/kg	05.10.17 14.16	U	1
Toluene	108-88-3	<0.00326	0.00326	mg/kg	05.10.17 14.16	U	1
Ethylbenzene	100-41-4	<0.00326	0.00326	mg/kg	05.10.17 14.16	U	1
m,p-Xylenes	179601-23-1	<0.00651	0.00651	mg/kg	05.10.17 14.16	U	1
o-Xylene	95-47-6	<0.00326	0.00326	mg/kg	05.10.17 14.16	U	1
Total Xylenes	1330-20-7	<0.00326	0.00326	mg/kg	05.10.17 14.16	U	1
Total BTEX		<0.00326	0.00326	mg/kg	05.10.17 14.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	80-120	05.10.17 14.16	
1,4-Difluorobenzene	540-36-3	116	%	80-120	05.10.17 14.16	

Certificate of Analytical Results 552584

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T1-3'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-004	Date Collected:	05.02.17 08.37	Sample Depth:	3 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 16.00	Basis:	Wet Weight
Seq Number:	3017483				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1970**	24.5	mg/kg	05.15.17 21.10		5

Certificate of Analytical Results 552584

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T1-4'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-005	Date Collected:	05.02.17 08.39	Sample Depth:	4 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 16.00	Basis:	Wet Weight
Seq Number:	3017483				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1040**	4.94	mg/kg	05.15.17 20.24		1

Certificate of Analytical Results 552584

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T1-6'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-006	Date Collected:	05.02.17 08.40	Sample Depth:	6 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 16.00	Basis:	Wet Weight
Seq Number:	3017483				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**575**	4.98	mg/kg	05.15.17 21.33		1

Certificate of Analytical Results 552584

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T1-8'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-007	Date Collected:	05.02.17 08.45	Sample Depth:	8 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 16.00	Basis:	Wet Weight
Seq Number:	3017483				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**765**	4.90	mg/kg	05.15.17 21.40		1

Certificate of Analytical Results 552584

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T1-10'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-008	Date Collected:	05.02.17 08.47	Sample Depth:	10 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 16.00	Basis:	Wet Weight
Seq Number:	3017483				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1620**	24.5	mg/kg	05.15.17 21.48		5

Certificate of Analytical Results 552584

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T1-12'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-009	Date Collected:	05.02.17 08.50	Sample Depth:	12 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 16.00	Basis:	Wet Weight
Seq Number:	3017483				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**430**	4.89	mg/kg	05.15.17 21.56		1

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T1-14'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-010	Date Collected:	05.02.17 08.55	Sample Depth:	14 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 16.00	Basis:	Wet Weight
Seq Number:	3017483				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**336**	4.92	mg/kg	05.15.17 22.03		1

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T1-18'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-011	Date Collected:	05.02.17 09.00	Sample Depth:	18 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 16.00	Basis:	Wet Weight
Seq Number:	3017483				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**134**	4.97	mg/kg	05.15.17 22.11		1

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id: **T2-SURF** Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552584-012 Date Collected: 05.02.17 09.15

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.15.17 16.00 Basis: Wet Weight

Seq Number: 3017483

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12500**	98.4	mg/kg	05.15.17 22.34		20

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 05.09.17 14.00 Basis: Wet Weight

Seq Number: 3016887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 19.45	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.09.17 19.45	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.17 19.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	05.09.17 19.45	
o-Terphenyl	84-15-1	99	%	70-135	05.09.17 19.45	

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

Tech: ALJ % Moisture:

Analyst: ALJ Date Prep: 05.10.17 16.00 Basis: Wet Weight

Seq Number: 3017047

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00339	0.00339	mg/kg	05.10.17 09.05	U	1
Toluene	108-88-3	<0.00339	0.00339	mg/kg	05.10.17 09.05	U	1
Ethylbenzene	100-41-4	<0.00339	0.00339	mg/kg	05.10.17 09.05	U	1
m,p-Xylenes	179601-23-1	<0.00678	0.00678	mg/kg	05.10.17 09.05	U	1
o-Xylene	95-47-6	<0.00339	0.00339	mg/kg	05.10.17 09.05	U	1
Total Xylenes	1330-20-7	<0.00339	0.00339	mg/kg	05.10.17 09.05	U	1
Total BTEX		<0.00339	0.00339	mg/kg	05.10.17 09.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	80-120	05.10.17 09.05	
4-Bromofluorobenzene	460-00-4	117	%	80-120	05.10.17 09.05	

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T2 - 1'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-013	Date Collected:	05.02.17 09.20	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 16.00	Basis:	Wet Weight
Seq Number:	3017483				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4640**	24.8	mg/kg	05.15.17 22.41		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.17 14.00	Basis:	Wet Weight
Seq Number:	3016887				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 20.04	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.09.17 20.04	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.17 20.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	05.09.17 20.04	
o-Terphenyl	84-15-1	122	%	70-135	05.09.17 20.04	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.10.17 16.00	Basis:	Wet Weight
Seq Number:	3017047				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00348	0.00348	mg/kg	05.10.17 09.21	U	1
Toluene	108-88-3	<0.00348	0.00348	mg/kg	05.10.17 09.21	U	1
Ethylbenzene	100-41-4	<0.00348	0.00348	mg/kg	05.10.17 09.21	U	1
m,p-Xylenes	179601-23-1	<0.00697	0.00697	mg/kg	05.10.17 09.21	U	1
o-Xylene	95-47-6	<0.00348	0.00348	mg/kg	05.10.17 09.21	U	1
Total Xylenes	1330-20-7	<0.00348	0.00348	mg/kg	05.10.17 09.21	U	1
Total BTEX		<0.00348	0.00348	mg/kg	05.10.17 09.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109	%	80-120	05.10.17 09.21	
4-Bromofluorobenzene	460-00-4	96	%	80-120	05.10.17 09.21	

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T2 - 2'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-014	Date Collected:	05.02.17 09.22	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 16.00	Basis:	Wet Weight
Seq Number:	3017483				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1080**	4.87	mg/kg	05.15.17 23.04		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.17 14.00	Basis:	Wet Weight
Seq Number:	3016887				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 20.23	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.09.17 20.23	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.17 20.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	05.09.17 20.23	
o-Terphenyl	84-15-1	101	%	70-135	05.09.17 20.23	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.10.17 16.00	Basis:	Wet Weight
Seq Number:	3017047				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00345	0.00345	mg/kg	05.10.17 09.38	U	1
Toluene	108-88-3	<0.00345	0.00345	mg/kg	05.10.17 09.38	U	1
Ethylbenzene	100-41-4	<0.00345	0.00345	mg/kg	05.10.17 09.38	U	1
m,p-Xylenes	179601-23-1	<0.00690	0.00690	mg/kg	05.10.17 09.38	U	1
o-Xylene	95-47-6	<0.00345	0.00345	mg/kg	05.10.17 09.38	U	1
Total Xylenes	1330-20-7	<0.00345	0.00345	mg/kg	05.10.17 09.38	U	1
Total BTEX		<0.00345	0.00345	mg/kg	05.10.17 09.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	87	%	80-120	05.10.17 09.38	
1,4-Difluorobenzene	540-36-3	97	%	80-120	05.10.17 09.38	

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T2 - 3'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-015	Date Collected:	05.02.17 09.25	Sample Depth:	3 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 16.00	Basis:	Wet Weight
Seq Number:	3017483				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**86.8**	4.93	mg/kg	05.15.17 23.12		1

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T2 - 4'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-016	Date Collected:	05.02.17 09.30	Sample Depth:	4 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 16.00	Basis:	Wet Weight
Seq Number:	3017483				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**130**	4.86	mg/kg	05.15.17 23.19		1

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T2 - 6'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-017	Date Collected:	05.02.17 09.40	Sample Depth:	6 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 16.00	Basis:	Wet Weight
Seq Number:	3017483				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**210**	4.89	mg/kg	05.15.17 23.27		1

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T2 - 9'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-018	Date Collected:	05.02.17 09.45	Sample Depth:	9 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 16.00	Basis:	Wet Weight
Seq Number:	3017483				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**98.3**	4.91	mg/kg	05.15.17 23.34		1

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T2 - 11'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-019	Date Collected:	05.02.17 09.50	Sample Depth:	11 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.15.17 16.00	Basis:	Wet Weight
Seq Number:	3017483				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**153**	4.91	mg/kg	05.15.17 23.42		1

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id: **T3-SURF** Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552584-020 Date Collected: 05.02.17 09.55

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.15.17 16.00 Basis: Wet Weight

Seq Number: 3017483

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1730**	24.5	mg/kg	05.15.17 23.50		5

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 05.09.17 14.00 Basis: Wet Weight

Seq Number: 3016887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 20.42	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.09.17 20.42	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.17 20.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	05.09.17 20.42	
o-Terphenyl	84-15-1	101	%	70-135	05.09.17 20.42	

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

Tech: ALJ % Moisture:

Analyst: ALJ Date Prep: 05.10.17 09.30 Basis: Wet Weight

Seq Number: 3017048

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00344	0.00344	mg/kg	05.10.17 17.35	U	1
Toluene	108-88-3	<0.00344	0.00344	mg/kg	05.10.17 17.35	U	1
Ethylbenzene	100-41-4	<0.00344	0.00344	mg/kg	05.10.17 17.35	U	1
m,p-Xylenes	179601-23-1	<0.00687	0.00687	mg/kg	05.10.17 17.35	U	1
o-Xylene	95-47-6	<0.00344	0.00344	mg/kg	05.10.17 17.35	U	1
Total Xylenes	1330-20-7	<0.00344	0.00344	mg/kg	05.10.17 17.35	U	1
Total BTEX		<0.00344	0.00344	mg/kg	05.10.17 17.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	114	%	80-120	05.10.17 17.35	
4-Bromofluorobenzene	460-00-4	115	%	80-120	05.10.17 17.35	

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T3-1'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-021	Date Collected:	05.02.17 10.00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.17.17 18.00	Basis:	Wet Weight
Seq Number:	3017595				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4870**	49.9	mg/kg	05.18.17 05.54		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.17 14.00	Basis:	Wet Weight
Seq Number:	3016887				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 21.02	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.09.17 21.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.17 21.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	05.09.17 21.02	
o-Terphenyl	84-15-1	99	%	70-135	05.09.17 21.02	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.10.17 16.00	Basis:	Wet Weight
Seq Number:	3017047				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00341	0.00341	mg/kg	05.10.17 10.10	U	1
Toluene	108-88-3	<0.00341	0.00341	mg/kg	05.10.17 10.10	U	1
Ethylbenzene	100-41-4	<0.00341	0.00341	mg/kg	05.10.17 10.10	U	1
m,p-Xylenes	179601-23-1	<0.00683	0.00683	mg/kg	05.10.17 10.10	U	1
o-Xylene	95-47-6	<0.00341	0.00341	mg/kg	05.10.17 10.10	U	1
Total Xylenes	1330-20-7	<0.00341	0.00341	mg/kg	05.10.17 10.10	U	1
Total BTEX		<0.00341	0.00341	mg/kg	05.10.17 10.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	80-120	05.10.17 10.10	
1,4-Difluorobenzene	540-36-3	103	%	80-120	05.10.17 10.10	

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T3-2'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-022	Date Collected:	05.02.17 10.05	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.17.17 18.00	Basis:	Wet Weight
Seq Number:	3017595				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1090**	4.94	mg/kg	05.18.17 05.31		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.17 14.00	Basis:	Wet Weight
Seq Number:	3016887				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 21.21	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.09.17 21.21	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.17 21.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	05.09.17 21.21	
o-Terphenyl	84-15-1	121	%	70-135	05.09.17 21.21	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.10.17 16.00	Basis:	Wet Weight
Seq Number:	3017047				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00327	0.00327	mg/kg	05.10.17 10.27	U	1
Toluene	108-88-3	<0.00327	0.00327	mg/kg	05.10.17 10.27	U	1
Ethylbenzene	100-41-4	<0.00327	0.00327	mg/kg	05.10.17 10.27	U	1
m,p-Xylenes	179601-23-1	<0.00654	0.00654	mg/kg	05.10.17 10.27	U	1
o-Xylene	95-47-6	<0.00327	0.00327	mg/kg	05.10.17 10.27	U	1
Total Xylenes	1330-20-7	<0.00327	0.00327	mg/kg	05.10.17 10.27	U	1
Total BTEX		<0.00327	0.00327	mg/kg	05.10.17 10.27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	80-120	05.10.17 10.27	
4-Bromofluorobenzene	460-00-4	92	%	80-120	05.10.17 10.27	

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T3-3'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-023	Date Collected:	05.02.17 10.08	Sample Depth:	3 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.17.17 18.00	Basis:	Wet Weight
Seq Number:	3017595				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1270**	4.87	mg/kg	05.18.17 06.02		1

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COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T3-4'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-024	Date Collected:	05.02.17 10.10	Sample Depth:	4 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.17.17 18.00	Basis:	Wet Weight
Seq Number:	3017595				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2940**	24.7	mg/kg	05.18.17 06.09		5

Certificate of Analytical Results 552584

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T3-6'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-025	Date Collected:	05.02.17 10.12	Sample Depth:	6 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.17.17 18.00	Basis:	Wet Weight
Seq Number:	3017595				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1690**	25.0	mg/kg	05.18.17 06.17		5

Certificate of Analytical Results 552584

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T3-8'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-026	Date Collected:	05.02.17 10.15	Sample Depth:	8 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.17.17 18.00	Basis:	Wet Weight
Seq Number:	3017595				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**671**	4.91	mg/kg	05.18.17 06.40		1

Certificate of Analytical Results 552584

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T3-10'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-027	Date Collected:	05.02.17 10.18	Sample Depth:	10 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.17.17 18.00	Basis:	Wet Weight
Seq Number:	3017595				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**884**	4.87	mg/kg	05.18.17 06.47		1

Certificate of Analytical Results 552584

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T3-12'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-028	Date Collected:	05.02.17 10.22	Sample Depth:	12 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.17.17 18.00	Basis:	Wet Weight
Seq Number:	3017595				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**520**	4.90	mg/kg	05.18.17 06.55		1

Certificate of Analytical Results 552584

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T3-14'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-029	Date Collected:	05.02.17 10.25	Sample Depth:	14 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.17.17 18.00	Basis:	Wet Weight
Seq Number:	3017595				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**462**	4.88	mg/kg	05.18.17 07.03		1

Certificate of Analytical Results 552584

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T3-17'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-030	Date Collected:	05.02.17 10.30	Sample Depth:	17 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.17.17 18.00	Basis:	Wet Weight
Seq Number:	3017595				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**167**	4.96	mg/kg	05.18.17 07.10		1

Certificate of Analytical Results 552584

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T4-2'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-031	Date Collected:	05.02.17 11.00	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.17.17 18.00	Basis:	Wet Weight
Seq Number:	3017595				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1520**	4.91	mg/kg	05.18.17 07.18		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.17 14.00	Basis:	Wet Weight
Seq Number:	3016887				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 21.40	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.09.17 21.40	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.17 21.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	05.09.17 21.40	
o-Terphenyl	84-15-1	109	%	70-135	05.09.17 21.40	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.10.17 16.00	Basis:	Wet Weight
Seq Number:	3017047				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00345	0.00345	mg/kg	05.10.17 10.43	U	1
Toluene	108-88-3	**0.00453**	0.00345	mg/kg	05.10.17 10.43		1
Ethylbenzene	100-41-4	**0.0200**	0.00345	mg/kg	05.10.17 10.43		1
m,p-Xylenes	179601-23-1	<0.00690	0.00690	mg/kg	05.10.17 10.43	U	1
o-Xylene	95-47-6	<0.00345	0.00345	mg/kg	05.10.17 10.43	U	1
Total Xylenes	1330-20-7	<0.00345	0.00345	mg/kg	05.10.17 10.43	U	1
Total BTEX		**0.0245**	0.00345	mg/kg	05.10.17 10.43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115	%	80-120	05.10.17 10.43	
1,4-Difluorobenzene	540-36-3	103	%	80-120	05.10.17 10.43	

Certificate of Analytical Results 552584

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T4-4'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-032	Date Collected:	05.02.17 11.00	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.17.17 18.00	Basis:	Wet Weight
Seq Number:	3017595				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**153**	4.99	mg/kg	05.18.17 07.41		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.17 14.00	Basis:	Wet Weight
Seq Number:	3016887				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 22.38	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.09.17 22.38	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.17 22.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	05.09.17 22.38	
o-Terphenyl	84-15-1	98	%	70-135	05.09.17 22.38	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.10.17 16.00	Basis:	Wet Weight
Seq Number:	3017047				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00351	0.00351	mg/kg	05.10.17 11.00	U	1
Toluene	108-88-3	<0.00351	0.00351	mg/kg	05.10.17 11.00	U	1
Ethylbenzene	100-41-4	<0.00351	0.00351	mg/kg	05.10.17 11.00	U	1
m,p-Xylenes	179601-23-1	<0.00702	0.00702	mg/kg	05.10.17 11.00	U	1
o-Xylene	95-47-6	**0.00468**	0.00351	mg/kg	05.10.17 11.00		1
Total Xylenes	1330-20-7	**0.00468**	0.00351	mg/kg	05.10.17 11.00		1
Total BTEX		**0.00468**	0.00351	mg/kg	05.10.17 11.00		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	80-120	05.10.17 11.00	
1,4-Difluorobenzene	540-36-3	114	%	80-120	05.10.17 11.00	

Certificate of Analytical Results 552584

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T5-2'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-033	Date Collected:	05.02.17 11.00	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.17.17 18.00	Basis:	Wet Weight
Seq Number:	3017595				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**86.0**	4.92	mg/kg	05.18.17 07.48		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.17 14.00	Basis:	Wet Weight
Seq Number:	3016887				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	05.09.17 22.57	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	05.09.17 22.57	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.09.17 22.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	05.09.17 22.57	
o-Terphenyl	84-15-1	98	%	70-135	05.09.17 22.57	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.10.17 16.00	Basis:	Wet Weight
Seq Number:	3017047				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00346	0.00346	mg/kg	05.10.17 11.49	U	1
Toluene	108-88-3	<0.00346	0.00346	mg/kg	05.10.17 11.49	U	1
Ethylbenzene	100-41-4	<0.00346	0.00346	mg/kg	05.10.17 11.49	U	1
m,p-Xylenes	179601-23-1	<0.00692	0.00692	mg/kg	05.10.17 11.49	U	1
o-Xylene	95-47-6	<0.00346	0.00346	mg/kg	05.10.17 11.49	U	1
Total Xylenes	1330-20-7	<0.00346	0.00346	mg/kg	05.10.17 11.49	U	1
Total BTEX		<0.00346	0.00346	mg/kg	05.10.17 11.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	80-120	05.10.17 11.49	
4-Bromofluorobenzene	460-00-4	118	%	80-120	05.10.17 11.49	

Certificate of Analytical Results 552584

COG Operating LLC, Artesia, NM

McIntyre B #10 Tank Battery

Sample Id:	**T5-4'**	Matrix:	Soil	Date Received:	05.05.17 11.00
Lab Sample Id:	552584-034	Date Collected:	05.02.17 11.00	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	05.17.17 18.00	Basis:	Wet Weight
Seq Number:	3017595				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**66.4**	4.91	mg/kg	05.18.17 08.11		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.09.17 14.00	Basis:	Wet Weight
Seq Number:	3016887				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<14.9	14.9	mg/kg	05.09.17 23.16	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<14.9	14.9	mg/kg	05.09.17 23.16	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	05.09.17 23.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	05.09.17 23.16	
o-Terphenyl	84-15-1	101	%	70-135	05.09.17 23.16	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.09.17 09.30	Basis:	Wet Weight
Seq Number:	3017045				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00353	0.00353	mg/kg	05.09.17 19.44	U	1
Toluene	108-88-3	<0.00353	0.00353	mg/kg	05.09.17 19.44	U	1
Ethylbenzene	100-41-4	<0.00353	0.00353	mg/kg	05.09.17 19.44	U	1
m,p-Xylenes	179601-23-1	<0.00707	0.00707	mg/kg	05.09.17 19.44	U	1
o-Xylene	95-47-6	<0.00353	0.00353	mg/kg	05.09.17 19.44	U	1
Total Xylenes	1330-20-7	<0.00353	0.00353	mg/kg	05.09.17 19.44	U	1
Total BTEX		<0.00353	0.00353	mg/kg	05.09.17 19.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	80-120	05.09.17 19.44	
4-Bromofluorobenzene	460-00-4	100	%	80-120	05.09.17 19.44	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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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 552584

COG Operating LLC

McIntyre B #10 Tank Battery

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3017483 — Matrix: Solid — Date Prep: 05.15.17
MB Sample Id: 724684-1-BLK — LCS Sample Id: 724684-1-BKS — LCSD Sample Id: 724684-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	266	106	272	109	90-110	2	20	mg/kg	05.15.17 20:09	

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3017595 — Matrix: Solid — Date Prep: 05.17.17
MB Sample Id: 724805-1-BLK — LCS Sample Id: 724805-1-BKS — LCSD Sample Id: 724805-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	251	100	246	98	90-110	2	20	mg/kg	05.18.17 05:16	

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3017483 — Matrix: Soil — Date Prep: 05.15.17
Parent Sample Id: 552584-005 — MS Sample Id: 552584-005 S — MSD Sample Id: 552584-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1040	247	1320	113	1310	109	90-110	1	20	mg/kg	05.15.17 20:32	X

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3017483 — Matrix: Soil — Date Prep: 05.15.17
Parent Sample Id: 552584-011 — MS Sample Id: 552584-011 S — MSD Sample Id: 552584-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	134	249	410	111	405	109	90-110	1	20	mg/kg	05.15.17 22:18	X

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3017595 — Matrix: Soil — Date Prep: 05.17.17
Parent Sample Id: 552584-022 — MS Sample Id: 552584-022 S — MSD Sample Id: 552584-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1090	247	1390	121	1360	109	90-110	2	20	mg/kg	05.18.17 05:39	X

Analytical Method: Inorganic Anions by EPA 300/300.1 — Prep Method: E300P
Seq Number: 3017595 — Matrix: Soil — Date Prep: 05.17.17
Parent Sample Id: 552584-031 — MS Sample Id: 552584-031 S — MSD Sample Id: 552584-031 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1520	246	1670	61	1700	73	90-110	2	20	mg/kg	05.18.17 07:25	X

QC Summary 552584

COG Operating LLC

McIntyre B #10 Tank Battery

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3016887 — Matrix: Solid — Date Prep: 05.09.17
MB Sample Id: 724311-1-BLK — LCS Sample Id: 724311-1-BKS — LCSD Sample Id: 724311-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	992	99	1010	101	70-135	2	35	mg/kg	05.09.17 17:33	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	949	95	970	97	70-135	2	35	mg/kg	05.09.17 17:33	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	127		104		106		70-135	%	05.09.17 17:33
o-Terphenyl	128		100		100		70-135	%	05.09.17 17:33

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3016887 — Matrix: Soil — Date Prep: 05.09.17
Parent Sample Id: 552584-001 — MS Sample Id: 552584-001 S — MSD Sample Id: 552584-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	999	1050	105	985	99	70-135	6	35	mg/kg	05.09.17 18:29	
C10-C28 Diesel Range Hydrocarbons	23.9	999	1060	104	988	97	70-135	7	35	mg/kg	05.09.17 18:29	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	116		101		70-135	%	05.09.17 18:29
o-Terphenyl	105		89		70-135	%	05.09.17 18:29

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3017045 — Matrix: Solid — Date Prep: 05.09.17
MB Sample Id: 724324-1-BLK — LCS Sample Id: 724324-1-BKS — LCSD Sample Id: 724324-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0903	90	0.0915	91	70-130	1	35	mg/kg	05.09.17 15:44	
Toluene	<0.00200	0.100	0.0956	96	0.0917	91	70-130	4	35	mg/kg	05.09.17 15:44	
Ethylbenzene	<0.00200	0.100	0.0902	90	0.0835	83	71-129	8	35	mg/kg	05.09.17 15:44	
m,p-Xylenes	<0.00401	0.200	0.181	91	0.171	85	70-135	6	35	mg/kg	05.09.17 15:44	
o-Xylene	<0.00200	0.100	0.0932	93	0.0929	92	71-133	0	35	mg/kg	05.09.17 15:44	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		103		98		80-120	%	05.09.17 15:44
4-Bromofluorobenzene	89		100		98		80-120	%	05.09.17 15:44

QC Summary 552584

COG Operating LLC

McIntyre B #10 Tank Battery

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3017048 — Matrix: Solid — Date Prep: 05.10.17
MB Sample Id: 724408-1-BLK — LCS Sample Id: 724408-1-BKS — LCSD Sample Id: 724408-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.101	101	0.110	111	70-130	9	35	mg/kg	05.10.17 15:02	
Toluene	<0.00199	0.0996	0.106	106	0.120	121	70-130	12	35	mg/kg	05.10.17 15:02	
Ethylbenzene	<0.00199	0.0996	0.0955	96	0.111	112	71-129	15	35	mg/kg	05.10.17 15:02	
m,p-Xylenes	<0.00398	0.199	0.199	100	0.223	112	70-135	11	35	mg/kg	05.10.17 15:02	
o-Xylene	<0.00199	0.0996	0.0986	99	0.120	121	71-133	20	35	mg/kg	05.10.17 15:02	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		101		116		80-120	%	05.10.17 15:02
4-Bromofluorobenzene	109		105		111		80-120	%	05.10.17 15:02

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3017047 — Matrix: Solid — Date Prep: 05.10.17
MB Sample Id: 724407-1-BLK — LCS Sample Id: 724407-1-BKS — LCSD Sample Id: 724407-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0925	93	0.0985	99	70-130	6	35	mg/kg	05.10.17 06:55	
Toluene	<0.00199	0.0996	0.101	101	0.0994	100	70-130	2	35	mg/kg	05.10.17 06:55	
Ethylbenzene	<0.00199	0.0996	0.0849	85	0.0935	94	71-129	10	35	mg/kg	05.10.17 06:55	
m,p-Xylenes	<0.00398	0.199	0.174	87	0.188	94	70-135	8	35	mg/kg	05.10.17 06:55	
o-Xylene	<0.00199	0.0996	0.0839	84	0.109	110	71-133	26	35	mg/kg	05.10.17 06:55	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		102		93		80-120	%	05.10.17 06:55
4-Bromofluorobenzene	107		87		101		80-120	%	05.10.17 06:55

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3017045 — Matrix: Soil — Date Prep: 05.09.17
Parent Sample Id: 552586-007 — MS Sample Id: 552586-007 S — MSD Sample Id: 552586-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0826	83	0.0950	96	70-130	14	35	mg/kg	05.09.17 16:15	
Toluene	<0.00200	0.100	0.0872	87	0.0955	96	70-130	9	35	mg/kg	05.09.17 16:15	
Ethylbenzene	<0.00200	0.100	0.0851	85	0.0858	86	71-129	1	35	mg/kg	05.09.17 16:15	
m,p-Xylenes	<0.00401	0.200	0.163	82	0.169	85	70-135	4	35	mg/kg	05.09.17 16:15	
o-Xylene	<0.00200	0.100	0.0958	96	0.0870	88	71-133	10	35	mg/kg	05.09.17 16:15	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		117		80-120	%	05.09.17 16:15
4-Bromofluorobenzene	100		103		80-120	%	05.09.17 16:15

QC Summary 552584

COG Operating LLC

McIntyre B #10 Tank Battery

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

Seq Number: 3017048 Matrix: Soil Date Prep: 05.10.17

Parent Sample Id: 552656-004 MS Sample Id: 552656-004 S MSD Sample Id: 552656-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0324	32	0.0721	72	70-130	76	35	mg/kg	05.10.17 15:35	XF
Toluene	<0.00201	0.100	0.0294	29	0.0745	75	70-130	87	35	mg/kg	05.10.17 15:35	XF
Ethylbenzene	<0.00201	0.100	0.0307	31	0.0654	66	71-129	72	35	mg/kg	05.10.17 15:35	XF
m,p-Xylenes	<0.00402	0.201	0.0544	27	0.134	67	70-135	85	35	mg/kg	05.10.17 15:35	XF
o-Xylene	<0.00201	0.100	0.0266	27	0.0734	74	71-133	94	35	mg/kg	05.10.17 15:35	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		117		80-120	%	05.10.17 15:35
4-Bromofluorobenzene	107		114		80-120	%	05.10.17 15:35

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

Seq Number: 3017047 Matrix: Soil Date Prep: 05.10.17

Parent Sample Id: 552586-006 MS Sample Id: 552586-006 S MSD Sample Id: 552586-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00377	0.189	0.156	83	0.154	83	70-130	1	35	mg/kg	05.10.17 07:28	
Toluene	<0.00377	0.189	0.163	86	0.141	76	70-130	14	35	mg/kg	05.10.17 07:28	
Ethylbenzene	<0.00377	0.189	0.147	78	0.137	74	71-129	7	35	mg/kg	05.10.17 07:28	
m,p-Xylenes	<0.00755	0.377	0.273	72	0.259	70	70-135	5	35	mg/kg	05.10.17 07:28	
o-Xylene	<0.00377	0.189	0.151	80	0.131	71	71-133	14	35	mg/kg	05.10.17 07:28	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		106		80-120	%	05.10.17 07:28
4-Bromofluorobenzene	105		94		80-120	%	05.10.17 07:28

CHAIN OF CUSTODY

Page 1 Of 4

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Midland, Texas (432-704-5251)
Phoenix, Arizona (480-355-0900)
www.xenco.com

Xenco Quote #
Xenco Job # 552584

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: McIntyre B #10 Tank Battery
Project Location: McIntyre B #10 Tan
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	BTEX	Chloride	Field Comments
1	T1 - surf	surf	5/2/17	8:30	S	1									X	X	X	
2	T1 - 1'	1		8:35		1									X	X	X	
3	T1 - 2'	2		8:35		1									X	X	X	
4	T1 - 3'	3		8:37		1											X	
5	T1 - 4'	4		8:39		1											X	
6	T1 - 6'	6		8:40		1											X	
7	T1 - 8'	8		8:45		1											X	
8	T1 - 10'	10		8:47		1											X	
9	T1 - 12'	12		8:50		1											X	
10	T1 - 14'	14		8:55		1											X	

Turnaround Time (Business days)

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

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

Data Deliverable Information

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

Notes:

FED-EX / UPS: Tracking #

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

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

Temp: 3.1 IR ID:R-9
CF (0-6: 0.0°C) (6-23: +0.1°C)
Corrected Temp: 3.1

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www.xenco.com

CHAIN OF CUSTODY

Page 2 Of 4

Xenco Quote #

Xenco Job # 552584

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: McIntyre B #10 Tank Battery
Project Location: McIntyre B #10 Tan
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	BTEX	Chloride	Field Comments
1	T1 - 18'	18	5/2/17	9:00Am	S	1											X	
2	T2 - SURF	SURF		9:15Am		1									X	X	X	
3	T2 - 1'	1		9:20Am		1									X	X	X	
4	T2 - 2'	2		9:22Am		1									X	X	X	
5	T2 - 3'	3		9:25Am		1											X	
6	T2 - 4'	4		9:30Am		1											X	
7	T2 - 6'	6		9:40Am		1											X	
8	T2 - 9'	9		9:45Am		1											X	
9	T2 - 11'	11		9:50Am		1											X	
10	T3 - SURF	SURF		9:55Am											X	X	X	

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

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	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		5/5/17 11:00 Am	Sid Butler 11:00 AM 5-5-17			
2						
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4						
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice
						☒

Temp: 3.1 IR ID:R-9
CF:(0-6: 0.0°C) (6-23: +0.1°C)
Corrected Temp: 3.1

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.

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CHAIN OF CUSTODY

Page 3 Of 4

Xenco Quote # | Xenco Job # 5532584

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: McIntyre B #10 Tank Battery
Project Location: McIntyre B #10 Tan
Invoice To: COG Operating LLC, Attn: Robert Mcneill, 600 W. Illinois, Midland TX 79701
PO Number:

Analytical Information

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W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
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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	BTEX	Chloride	Field Comments
1	T3 - 1'	1	5/2/17	10:00am	S	1									X	X	X	
2	T3 - 2'	2		10:05		1									X	X	X	
3	T3 - 3'	3		10:08		1											X	
4	T3 - 4'	4		10:10		1											X	
5	T3 - 6'	6		10:12		1											X	
6	T3 - 8'	8		10:15		1											X	
7	T3 - 10'	10		10:18		1											X	
8	T3 - 12'	12		10:22		1											X	
9	T3 - 14'	14		10:25		1											X	
10	T3 - 17'	17		10:30		1											X	

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	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		5/5/17 11:00 AM	Sid Butler 11:20 AM 5-5-17	2		2 JRAMER
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice

Temp: 3.1 IR ID:R-9
CF:(0-6: 0.0°C) (6-23. +0.1°C)
Corrected Temp: 3.1

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CHAIN OF CUSTODY

Page 4 Of 4

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www.xenco.com

Xenco Quote # | Xenco Job # 557584

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
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A = Air

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1	TH - 2'	2	5/4/17	11:00am	S	1									X	X	X	
2	TH - 4'	4	"	"	"	1									X	X	X	
3																		
4	TS - 2'	2	"	"	"	1									X	X	X	
5	TS - 4'	4	"	"	"	1									X	X	X	
6																		
7																		
8																		
9																		
10																		

Turnaround Time (Business days) | Data Deliverable Information | Notes:

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		5/5/17 11:00 am	Jill Butler 11:00 AM 5-5-17	2		
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice

Temp: 3.1 IR ID:R-9
CF:(0-6: 0.0°C) (6-23: +0 1°C)
Corrected Temp: 3.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

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

Work Order #: 552584

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

Temperature Measuring device used : R9

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.1
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seal present on shipping container/ cooler?	**N/A**
#5 *Custody Seals intact on shipping container/ cooler?	**N/A**
#6 Custody Seals intact on sample bottles?	**N/A**
#7 *Custody Seals Signed and dated?	**N/A**
#8 *Chain of Custody present?	**Yes**
#9 Sample instructions complete on Chain of Custody?	**Yes**
#10 Any missing/extra samples?	**No**
#11 Chain of Custody signed when relinquished/ received?	**Yes**
#12 Chain of Custody agrees with sample label(s)?	**Yes**
#13 Container label(s) legible and intact?	**Yes**
#14 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#15 Samples in proper container/ bottle?	**Yes**
#16 Samples properly preserved?	**Yes**
#17 Sample container(s) intact?	**Yes**
#18 Sufficient sample amount for indicated test(s)?	**Yes**
#19 All samples received within hold time?	**Yes**
#20 Subcontract of sample(s)?	**N/A**
#21 VOC samples have zero headspace?	**N/A**
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	**N/A**
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Jessica Kramer
Jessica Kramer
Date: 05/08/2017

Checklist reviewed by: Liz Givens
Liz Givens
Date: 05/08/2017

Analytical Report 576907

for

Tetra Tech

Project Manager: Ike Tavarez

McIntyre B#10

212C-MD-00863

27-FEB-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

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

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

27-FEB-18

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

Reference: XENCO Report No(s): **576907**
McIntyre B#10
Project Address: Eddy Co, NM.

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) 576907. 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. 576907 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks
Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

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

Sample Cross Reference 576907

Tetra Tech, Midland, TX

McIntyre B#10

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
NSW-1	S	02-05-18 08:00		576907-001
NSW-2	S	02-05-18 08:10		576907-002
SSW-1	S	02-05-18 08:15		576907-003
SSW-2	S	02-05-18 08:20		576907-004
AH-1 (BOTTOM), 4 TO 5'	S	02-05-18 08:25		576907-005
AH-2 (BOTTOM), 4 TO 5'	S	02-05-18 08:30		576907-006
NSW-3	S	02-05-18 12:00		576907-007
NSW-4	S	02-05-18 12:05		576907-008
SSW-3	S	02-05-18 12:10		576907-009
SSW-4	S	02-05-18 12:15		576907-010
AH-3 (BOTTOM), 2-3'	S	02-05-18 12:20		576907-011
AH-4 (BOTTOM), 2-3'	S	02-05-18 12:25		576907-012
NSW-3 (1')	S	02-06-18 09:00		576907-013
NSW-4 (1')	S	02-06-18 09:05		576907-014
NSW-5	S	02-06-18 10:10		576907-015
NSW-6	S	02-06-18 13:45		576907-016
SSW-5	S	02-06-18 10:15		576907-017
SSW-6	S	02-06-18 13:50		576907-018
AH-5 (BOTTOM), 6-7'	S	02-06-18 10:20		576907-019
AH-6 (BOTTOM), 6-7'	S	02-06-18 13:55		576907-020
NSW-7	S	02-06-18 14:25		576907-021
SSW-7	S	02-06-18 14:30		576907-022
WSW-7	S	02-06-18 14:35		576907-023
AH-7 (BOTTOM), 3-4'	S	02-06-18 14:40		576907-024
AH-7 (BOTTOM), 3-4'	S	02-07-18 09:15		576907-025

Version: 1.%

CASE NARRATIVE

Client Name: Tetra Tech

Project Name: McIntyre B#10

Project ID: *212C-MD-00863*
Work Order Number(s): *576907*

Report Date: *27-FEB-18*
Date Received: *02/19/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3042138 Chloride by EPA 300

Lab Sample ID 576907-008 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: 576907-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016.

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

Certificate of Analysis Summary 576907

Tetra Tech, Midland, TX

Project Name: McIntyre B#10

Project Id: 212C-MD-00863
Contact: Ike Tavarez
Project Location: Eddy Co, NM.

Date Received in Lab: Mon Feb-19-18 04:42 pm
Report Date: 27-FEB-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	576907-001		576907-002		576907-003		576907-004		576907-005		576907-006	
	Field Id:	NSW-1		NSW-2		SSW-1		SSW-2		AH-1 (BOTTOM), 4 TO 5'		AH-2 (BOTTOM), 4 TO 5'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-05-18 08:00		Feb-05-18 08:10		Feb-05-18 08:15		Feb-05-18 08:20		Feb-05-18 08:25		Feb-05-18 08:30	
Chloride by EPA 300	***Extracted:***	Feb-26-18 08:06		Feb-26-18 08:06		Feb-26-18 08:06		Feb-26-18 08:06		Feb-26-18 08:06		Feb-26-18 08:06	
	Analyzed:	Feb-26-18 09:49		Feb-26-18 09:55		Feb-26-18 10:10		Feb-26-18 10:16		Feb-26-18 10:21		Feb-26-18 10:26	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		615	4.94	491	4.97	367	4.96	473	4.94	180	4.93	138	4.99

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Version: 1.%

Kelsey Brooks
Project Manager

Final 1.000

Certificate of Analysis Summary 576907

Tetra Tech, Midland, TX

Project Name: McIntyre B#10

Project Id: 212C-MD-00863
Contact: Ike Tavarez
Project Location: Eddy Co, NM.

Date Received in Lab: Mon Feb-19-18 04:42 pm
Report Date: 27-FEB-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	576907-007		576907-008		576907-009		576907-010		576907-011		576907-012	
	Field Id:	NSW-3		NSW-4		SSW-3		SSW-4		AH-3 (BOTTOM), 2-3'		AH-4 (BOTTOM), 2-3'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-05-18 12:00		Feb-05-18 12:05		Feb-05-18 12:10		Feb-05-18 12:15		Feb-05-18 12:20		Feb-05-18 12:25	
Chloride by EPA 300	***Extracted:***	Feb-26-18 08:06		Feb-26-18 08:06		Feb-26-18 08:06		Feb-26-18 08:06		Feb-26-18 08:06		Feb-26-18 08:06	
	Analyzed:	Feb-26-18 10:32		Feb-26-18 10:37		Feb-26-18 10:53		Feb-26-18 10:58		Feb-26-18 11:14		Feb-26-18 11:19	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1330	4.93	801	4.98	180	4.94	182	4.94	810	4.91	294	4.98

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Version: 1.%

Kelsey Brooks
Project Manager

Final 1.000

Certificate of Analysis Summary 576907

Tetra Tech, Midland, TX

Project Name: McIntyre B#10

Project Id: 212C-MD-00863
Contact: Ike Tavarez
Project Location: Eddy Co, NM.

Date Received in Lab: Mon Feb-19-18 04:42 pm
Report Date: 27-FEB-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	576907-013		576907-014		576907-015		576907-016		576907-017		576907-018	
	Field Id:	NSW-3 (1')		NSW-4 (1')		NSW-5		NSW-6		SSW-5		SSW-6	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-06-18 09:00		Feb-06-18 09:05		Feb-06-18 10:10		Feb-06-18 13:45		Feb-06-18 10:15		Feb-06-18 13:50	
Chloride by EPA 300	***Extracted:***	Feb-26-18 08:06		Feb-26-18 08:06		Feb-26-18 08:06		Feb-26-18 08:06		Feb-26-18 12:00		Feb-23-18 17:00	
	Analyzed:	Feb-26-18 11:25		Feb-26-18 11:30		Feb-26-18 11:35		Feb-26-18 11:41		Feb-26-18 12:25		Feb-24-18 03:16	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		467	4.94	55.2	4.95	148	4.94	184	4.94	<4.96	4.96	89.3	4.97

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Version: 1.%

Kelsey Brooks
Project Manager

Final 1.000

Certificate of Analysis Summary 576907

Tetra Tech, Midland, TX

Project Name: McIntyre B#10

Project Id: 212C-MD-00863
Contact: Ike Tavarez
Project Location: Eddy Co, NM.

Date Received in Lab: Mon Feb-19-18 04:42 pm
Report Date: 27-FEB-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	576907-019		576907-020		576907-021		576907-022		576907-023		576907-024	
	Field Id:	AH-5 (BOTTOM), 6-7'		AH-6 (BOTTOM), 6-7'		NSW-7		SSW-7		WSW-7		AH-7 (BOTTOM), 3-4'	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-06-18 10:20		Feb-06-18 13:55		Feb-06-18 14:25		Feb-06-18 14:30		Feb-06-18 14:35		Feb-06-18 14:40	
Chloride by EPA 300	***Extracted:***	Feb-23-18 17:00		Feb-23-18 17:00		Feb-26-18 12:00		Feb-23-18 16:00		Feb-23-18 16:00		Feb-23-18 16:00	
	Analyzed:	Feb-24-18 03:22		Feb-24-18 03:27		Feb-26-18 12:41		Feb-23-18 21:27		Feb-23-18 21:32		Feb-23-18 21:37	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		93.6	4.94	608	4.98	28.5	4.95	84.5	4.91	253	5.00	1070	4.99

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Version: 1.%

Kelsey Brooks
Project Manager

Final 1.000

Certificate of Analysis Summary 576907

Tetra Tech, Midland, TX

Project Name: McIntyre B#10

Project Id: 212C-MD-00863
Contact: Ike Tavarez
Project Location: Eddy Co, NM.

Date Received in Lab: Mon Feb-19-18 04:42 pm
Report Date: 27-FEB-18
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	576907-025					
	Field Id:	AH-7 (BOTTOM), 3-4'					
	Depth:						
	Matrix:	SOIL					
	Sampled:	Feb-07-18 09:15					
Chloride by EPA 300	***Extracted:***	Feb-26-18 12:00					
	Analyzed:	Feb-26-18 12:47					
	Units/RL:	mg/kg	RL				
Chloride		577	4.95				

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Version: 1.%

Kelsey Brooks
Project Manager

Final 1.000

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

BS / BSD Recoveries

Project Name: McIntyre B#10

Work Order #: 576907 **Project ID:** 212C-MD-00863

Analyst: OJS **Date Prepared:** 02/23/2018 **Date Analyzed:** 02/23/2018

Lab Batch ID: 3042120 **Sample:** 7639727-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	272	109	250	273	109	0	90-110	20	

Analyst: OJS **Date Prepared:** 02/23/2018 **Date Analyzed:** 02/24/2018

Lab Batch ID: 3042090 **Sample:** 7639729-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	265	106	250	265	106	0	90-110	20	

Analyst: OJS **Date Prepared:** 02/26/2018 **Date Analyzed:** 02/26/2018

Lab Batch ID: 3042138 **Sample:** 7639730-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	258	103	250	254	102	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.%

BS / BSD Recoveries

Project Name: McIntyre B#10

Work Order #: 576907 **Project ID:** 212C-MD-00863

Analyst: OJS **Date Prepared:** 02/26/2018 **Date Analyzed:** 02/26/2018

Lab Batch ID: 3042140 **Sample:** 7639780-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	264	106	250	269	108	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: McIntyre B#10

Work Order # : 576907 **Project ID:** 212C-MD-00863

Lab Batch ID: 3042090 **QC- Sample ID:** 577358-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02/24/2018 **Date Prepared:** 02/23/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	<4.94	247	281	114	247	271	110	4	90-110	20	X

Lab Batch ID: 3042090 **QC- Sample ID:** 577397-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02/24/2018 **Date Prepared:** 02/23/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	304	250	568	106	250	556	101	2	90-110	20	

Lab Batch ID: 3042120 **QC- Sample ID:** 576848-010 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02/23/2018 **Date Prepared:** 02/23/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	<4.95	248	255	103	248	253	102	1	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: McIntyre B#10

Work Order # : 576907 **Project ID:** 212C-MD-00863

Lab Batch ID: 3042120 **QC- Sample ID:** 576910-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02/23/2018 **Date Prepared:** 02/23/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	1090	245	1300	86	245	1320	94	2	90-110	20	X

Lab Batch ID: 3042138 **QC- Sample ID:** 576893-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02/26/2018 **Date Prepared:** 02/26/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	624	248	817	78	248	841	88	3	90-110	20	X

Lab Batch ID: 3042138 **QC- Sample ID:** 576907-008 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02/26/2018 **Date Prepared:** 02/26/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	801	249	978	71	249	995	78	2	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.

Form 3 - MS / MSD Recoveries

Project Name: McIntyre B#10

Work Order # : 576907 **Project ID:** 212C-MD-00863

Lab Batch ID: 3042140 **QC- Sample ID:** 576907-017 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02/26/2018 **Date Prepared:** 02/26/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	<4.96	248	259	104	248	272	110	5	90-110	20	

Lab Batch ID: 3042140 **QC- Sample ID:** 577014-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02/26/2018 **Date Prepared:** 02/26/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	228	249	474	99	249	467	96	1	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.

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

576907

Client Name: COG	**Site Manager:** Ike Tavarez
Project Name: McIntyre B#10	
Project Location: (county, state) Midland Tx	**Project #:** 212C-MD-00863
Invoice to:	
Receiving Laboratory: Xenco	**Sampler Signature:** Clint Merritt
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	# 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
	NSW-1	2/5/2018	8:00		X			X	1																X				
	NSW-2	2/5/2018	8:10		X			X	1																X				
	SSW-1	2/5/2018	8:15		X			X	1																X				
	SSW-2	2/5/2018	8:20		X			X	1																X				
	AH-1 (Bottom), 4 to 5'	2/5/2018	8:25		X			X	1																X				
	AH-2 (Bottom), 4 to 5'	2/5/2018	8:30		X			X	1																X				
	NSW-3	2/5/2018	12:00		X			X	1																X				
	NSW-4	2/5/2018	12:05		X			X	1																X				
	SSW-3	2/5/2018	12:10		X			X	1																X				
	SSW-4	2/5/2018	12:15		X			X	1																X				

Relinquished by:	Date: 2/19	Time: 16:42	Received by:
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Date: 2/19 Time: 16:42

Date: Time:

Date: Time:

LAB USE ONLY

Sample Temperature

(Circle) HAND D

REMARKS:

☐ RUSH: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

Temp: 2.4 IR ID:R-8

CF:(0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: 2.2

ORIGINAL COPY

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

576907

Client Name: COG	Site Manager: Ike Tavarez
Project Name: Group D	
Project Location: (county, state) Eddy Co, NM	Project #: 212C-MD-00863
Invoice to:	
Receiving Laboratory: Xenco	Sampler Signature: Clint Merritt
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	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
	AH-3 (bottom), 2 to 3'	2/5/2018	12:20		X				X		1															X								
	AH-4 (bottom), 2 to 3'	2/5/2018	12:25		X				X		1															X								
	NSW-3 (1')	2/6/2018	9:00		X				X		1															X								
	NSW-4 (1')	2/6/2018	9:05		X				X		1															X								
	NSW-5	2/6/2018	10:10		X				X		1															X								
	NSW-6	2/6/2018	13:45		X				X		1															X								
	SSW-5	2/6/2018	10:15		X				X		1															X								
	SSW-6	2/6/2018	13:50		X				X		1															X								
	AH-5 (bottom), 6 to 7'	2/6/2018	10:20		X				X		1															X								
	AH-6 (bottom), 6 to 7'	2/6/2018	13:55		X				X		1															X								

Relinquished by:	Date: 2/9	Time: 16:42	Received by: Date: 2/9 Time: 16:42
Relinquished by:	Date:	Time:	Received by: Date: Time:
Relinquished by:	Date:	Time:	Received by: Date: Time:

LAB USE ONLY

Sample Temperature

(Circle) H

REMARKS:

- ☐ RUSH: Same Day 24 hr 48 hr 72 hr
- ☐ Rush Charges Authorized
- ☐ Special Report Limits or TRRP Report

Temp: 2.4 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 2.2

ORIGINAL COPY

Final 1.000

Page 17 of 19

Analysis Request of Chain of Custody Record

Tetra Tech, Inc.

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

576907

Client Name: COG	**Site Manager:** Ike Tavarez
Project Name: McIntyre B#10	
Project Location: (county, state) Eddy Co, NM	**Project #:** 212C-MD-00863
Invoice to:	
Receiving Laboratory: Xenco	**Sampler Signature:** Clint Merritt
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	# 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
	NSW-7	2/6/2018	14:25		X			X	1																X				
	SSW-7	2/6/2018	14:30		X			X	1																X				
	WSW-7	2/6/2018	14:35		X			X	1																X				
	AH-7 (bottom), 3 to 4'	2/6/2018	14:40		X			X	1																X				
	AH-7 (bottom), 3 to 4'	2/7/2018	9:15		X			X	1																X				

Final 1.000

Page 19 of 19

Relinquished by:	Date: 2/19	Time: 16:42	Received by: Date: 2/19 Time: 16:43
Relinquished by:	Date:	Time:	Received by: Date: Time:
Relinquished by:	Date:	Time:	Received by: Date: Time:

LAB USE ONLY

Sample Temperature

REMARKS:

- ☐ RUSH: Same Day 24 hr 48 hr 72 hr
- ☐ Rush Charges Authorized
- ☐ Special Report Limits or TRRP Report

(Circ)

ORIGINAL COPY

Temp: 2.4 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 2.2

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech

Date/ Time Received: 02/19/2018 04:42:00 PM

Work Order #: 576907

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)?	2.2
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**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: Katie Lowe Date: 02/19/2018

Checklist reviewed by: Kelsey Brooks Date: 02/20/2018

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

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

CONDITIONS

Action 206703

CONDITIONS

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID: 328947
	Action Number: 206703
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	5/2/2023