SITE INFORMATION

Report Type: Deferment Report 2RP-3964

General Site Information:						
Site:	**Folk Federal Tank Battery**					
Company:	**COG Operating LLC**					
Section, Township and Range	**Unit H**	**Sec. 17**	**T 17S**	**R 29E**		
Lease Number:	**API No. 30-015-20198**					
County:	**Eddy County**					
GPS:	**32.8361122° N**			**104.090549° W**		
Surface Owner:	**Federal**					
Mineral Owner:						
Directions:	From the intersection of Lovington Hwy and CR 211 in rural Eddy county, travel north on CR 211 for 1.4 mi, to northeast onto a lease road for 0.45 mi to the location on the north side of the lease road.					

Release Data:	
Date Released:	10/14/2016
Type Release:	Oil
Source of Contamination:	Tank
Fluid Released:	18 bbls
Fluids Recovered:	16 bbls

Official Communication:			
Name:	Robert McNeil		Ike Tavarez
Company:	COG Operating, LLC		Tetra Tech
Address:	One Concho Center		4000 N. Big Spring
	600 W. Illinois Ave.		Ste 401
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		(432) 682-4559
Fax:	(432) 684-7137		
Email:	rmcneil@conchoresources.com		Ike.Tavarez@tetratech.com

Ranking Criteria		
Depth to Groundwater:	***Ranking Score***	***Site Data***
<50 ft	20	
50-99 ft	***10***	75'-100'
>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

June 26, 2017

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

Re: Revised - Deferment Report for the COG Operating LLC., Folk Federal Tank Battery, Unit H, Section 17, Township 17 South, Range 29 East, Eddy County, New Mexico. 2RP-3964

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC., (COG) to assess a spill from the Folk Federal Tank Battery, Unit H, Section 17, Township 17 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.8361122º, W 104.090549. 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 October 14, 2016, and released approximately eighteen (18) barrels of oil due to a hole in an oil tank. Approximately sixteen (16) barrels of oil were recovered. Additionally, COG removed the impacted surface gravel. The spill occurred inside the of the firewalls facility and measured approximately 30' x 100'. The initial C-141 form is included in Appendix A. The release area is shown on Figure 3.

Groundwater

No water wells were listed within Section 17 on the New Mexico Office of the State Engineer's website. However, one (1) well is listed in Section 22 and has a reported depth to groundwater of 76' below surface. Two (2) water wells are listed in Township 17 South, Range 29 East according to the Geology and Groundwater Resources of Eddy County, NM (Report 3). The nearest well listed is in Section 22 and shows a depth to groundwater of 80' below surface. According to the Chevron Texaco Groundwater Trend map, the average depth to groundwater in the area of Section 17 is between 75' to 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

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.

Previous Spill Inspection

On January 26, 2017, Tetra Tech personnel inspected the release area for access and safety concerns. Based on the inspection, backhoe trenches or boreholes cannot be installed due to access issues with the facility equipment and active lines located inside and outside the facility firewalls. In 2009, Tetra Tech performed a spill assessment at the facility and installed hand augers inside the facility firewalls. Only one sample was collected from 0-1' and deeper samples could not be obtained due the shallow dense formation at the site. At that time, boreholes were installed and access at the facility was not an issue on the west side of the facility.

Site Remediation and Soil Sampling

On June 7, 2017, Tetra Tech was onsite to collect soil samples from the spill area. Due to access issues, COG hand dug the area and removed the top six inches (6") of the impacted soil. Deeper excavation could not performed due to the dense surface formation. A total of 7 sample (SP-1 through SP-7) were collected from the excavated area for TPH and BTEX. The sampling results are summarized in Table 1. Referring to Table 1, the TPH concentration ranged from 3,400 mg/kg to 14,900 mg/kg (4" to 6") below the excavation bottom. The areas of SP-4, SP-6 and SP-7 showed total BTEX concentrations exceeding the RRAL of 50 mg/kg.

Conclusion and Recommendations

Based on the inspection, numerous underground and above ground lines, as well as equipment inside and outside the battery pose safety and access issues for sampling or remediation of the soils. Also, the installation of hand augers cannot be installed to properly evaluate or define extents of the impact, due to the geology in the area. Additionally, backhoe or drilling sampling techniques cannot be safely performed due to the limited access and lines in the area.

TETRA TECH

COG will treating the area with a Micro-Blaze product to remediate and naturally attenuate the hydrocarbon impact at the site. COG request the impact or release be deferred until abandonment. If you have any questions or comments concerning the assessment activities for this site, please call me at (432) 682-4559.

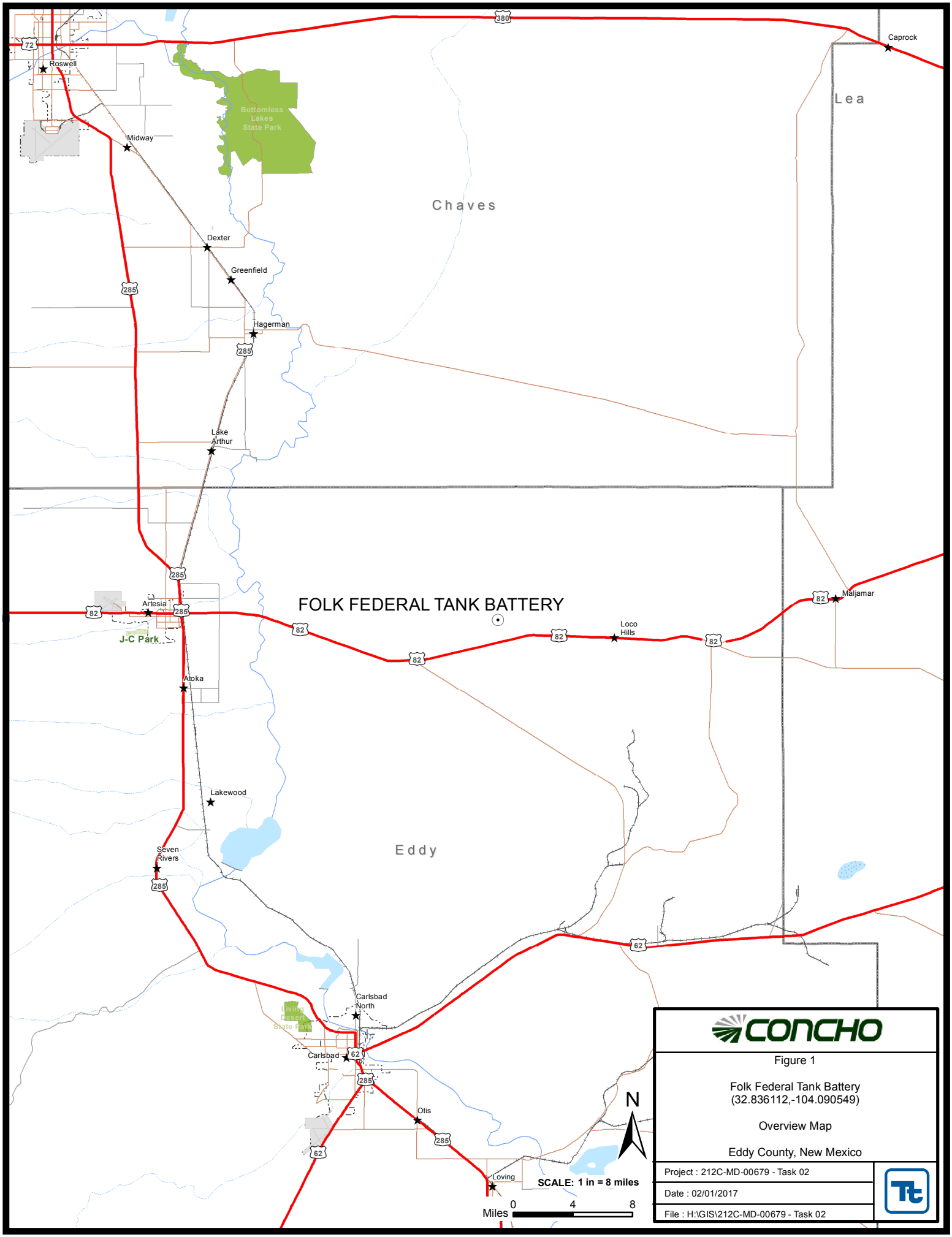
Respectfully submitted,
TETRA TECH

Ike Tavarez, PG
Senior Project Manager

Clair Gonzales,
Geologist I

cc: Robert McNeill – COG
Dakota Neel
Shelly Tucker – BLM

Figures



CONCHO

Figure 1

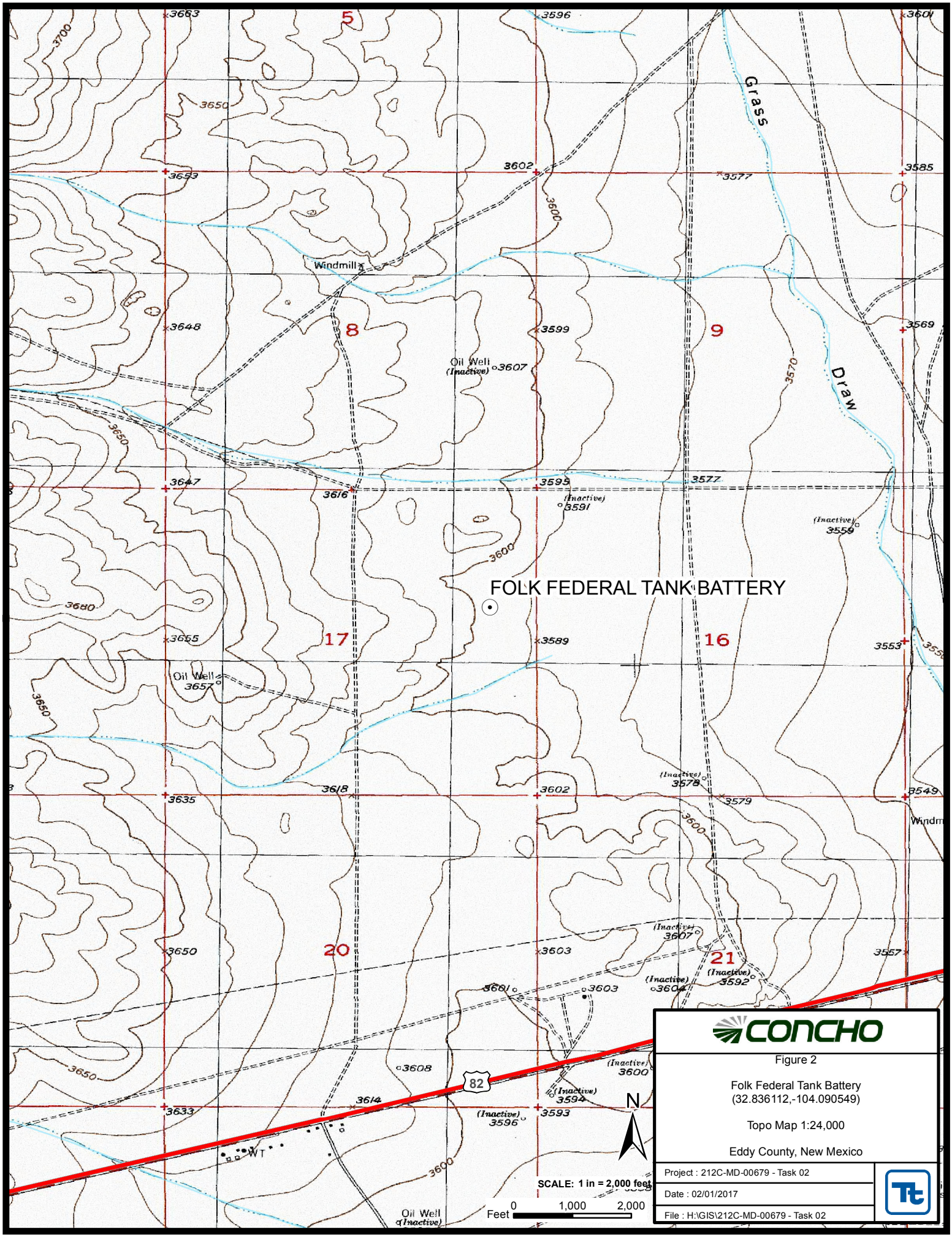
Folk Federal Tank Battery
(32.836112,-104.090549)

Overview Map

Eddy County, New Mexico

Project : 212C-MD-00679 - Task 02	
Date : 02/01/2017	
File : H:\GIS\212C-MD-00679 - Task 02	

Mapped By: Isabel Marmolejo



CONCHO

Figure 2

Folk Federal Tank Battery
(32.836112,-104.090549)

Topo Map 1:24,000

Eddy County, New Mexico

Project : 212C-MD-00679 - Task 02	
Date : 02/01/2017	
File : H:\GIS\212C-MD-00679 - Task 02	

Mapped By: Isabel Marmolejo

CONCHO

Figure 3

Folk Federal Tank Battery
(32.836112,-104.090549)

Spill Assessment Map

Eddy County, New Mexico

Project : 212C-MD-00679 - Task 02

Date : 06/22/2017

File : H:\GIS\212C-MD-00679 - Task 02

Mapped By: Isabel Marmolejo

Tables

Table 1
COG Operating LLC.
Folk Federal Tank Battery
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (in)	BEB Sample Depth (in)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)
				In-Situ	Removed	GRO	DRO	ORO	Total					
SP #1	6/7/2017	0-6	6	X		379	3,350	355	**4,080**	<0.00372	<0.00372	<0.00372	<0.00372	<0.00372
SP #2	6/7/2017	0-4	6	X		349	4,840	533	**5,720**	<0.00356	<0.00356	0.00731	0.00772	0.0150
SP #3	6/7/2017	0-4	6	X		501	4,810	504	**5,820**	<0.00380	<0.00380	0.0428	0.0438	0.0866
SP #4	6/7/2017	0-4	6	X		1,280	4,520	363	**6,160**	0.404	1.01	25.6	78.2	**105**
SP #5	6/7/2017	0-4	6	X		215	2,900	283	**3,400**	<0.00389	<0.00389	<0.00389	<0.00389	<0.00389
SP #6	6/7/2017	0-6	6	X		6,410	7,520	952	**14,900**	7.69	59.2	93.4	344	**504**
SP #7	6/7/2017	0-6	6	X		4,450	5,330	607	**10,400**	7.96	99.3	111	203	**421**

Exceeding the RRAL's

212C-MD-00679.06
Cardinal Labs
Xenco Labs

Photos

COG Operating LLC
Folk Federal Tank Battery
Eddy County, New Mexico

View North of release area

View West of release area

COG Operating LLC
Folk Federal Tank Battery
Eddy County, New Mexico

View North of release area

View West of release area

COG Operating LLC
Folk Federal Tank Battery
Eddy County, New Mexico

View South of release area

View South of release area

COG Operating LLC
Folk Federal Tank Battery
Eddy County, New Mexico

View North 6” removal prior to sampling

View North 6” removal prior to sampling

COG Operating LLC
Folk Federal Tank Battery
Eddy County, New Mexico

View South West 6” removal prior to sampling SP#1

View North 6” removal prior to sampling SP#3

COG Operating LLC
Folk Federal Tank Battery
Eddy County, New Mexico

View South t 6” removal prior to sampling SP#4

View South t 6” removal prior to sampling SP#5

COG Operating LLC
Folk Federal Tank Battery
Eddy County, New Mexico

View West 6” removal prior to sampling SP#6

View South 6” removal prior to sampling SP#7

COG Operating LLC
Folk Federal Tank Battery
Eddy County, New Mexico

View South t 6” removal prior to sampling SP#2

Appendix A

Received 10/25/2016
NMOCD Artesia

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: COG Operating LLC	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-230-0077
Facility Name: FOLK FEDERAL TANK BATTERY	Facility Type: Battery

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-20198

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	17	17S	29E					Eddy

Latitude 32.836062 Longitude -104.090789

NATURE OF RELEASE

Type of Release: Oil	Volume of Release: 18 bbls of Oil	Volume Recovered: 16 bbls of Oil
Source of Release: Hole in Tank	Date and Hour of Occurrence: 10/14/2016 unknown	Date and Hour of Discovery: 10/14/2016 12:00 PM
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.*
This release was caused by a hole in the bottom of the oil tank. The tank was taken out of service and the valves going to it were closed. Vacuum trucks were immediately dispatched to recover all standing fluid.

Describe Area Affected and Cleanup Action Taken.*
This release occurred and remained within the bermed area of the facility. The contaminated gravel has been removed and replaced with fresh gravel. Concho will have the spill site sampled to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation work.

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

Signature: Dakota Neel	OIL CONSERVATION DIVISION	
Printed Name: Dakota Neel	Approved by Environmental Specialist:	
Title: Environmental Coordinator	Approval Date: 10/26/2016	Expiration Date: N/A
E-mail Address: dneel2@concho.com	Conditions of Approval: see attached	Attached ☒
Date: October 24, 2016 Phone: 575-748-6933		

* Attach Additional Sheets If Necessary

2RP-3964

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - Folk Federal Tank Battery
Eddy County, New Mexico

16 South 28 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21 **61**	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

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

17 South 28 East

6	5	4	3	2 28	1
7	8	9	10	11	12
18	17	16	15	14 80	13
19 224	20	21	22 45 79	23	24
30	29	28	27	26	25
31	32	33	34	35 **258**	36

17 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17 SITE	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

18 South 28 East

6	5	4 **108**	3	2 55	1
7 **49**	8 81 **69**	9	10	11	12
18	17	16	15 80	14	13
19	20	21 **226**	22	23	24
30 137	29	28	27	26	25
31	32	33	34	35 65	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

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

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

90 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 11807 POD1			ED	1	2	3	22	17S	29E	587360	3631585	131	76	55

Average Depth to Water: **76 feet**

Minimum Depth: **76 feet**

Maximum Depth: **76 feet**

Record Count: 1

PLSS Search:

Township: 17S **Range:** 29E

Appendix C

Analytical Report 555002

for

Tetra Tech- Midland

Project Manager: Ike Tavarez

Concho-Folk Federal Tank Battery

212C-MD-00679

15-JUN-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)

15-JUN-17

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

Reference: XENCO Report No(s): **555002**
Concho-Folk Federal Tank Battery
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) 555002. 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. 555002 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,

Kelsey Brooks
Project Manager

Sample Cross Reference 555002

Tetra Tech- Midland, Midland, TX

Concho-Folk Federal Tank Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP #1 (0-6") 6" BEB	S	06-07-17 00:00		555002-001
SP #2 (0-4") 6" BEB	S	06-07-17 00:00		555002-002
SP #3 (0-4") 6" BEB	S	06-07-17 00:00		555002-003
SP #4 (0-4") 6" BEB	S	06-07-17 00:00		555002-004
SP #5 (0-4") 6" BEB	S	06-07-17 00:00		555002-005
SP #6 (0-6") 6" BEB	S	06-07-17 00:00		555002-006
SP #7 (0-6") 6" BEB	S	06-07-17 00:00		555002-007

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3019540 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3019644 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate was above quality control limits.
Samples in the analytical batch are: 555002-003, -005

Lab Sample ID 555002-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene 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: 555002-003, -005.
The Laboratory Control Sample for Toluene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3019769 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 555002

Tetra Tech- Midland, Midland, TX

Project Name: Concho-Folk Federal Tank Battery

Project Id: 212C-MD-00679
Contact: Ike Tavarez
Project Location: Eddy Co NM

Date Received in Lab: Thu Jun-08-17 10:16 am
Report Date: 15-JUN-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	555002-001		555002-002		555002-003		555002-004		555002-005		555002-006	
	Field Id:	SP #1 (0-6") 6" BEB		SP #2 (0-4") 6" BEB		SP #3 (0-4") 6" BEB		SP #4 (0-4") 6" BEB		SP #5 (0-4") 6" BEB		SP #6 (0-6") 6" BEB	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-07-17 00:00		Jun-07-17 00:00		Jun-07-17 00:00		Jun-07-17 00:00		Jun-07-17 00:00		Jun-07-17 00:00	
BTEX by EPA 8021B	***Extracted:***	Jun-12-17 11:00		Jun-12-17 11:00		Jun-13-17 07:00		Jun-13-17 15:00		Jun-13-17 07:00		Jun-13-17 15:00	
	Analyzed:	Jun-12-17 20:27		Jun-12-17 20:11		Jun-13-17 08:55		Jun-14-17 10:37		Jun-13-17 09:11		Jun-14-17 11:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00372	0.00372	<0.00356	0.00356	<0.00380	0.00380	0.404	0.398	<0.00389	0.00389	7.69	1.00
Toluene		<0.00372	0.00372	<0.00356	0.00356	<0.00380	0.00380	1.01	0.398	<0.00389	0.00389	59.2	1.00
Ethylbenzene		<0.00372	0.00372	0.00731	0.00356	0.0428	0.00380	25.6	0.398	<0.00389	0.00389	93.4	1.00
m,p-Xylenes		<0.00743	0.00743	0.00772	0.00712	0.0438	0.00760	39.8	0.797	<0.00778	0.00778	227	2.01
o-Xylene		<0.00372	0.00372	<0.00356	0.00356	<0.00380	0.00380	38.4	0.398	<0.00389	0.00389	117	1.00
Total Xylenes		<0.00372	0.00372	0.00772	0.00356	0.0438	0.00380	78.2	0.398	<0.00389	0.00389	344	1.00
Total BTEX		<0.00372	0.00372	0.0150	0.00356	0.0866	0.00380	105	0.398	<0.00389	0.00389	504	1.00
TPH By SW8015 Mod	***Extracted:***	Jun-09-17 18:00		Jun-09-17 18:00		Jun-09-17 18:00		Jun-09-17 18:00		Jun-09-17 18:00		Jun-09-17 18:00	
	Analyzed:	Jun-10-17 16:44		Jun-10-17 17:45		Jun-10-17 18:05		Jun-10-17 18:26		Jun-10-17 18:47		Jun-10-17 19:07	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons		379	74.9	349	74.7	501	74.8	1280	75.0	215	74.8	6410	74.9
Diesel Range Organics		3350	74.9	4840	74.7	4810	74.8	4520	75.0	2900	74.8	7520	74.9
Oil Range Hydrocarbons		355	74.9	533	74.7	504	74.8	363	75.0	283	74.8	952	74.9
Total TPH		4080	74.9	5720	74.7	5820	74.8	6160	75.0	3400	74.8	14900	74.9

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 555002

Tetra Tech- Midland, Midland, TX

Project Name: Concho-Folk Federal Tank Battery

Project Id: 212C-MD-00679
Contact: Ike Tavarez
Project Location: Eddy Co NM

Date Received in Lab: Thu Jun-08-17 10:16 am
Report Date: 15-JUN-17
Project Manager: Kelsey Brooks

Analysis Requested								
	Lab Id:	555002-007						
	Field Id:	SP #7 (0-6") 6" BEB						
	Depth:							
	Matrix:	SOIL						
	Sampled:	Jun-07-17 00:00						
BTEX by EPA 8021B	***Extracted:***	Jun-13-17 15:00						
	Analyzed:	Jun-14-17 10:53						
	Units/RL:	mg/kg	RL					
Benzene		7.96	1.01					
Toluene		99.3	1.01					
Ethylbenzene		111	1.01					
m,p-Xylenes		140	2.02					
o-Xylene		62.8	1.01					
Total Xylenes		203	1.01					
Total BTEX		421	1.01					
TPH By SW8015 Mod	***Extracted:***	Jun-09-17 18:00						
	Analyzed:	Jun-10-17 19:27						
	Units/RL:	mg/kg	RL					
Gasoline Range Hydrocarbons		4450	74.9					
Diesel Range Organics		5330	74.9					
Oil Range Hydrocarbons		607	74.9					
Total TPH		10400	74.9					

Kelsey Brooks
Project Manager

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

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

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

Form 2 - Surrogate Recoveries

Project Name: Concho-Folk Federal Tank Battery

Work Orders : 555002,

Project ID: 212C-MD-00679

Lab Batch #: 3019459 **Sample:** 555002-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/10/17 16:44

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.8	99.8	98	70-135	
o-Terphenyl	48.4	49.9	97	70-135	

Lab Batch #: 3019459 **Sample:** 555002-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/10/17 17:45

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.6	102	70-135	
o-Terphenyl	47.3	49.8	95	70-135	

Lab Batch #: 3019459 **Sample:** 555002-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/10/17 18:05

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	99.7	100	70-135	
o-Terphenyl	47.7	49.9	96	70-135	

Lab Batch #: 3019459 **Sample:** 555002-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/10/17 18:26

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	112	100	112	70-135	
o-Terphenyl	58.1	50.0	116	70-135	

Lab Batch #: 3019459 **Sample:** 555002-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/10/17 18:47

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	99.7	103	70-135	
o-Terphenyl	51.2	49.9	103	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Concho-Folk Federal Tank Battery

Work Orders : 555002,

Project ID: 212C-MD-00679

Lab Batch #: 3019459 **Sample:** 555002-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/10/17 19:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.8	109	70-135	
o-Terphenyl	48.0	49.9	96	70-135	

Lab Batch #: 3019459 **Sample:** 555002-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/10/17 19:27

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.8	108	70-135	
o-Terphenyl	50.8	49.9	102	70-135	

Lab Batch #: 3019540 **Sample:** 555002-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/12/17 20:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

Lab Batch #: 3019540 **Sample:** 555002-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/12/17 20:27

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0284	0.0300	95	80-120	

Lab Batch #: 3019644 **Sample:** 555002-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/13/17 08:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0349	0.0300	116	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Concho-Folk Federal Tank Battery

Work Orders : 555002,

Project ID: 212C-MD-00679

Lab Batch #: 3019644 **Sample:** 555002-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/13/17 09:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0273	0.0300	91	80-120	

Lab Batch #: 3019769 **Sample:** 555002-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/14/17 10:37

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0244	0.0300	81	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 3019769 **Sample:** 555002-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/14/17 10:53

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0297	0.0300	99	80-120	
4-Bromofluorobenzene	0.0349	0.0300	116	80-120	

Lab Batch #: 3019769 **Sample:** 555002-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/14/17 11:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0343	0.0300	114	80-120	
4-Bromofluorobenzene	0.0340	0.0300	113	80-120	

Lab Batch #: 3019459 **Sample:** 725909-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/10/17 15:36

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	57.2	50.0	114	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Concho-Folk Federal Tank Battery

Work Orders : 555002,

Project ID: 212C-MD-00679

Lab Batch #: 3019540 **Sample:** 725998-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/12/17 15:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	80-120	

Lab Batch #: 3019644 **Sample:** 726036-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/13/17 08:39

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0256	0.0300	85	80-120	
4-Bromofluorobenzene	0.0282	0.0300	94	80-120	

Lab Batch #: 3019769 **Sample:** 726090-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/14/17 01:16

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	

Lab Batch #: 3019459 **Sample:** 725909-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/10/17 15:58

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	49.4	50.0	99	70-135	

Lab Batch #: 3019540 **Sample:** 725998-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/12/17 13:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Concho-Folk Federal Tank Battery

Work Orders : 555002,

Project ID: 212C-MD-00679

Lab Batch #: 3019644 **Sample:** 726036-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/13/17 07:01

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0326	0.0300	109	80-120	

Lab Batch #: 3019769 **Sample:** 726090-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/13/17 23:40

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0285	0.0300	95	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 3019459 **Sample:** 725909-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/10/17 16:22

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	50.9	50.0	102	70-135	

Lab Batch #: 3019540 **Sample:** 725998-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/12/17 13:25

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 3019644 **Sample:** 726036-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/13/17 07:17

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0292	0.0300	97	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Concho-Folk Federal Tank Battery

Work Orders : 555002,

Project ID: 212C-MD-00679

Lab Batch #: 3019769 **Sample:** 726090-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/13/17 23:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0278	0.0300	93	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 3019459 **Sample:** 555002-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/10/17 17:04

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	99.7	116	70-135	
o-Terphenyl	56.7	49.9	114	70-135	

Lab Batch #: 3019540 **Sample:** 554743-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/12/17 14:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0327	0.0300	109	80-120	
4-Bromofluorobenzene	0.0299	0.0300	100	80-120	

Lab Batch #: 3019644 **Sample:** 555002-005 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/13/17 07:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0347	0.0300	116	80-120	
4-Bromofluorobenzene	0.0344	0.0300	115	80-120	

Lab Batch #: 3019769 **Sample:** 555092-011 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/14/17 00:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0250	0.0300	83	80-120	
4-Bromofluorobenzene	0.0332	0.0300	111	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Concho-Folk Federal Tank Battery

Work Orders : 555002,

Project ID: 212C-MD-00679

Lab Batch #: 3019459 **Sample:** 555002-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/10/17 17:24

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	99.8	115	70-135	
o-Terphenyl	57.8	49.9	116	70-135	

Lab Batch #: 3019540 **Sample:** 554743-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/12/17 14:21

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0317	0.0300	106	80-120	
4-Bromofluorobenzene	0.0344	0.0300	115	80-120	

Lab Batch #: 3019644 **Sample:** 555002-005 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/13/17 07:49

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0308	0.0300	103	80-120	
4-Bromofluorobenzene	0.0299	0.0300	100	80-120	

Lab Batch #: 3019769 **Sample:** 555092-011 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/14/17 00:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0291	0.0300	97	80-120	
4-Bromofluorobenzene	0.0357	0.0300	119	80-120	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: Concho-Folk Federal Tank Battery

Work Order #: 555002 **Project ID:** 212C-MD-00679

Analyst: ALJ **Date Prepared:** 06/12/2017 **Date Analyzed:** 06/12/2017

Lab Batch ID: 3019540 **Sample:** 725998-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B 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
Benzene	<0.00200	0.100	0.0880	88	0.101	0.0854	85	3	70-130	35	
Toluene	<0.00200	0.100	0.0833	83	0.101	0.0812	80	3	70-130	35	
Ethylbenzene	<0.00200	0.100	0.0931	93	0.101	0.0905	90	3	71-129	35	
m,p-Xylenes	<0.00401	0.200	0.163	82	0.201	0.159	79	2	70-135	35	
o-Xylene	<0.00200	0.100	0.0877	88	0.101	0.0863	85	2	71-133	35	

Analyst: ALJ **Date Prepared:** 06/13/2017 **Date Analyzed:** 06/13/2017

Lab Batch ID: 3019644 **Sample:** 726036-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B 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
Benzene	<0.00200	0.0998	0.0974	98	0.101	0.0885	88	10	70-130	35	
Toluene	<0.00200	0.0998	0.0962	96	0.101	0.0839	83	14	70-130	35	
Ethylbenzene	<0.00200	0.0998	0.108	108	0.101	0.0972	96	11	71-129	35	
m,p-Xylenes	<0.00399	0.200	0.191	96	0.201	0.169	84	12	70-135	35	
o-Xylene	<0.00200	0.0998	0.101	101	0.101	0.0903	89	11	71-133	35	

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

BS / BSD Recoveries

Project Name: Concho-Folk Federal Tank Battery

Work Order #: 555002 **Project ID:** 212C-MD-00679

Analyst: ALJ **Date Prepared:** 06/13/2017 **Date Analyzed:** 06/13/2017

Lab Batch ID: 3019769 **Sample:** 726090-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B 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
Benzene	<0.00200	0.0998	0.0856	86	0.100	0.0795	80	7	70-130	35	
Toluene	<0.00200	0.0998	0.0813	81	0.100	0.0815	82	0	70-130	35	
Ethylbenzene	<0.00200	0.0998	0.0916	92	0.100	0.0845	85	8	71-129	35	
m,p-Xylenes	<0.00399	0.200	0.158	79	0.200	0.145	73	9	70-135	35	
o-Xylene	<0.00200	0.0998	0.0858	86	0.100	0.0821	82	4	71-133	35	

Analyst: ARM **Date Prepared:** 06/09/2017 **Date Analyzed:** 06/10/2017

Lab Batch ID: 3019459 **Sample:** 725909-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod 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
Gasoline Range Hydrocarbons	<15.0	1000	962	96	1000	990	99	3	70-135	35	
Diesel Range Organics	<15.0	1000	941	94	1000	979	98	4	70-135	35	

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

Form 3 - MS / MSD Recoveries

Project Name: Concho-Folk Federal Tank Battery

Work Order # : 555002 **Project ID:** 212C-MD-00679

Lab Batch ID: 3019540 **QC- Sample ID:** 554743-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/12/2017 **Date Prepared:** 06/12/2017 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B 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
Benzene	<0.00336	0.168	0.104	62	0.173	0.0905	52	14	70-130	35	X
Toluene	<0.00336	0.168	0.0817	49	0.173	0.0767	44	6	70-130	35	X
Ethylbenzene	0.00875	0.168	0.0818	43	0.173	0.0755	39	8	71-129	35	X
m,p-Xylenes	0.0116	0.336	0.132	36	0.346	0.122	32	8	70-135	35	X
o-Xylene	<0.00336	0.168	0.0811	48	0.173	0.0846	49	4	71-133	35	X

Lab Batch ID: 3019644 **QC- Sample ID:** 555002-005 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/13/2017 **Date Prepared:** 06/13/2017 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B 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
Benzene	<0.00380	0.190	0.148	78	0.186	0.146	78	1	70-130	35	
Toluene	<0.00380	0.190	0.117	62	0.186	0.109	59	7	70-130	35	X
Ethylbenzene	<0.00380	0.190	0.116	61	0.186	0.0977	53	17	71-129	35	X
m,p-Xylenes	<0.00760	0.380	0.190	50	0.372	0.154	41	21	70-135	35	X
o-Xylene	<0.00380	0.190	0.128	67	0.186	0.0843	45	41	71-133	35	XF

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: Concho-Folk Federal Tank Battery

Work Order # : 555002 **Project ID:** 212C-MD-00679

Lab Batch ID: 3019769 **QC- Sample ID:** 555092-011 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/14/2017 **Date Prepared:** 06/13/2017 **Analyst:** ALJ

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B 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
Benzene	<0.00202	0.101	0.0518	51	0.101	0.0436	43	17	70-130	35	X
Toluene	<0.00202	0.101	0.0452	45	0.101	0.0568	56	23	70-130	35	X
Ethylbenzene	<0.00202	0.101	0.0385	38	0.101	0.0399	40	4	71-129	35	X
m,p-Xylenes	<0.00404	0.202	0.0603	30	0.203	0.0707	35	16	70-135	35	X
o-Xylene	<0.00202	0.101	0.0338	33	0.101	0.0519	51	42	71-133	35	XF

Lab Batch ID: 3019459 **QC- Sample ID:** 555002-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/10/2017 **Date Prepared:** 06/09/2017 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod 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
Gasoline Range Hydrocarbons	379	997	1470	109	998	1440	106	2	70-135	35	
Diesel Range Organics	3350	997	4440	109	998	4450	110	0	70-135	35	

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

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

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 1

TETRA TECH
1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

555002

CLIENT NAME: Concho

SITE MANAGER: Ike Tavarez

PROJECT NO.: 212C-MD-00679

PROJECT NAME: Folk Federal Tank Battery
Eddy County, New Mexico

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
	6/7/17		S		X	SP#1 (0-6") 6"BEB	1	N			X		X	X														
						SP# 2 (0-4") 6"BEB	1	N			X		X	X														
						SP# 3 (0-4") 6"BEB	1	N			X		X	X														
						SP# 4 (0-4") 6"BEB	1	N			X		X	X														
						SP# 5 (0-4") 6"BEB	1	N			X		X	X														
						SP# 6 (0-6") 6"BEB	1	N			X		X	X														
						SP# 7 (0-6") 6"BEB	1	N			X		X	X														

Temp: 5.7 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 5.5

RELINQUISHED BY: (Signature) Mike Cannon Date: 6-8-17 Time:
RECEIVED BY: (Signature) Manya Date: 6/8/17 Time: 10:16
SAMPLED BY: (Print & Initial) MC Date: 6-7-17 Time:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS
AIRBILL #:
OTHER:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: XENCO
ADDRESS:
CITY: MIDLAND STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:

TETRA TECH CONTACT PERSON: Ike Tavarez
Results by:
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:
REMARKS:

Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

Final 1.000

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XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 06/08/2017 10:16:00 AM

Work Order #: 555002

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)?	5.5
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seal present on shipping container/ cooler?	**N/A**
#5 *Custody Seals intact on shipping container/ cooler?	**N/A**
#6 Custody Seals intact on sample bottles?	**N/A**
#7 *Custody Seals Signed and dated?	**N/A**
#8 *Chain of Custody present?	**Yes**
#9 Sample instructions complete on Chain of Custody?	**Yes**
#10 Any missing/extra samples?	**No**
#11 Chain of Custody signed when relinquished/ received?	**Yes**
#12 Chain of Custody agrees with sample label(s)?	**Yes**
#13 Container label(s) legible and intact?	**Yes**
#14 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#15 Samples in proper container/ bottle?	**Yes**
#16 Samples properly preserved?	**Yes**
#17 Sample container(s) intact?	**Yes**
#18 Sufficient sample amount for indicated test(s)?	**Yes**
#19 All samples received within hold time?	**Yes**
#20 Subcontract of sample(s)?	**N/A**
#21 VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Jessica Kramer Date: 06/09/2017
Jessica Kramer

Checklist reviewed by: Kelsey Brooks Date: 06/09/2017
Kelsey Brooks