SITE INFORMATION

Report Type: Closure Report

General Site Information:						
Site:	Folk Federal #2 Tank Battery					
Company:	COG Operating LLC					
Section, Township and Range	Unit H	Sec. 17	T-17-S	R-29-E		
Lease Number:	API-30-015-20198					
County:	Eddy County					
GPS:	32.83619° N			104.09072° W		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	Intersection of Hwy 82 and CR-211 west of Loco Hills, travel North 1.4 mi on CR-211. turn right 0.2 mi to location on left.					

Release Data:		
Date Released:	3/5/2011	5/5/2009
Type Release:	Produced Water	Oil
Source of Contamination:	Tank overflowed	transport overflowed
Fluid Released:	180 bbls	192 bbls
Fluids Recovered:	160 bbls	14 bbls

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NOV 01 2012
NMOCD ARTESIA

Official Communication:			
Name:	Pat Ellis		Ike Tavarez
Company:	COG Operating, LLC		Tetra Tech
Address:	550 W. Texas Ave. Ste. 1300		1910 N. Big Spring
P.O. Box			
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		(432) 631-0348
Fax:	(432) 684-7137		
Email:	pellis@conchoresources.com		ike.tavarez@tetratech.com

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

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

TETRA TECH

October 16, 2012

Mr. Mike Bratcher
Environmental Engineer Specialist
NMOCD District 2
811 S. First Street
Artesia, New Mexico 88210

Re: Closure Report for the COG Operating LLC., Folk Federal Tank Battery, located Unit H, Section 17, Township 17 South, Range 29 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Folk Federal Tank Battery located Unit H, Section 17, Township 17 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.83619°, W 104.09072°. The site location is shown on Figures 1 and 2.

Previous Release

On May 5, 2009, a released of oil occurred at the facility. Tetra Tech assessed and performed the soil remediation at the site. However, the area of AH-1 showed chloride concentrations, which appeared to be historical and performed an assessment on this area. Tetra Tech submitted the Work Plan, dated March 1, 2011 for approval. The work plan had not been implemented at the site. The recent spill had migrated on top of the previous release footprint. The submitted Work Plan is enclosed in Appendix A.

Background

On March 5, 2011, the water tank overflowed causing the fluids to migrate outside the facility berm impacting an area approximately 60' x 60' onto the facility pad and on and across the lease road pooling in a native low lying pasture area measuring approximately 45' x 120'. The initial C-141

Tetra Tech
1910 North Big Spring, Midland,TX 79705
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

form is enclosed in Appendix B.

Groundwater

No water wells were listed within Section 17. The United States Geological Survey (USGS) database did show a well in Section 22, Township 17 South, Range 29 East with a depth of 80' below surface. The Geology and Groundwater Resources of Eddy County, New Mexico showed a well in Section 22, Township 17 South, Range 29 East with a reported depth of 79.7' below surface. According to the NMOCD groundwater map, the depth to groundwater in the area is approximately 75' to 100' below surface. The groundwater data is included in Appendix C.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the 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 on the regional groundwater data, the proposed RRAL for TPH is 1,000 mg/kg.

Soil Assessment and Analytical Results

On May 5, 2011, Tetra Tech personnel inspected and sampled the spill area. A total of eight (8) auger holes (AH-1 through AH-8) were installed using a stainless steel hand auger to assess the impacted soils. 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 D. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all submitted samples were below RRAL for TPH and BTEX. Elevated chloride concentrations were detected and not defined at all of the sample locations. Deeper samples could not be collected due to a dense formation. On the edge of the lease road, auger holes (AH-4 and AH-5) showed chloride concentrations at 0-1' of 1,060 mg/kg and 2,870 mg/kg, respectively.

On June 28, 2011, Tetra Tech personnel were on location to supervise the installation of soil borings utilizing an air-rotary drilling rig to define the extent of the chloride impact, with the exception of AH-4 and AH-5 (lease road). A total of six (6) soil borings (SB-1 through SB-6) were installed with soil samples collected down to depths of 30.0' below surface. The soil boring results are shown in Table 1.

Referring to Table 1, the chloride impact was vertically defined and declined with depth. On the pad area, a deeper impact was found in the area of AH-1 (BH-1), declining to 1,540 mg/kg at 15.0' and 237 mg/kg at 20.0'. This impacted area appears to be part of the previous spill footprint.

A shallow chloride impact was detected at AH-2 (BH-2) 0-1' below surface. Chloride spikes at 5.0' (1,250 mg/kg) and 10.0' (1,170 mg/kg) were detected in the subsurface soils and appears to be cross-contaminated from the upper soils. The area of AH-3 (BH-3), located near the Agave Pipeline, showed a significant decline at 10.0' and 15.0' below surface. Auger holes AH-6 (BH-6), AH-7 (BH-7) and AH-8 (BH-8) detected elevated chloride concentrations from surface to 3.0' below surface which declined with depth.

Remediation and Conclusion

Based on the approved work plan, Tetra Tech personnel supervised the excavation of the site. The excavated areas and depths are highlighted in Table 1 and shown on Figure 4. The final excavation depths of the soil remediation were met as stated in the approved work plan. Approximately 1,400 cubic yards of soil were excavated and transported to the R360 facility for proper disposal.

According to the work plan submitted on March 1, 2011, the excavated area of AH-1 measured approximately 30' x 40' at a depth of 4.0' below surface. Once completed, the excavation bottom was capped with a 40 mil liner then backfilled with clean material to surface grade.

The areas of AH-2, AH-3, AH-6, AH-7 and AH-8 were excavated to depths of 4.0' below surface. Due to the close proximity of the Agave and Transwestern Pipelines, a surficial scrape was performed in the areas of AH-4 and AH-5.

Once excavated, Tetra Tech collected confirmation samples from the area of CS-1 (SB-4), CS-2 (SB-5), CS-3 (SB-6), CS-4 (SB-2) and CS-6 (SB-3). In addition, soil samples were collected on the lease road CS-5 (road) for evaluation. Confirmation samples were not collected at the area from the previous spill (area of AH-1). The confirmation sampling results are shown in Table 2.

Referring to Table 2, the confirmation sample results did not show a significant chloride impact to the soils and do not appear to be an environmental concern. Based on the field data, a verbal approval was given by the BLM to backfill the excavated areas with clean material to surface grade. As requested by the BLM, a dike was constructed along the south side of the lease road to contain future releases from impacting the pasture.

Based on the remediation activities performed at this location, COG requests closure for this site. The two C-141's (Finals) are included in Appendix B. If you have any questions or comments concerning the assessment or the remediation activities performed at the site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Ike Tavarez, PG
Project Manager

cc: Pat Ellis – COG
cc: Terry Gregston – BLM

Figures

DeLORME

Topo USA® 8

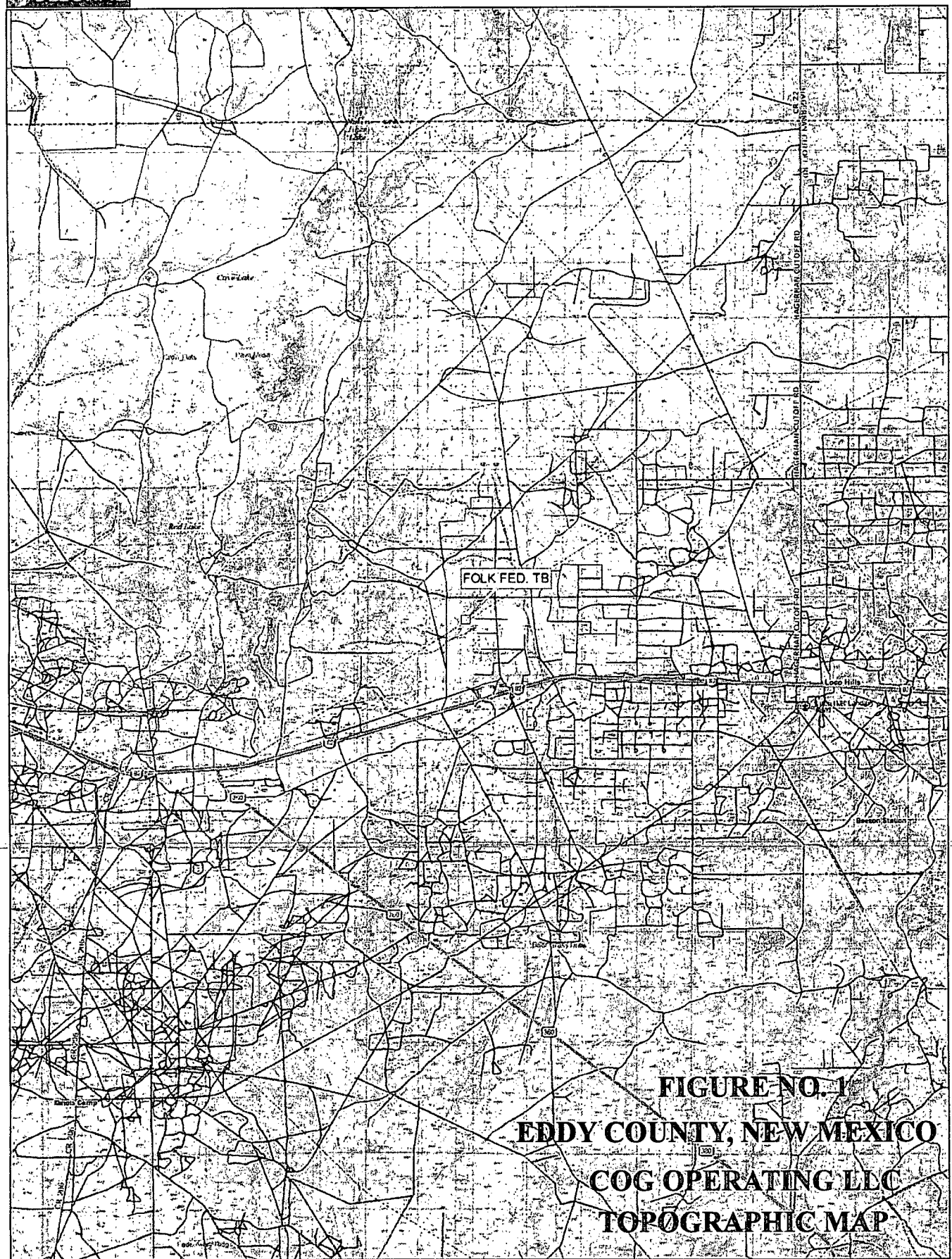


FIGURE NO. 1

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

TOPOGRAPHIC MAP

TN

MN (7.9°E)

Scale 1 : 150,000

1" = 2.37 mi

Data Zoom 11-0

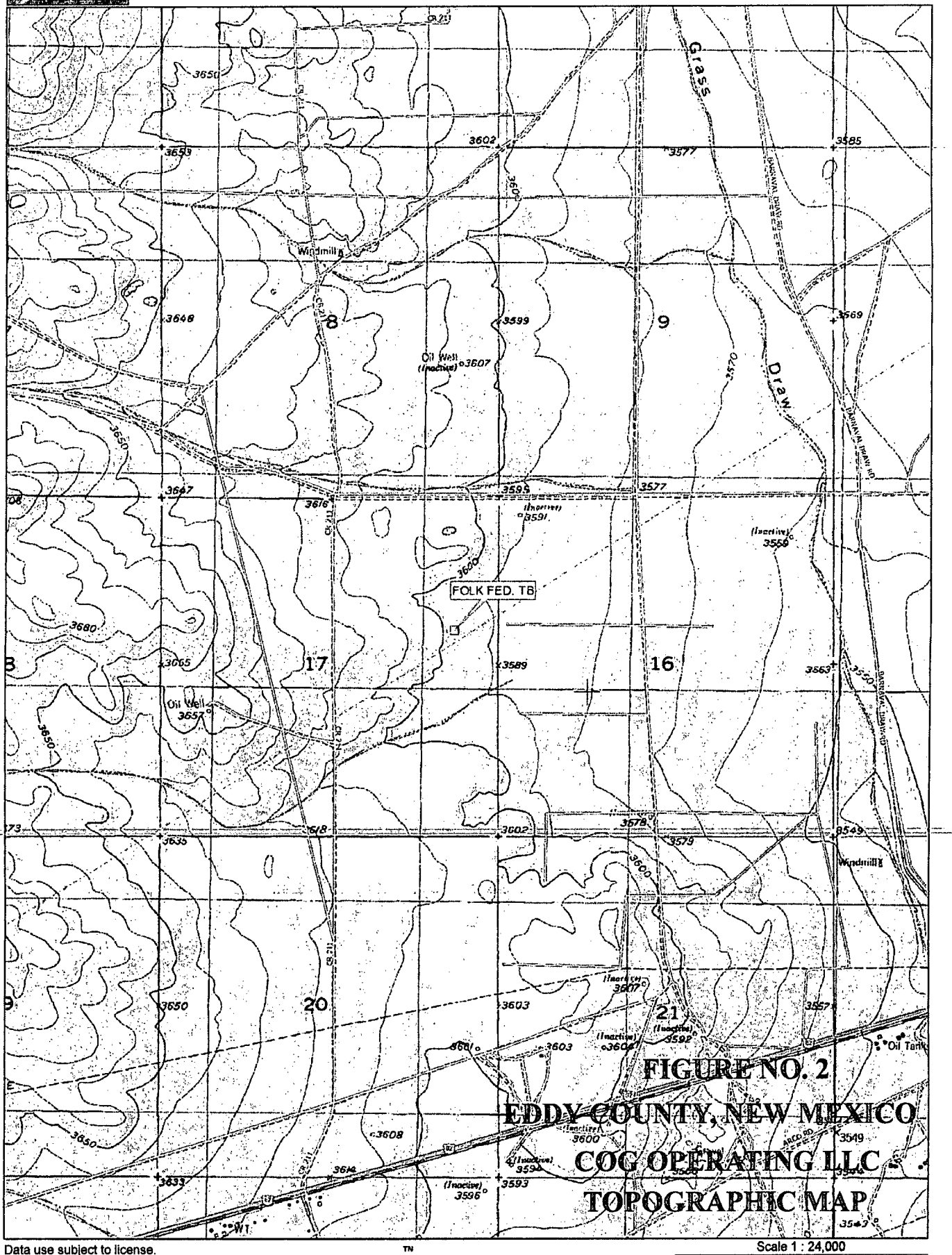
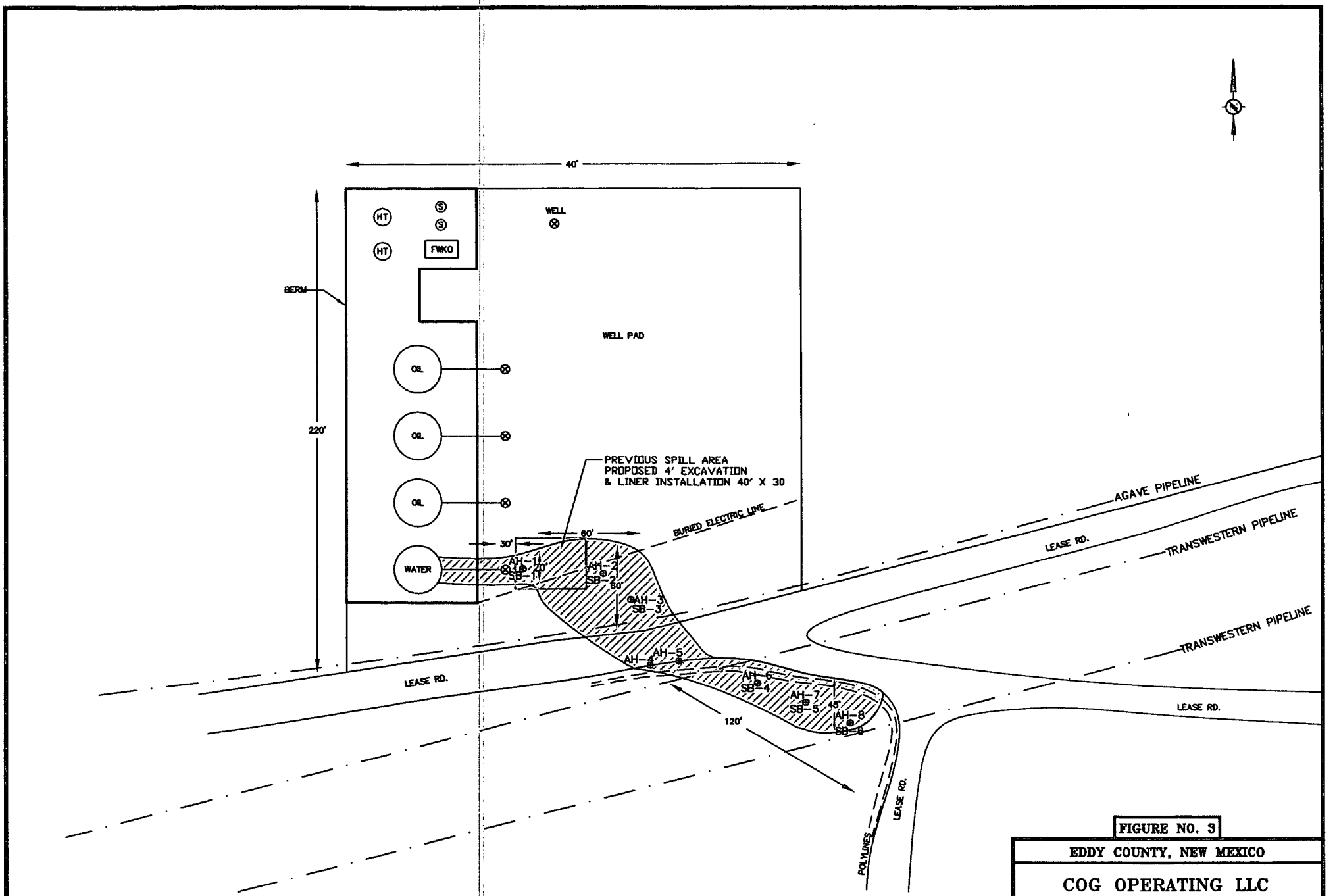
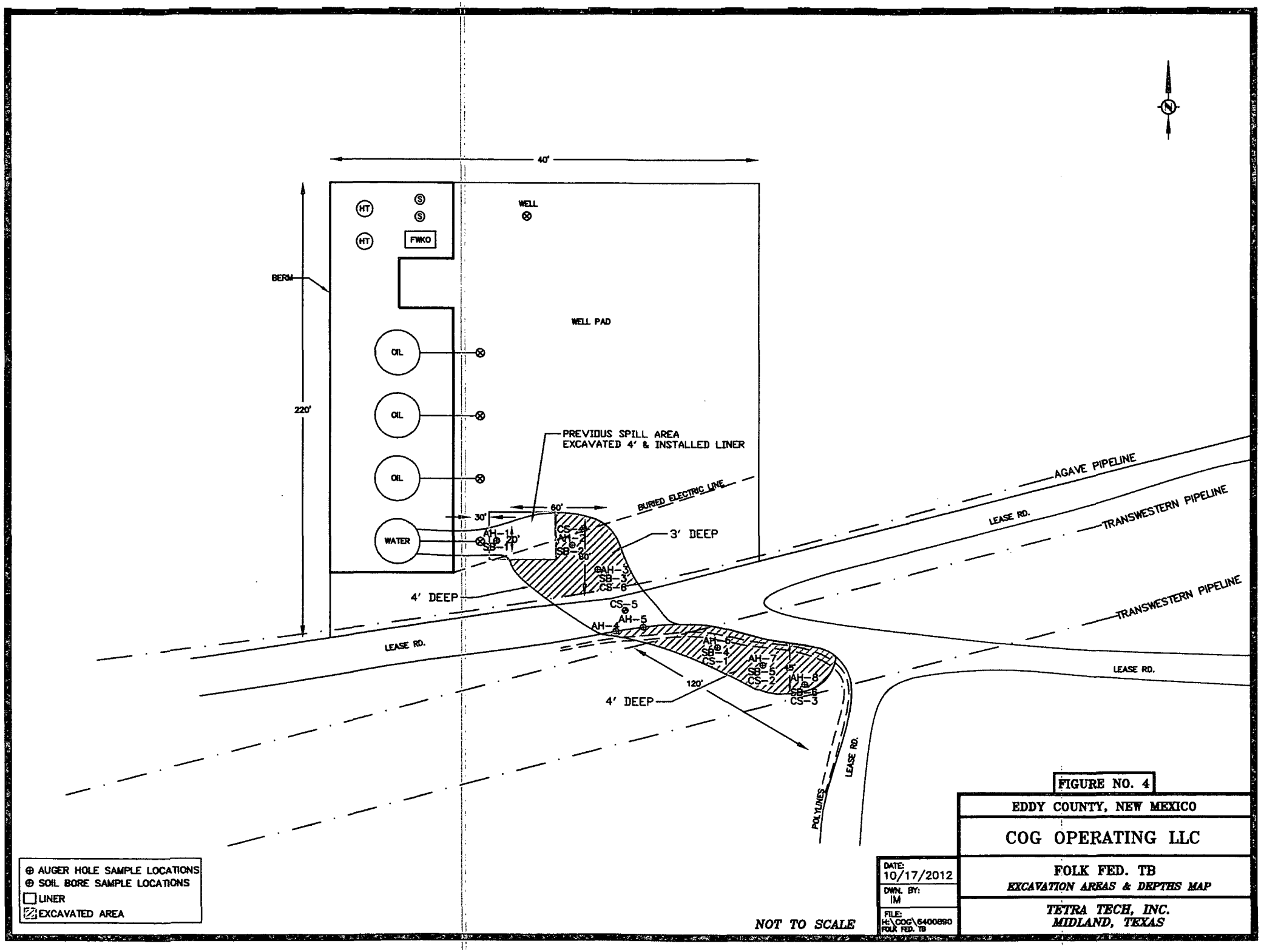


FIGURE NO. 2
EDDY COUNTY, NEW MEXICO
COG OPERATING LLC
TOPOGRAPHIC MAP

TN
MN (7.9°E)

Scale 1 : 24,000
1" = 2,000.0 ft
Data Zoom 13-6


40'
HT
HT
S
S
FWKO
WELL
BERM
220'
WELL PAD
OIL
OIL
OIL
WATER
PREVIOUS SPILL AREA
PROPOSED 4' EXCAVATION
& LINER INSTALLATION 40' X 30
30'
60'
BURIED ELECTRIC LINE
AH-1
@ 20'
SB-1
AH-2
@
SB-2
60'
AH-3
SB-3
AH-4
AH-5
AH-6
SB-4
AH-7
SB-5
45'
AH-8
SB-8
120'
AGAVE PIPELINE
LEASE RD.
TRANSWESTERN PIPELINE
TRANSWESTERN PIPELINE
LEASE RD.
LEASE RD.
POLYLINES
LEASE RD.
⊕ AUGER HOLE SAMPLE LOCATIONS
⊕ SOIL BORE SAMPLE LOCATIONS
LINER
SPILL AREA
NOT TO SCALE
DATE: 12/2/2011
DWN. BY: IM
FILE: H:\COG\6400890 FOLK FED. TB
FIGURE NO. 3
EDDY COUNTY, NEW MEXICO
COG OPERATING LLC
FOLK FED. TB
SPILL ASSESSMENT MAP
TETRA TECH, INC.
MIDLAND, TEXAS


40'
HT
HT
S
S
FWKO
WELL
BERM
220'
WELL PAD
OIL
OIL
OIL
WATER
PREVIOUS SPILL AREA
EXCAVATED 4' & INSTALLED LINER
BURIED ELECTRIC LINE
30'
60'
AH-1
@ 20'
SB-1
CS-4
AH-2
@ 20'
SB-2
3' DEEP
@AH-3
SB-3
CS-6
4' DEEP
CS-5
AH-5
AH-4
AH-6
SB-4
CS-1
AH-7
@ 15'
SB-5
CS-2
AH-8
@ 15'
SB-6
CS-3
120'
4' DEEP
LEASE RD.
AGAVE PIPELINE
TRANSWESTERN PIPELINE
TRANSWESTERN PIPELINE
LEASE RD.
LEASE RD.
POLYLINES
⊕ AUGER HOLE SAMPLE LOCATIONS
⊕ SOIL BORE SAMPLE LOCATIONS
LINER
EXCAVATED AREA
NOT TO SCALE
FIGURE NO. 4
EDDY COUNTY, NEW MEXICO
COG OPERATING LLC
FOLK FED. TB
EXCAVATION AREAS & DEPTHS MAP
TETRA TECH, INC.
MIDLAND, TEXAS
DATE: 10/17/2012
DWN. BY: IM
FILE: H:\COG\6400890 FOLK FED. TB

Tables

Table 1
COG Operating LLC.
FOLK FEDERAL TANK BATTERY
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total					
AH-1	5/11/2011	0-0.5'		X	3.58	<50.0	3.58	<0.0200	0.133	<0.0200	<0.0200	12,400
SB-1	6/28/2011	0-1'		X	-	-	-	-	-	-	-	4,300
		3'		X	-	-	-	-	-	-	-	3,410
		5'	X		-	-	-	-	-	-	-	2,380
		7'	X		-	-	-	-	-	-	-	3,000
		10'	X		-	-	-	-	-	-	-	3,590
		15'	X		-	-	-	-	-	-	-	1,540
		20'	X		-	-	-	-	-	-	-	237
		25'	X		-	-	-	-	-	-	-	<200
		30'	X		-	-	-	-	-	-	-	207
AH-2	5/11/2011	0-0.5'		X	<2.00	<50.0	<50.0	-	-	-	-	19,900
SB-2	6/28/2011	0-1'		X	-	-	-	-	-	-	-	10,400
		3'		X	-	-	-	-	-	-	-	566
		5'	X		-	-	-	-	-	-	-	1,250
		7'	X		-	-	-	-	-	-	-	926
		10'	X		-	-	-	-	-	-	-	1,170
		15'	X		-	-	-	-	-	-	-	343
		20'	X		-	-	-	-	-	-	-	251
		25'	X		-	-	-	-	-	-	-	<200
		30'	X		-	-	-	-	-	-	-	<200

Table 1
COG Operating LLC.
FOLK FEDERAL TANK BATTERY
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total					
AH-3	5/11/2011	0-1'		X	3.44	<50.0	3.44	<0.0200	<0.0200	<0.0200	<0.0200	8,590
		1-1.5'		X	-	-	-	-	-	-	-	8,260
		2-2.5'		X	-	-	-	-	-	-	-	3,540
SB-3	6/28/2011	0-1'		X	-	-	-	-	-	-	-	326
		3'		X	-	-	-	-	-	-	-	4,240
		5'	X		-	-	-	-	-	-	-	2,710
		7'	X		-	-	-	-	-	-	-	1,760
		10'	X		-	-	-	-	-	-	-	675
		15'	X		-	-	-	-	-	-	-	316
		20'	X		-	-	-	-	-	-	-	268
		25'	X		-	-	-	-	-	-	-	230
		30'	X		-	-	-	-	-	-	-	396
AH-4	5/11/2011	0-1'	X		56.3	473	529.3	<0.100	<0.100	<0.100	<0.100	1,060
AH-5	5/11/2011	0-1'	X		<2.00	<50.0	<50.0	-	-	-	-	2,870

Table 1
COG Operating LLC.
FOLK FEDERAL TANK BATTERY
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total					
AH-6	5/11/2011	0-1'		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	9,950
SB-4	6/29/2011	0-1'		X	-	-	-	-	-	-	-	10,000
		3'		X	-	-	-	-	-	-	-	5,940
		5'	X		-	-	-	-	-	-	-	1,270
		7'	X		-	-	-	-	-	-	-	316
		10'	X		-	-	-	-	-	-	-	269
		15'	X		-	-	-	-	-	-	-	432
		20'	X		-	-	-	-	-	-	-	559
AH-7	5/11/2011	0-1'		X	<2.00	<50.0	<50.0	-	-	-	-	6,710
		1-1.5'		X	-	-	-	-	-	-	-	5,530
		2-2.5'		X	-	-	-	-	-	-	-	261
		2.5-3'		X	-	-	-	-	-	-	-	1,140
SB-5	6/29/2011	0-1'		X	-	-	-	-	-	-	-	469
		3'		X	-	-	-	-	-	-	-	5,400
		5'	X		-	-	-	-	-	-	-	364
		7'	X		-	-	-	-	-	-	-	248
		10'	X		-	-	-	-	-	-	-	3,770
		15'	X		-	-	-	-	-	-	-	559
		20'	X		-	-	-	-	-	-	-	549
		25'	X		-	-	-	-	-	-	-	218

Table 1
COG Operating LLC.
FOLK FEDERAL TANK BATTERY
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total					
AH-8	5/11/2011	0-1'		X	<2.00	<50.0	<50.0	-	-	-	-	8,790
		1-1.5'		X	-	-	-	-	-	-	-	7,650
		2-2.5'		X	-	-	-	-	-	-	-	15,400
SB-6	6/29/2011	0-1'		X	-	-	-	-	-	-	-	5,060
		3'		X	-	-	-	-	-	-	-	10,600
		5'	X		-	-	-	-	-	-	-	782
		7'	X		-	-	-	-	-	-	-	1,360
		10'	X		-	-	-	-	-	-	-	752
		15'	X		-	-	-	-	-	-	-	247
		20'	X		-	-	-	-	-	-	-	<200
		25'	X		-	-	-	-	-	-	-	396

(--) Not Analyzed

Liner Depth

Excavated Depths

Table 2
COG Operating LLC
Folk Federal Tank Battery
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		Chloride (mg/kg)
			In-Situ	Removed	
CS-1 North Wall (SB-4)	8/1/2012	-	X		385
CS-1 South Wall (SB-4)	"	-	X		405
CS-1 West Wall (SB-4)	"	-	X		215
CS-1 Bottom Hole (SB-4)	"	4	X		317
CS-2 North Wall (SB-5)	7/31/2012	-	X		439
CS-2 South Wall (SB-5)	8/1/2012	-	X		410
CS-2 Bottom (SB-5)	8/1/2012	4	X		405
CS-3 North Wall (SB-6)	8/2/2012	-	X		171
CS-3 South Wall (SB-6)	"	-	X		634
CS-3 East Wall (SB-6)	"	-	X		444
CS-3 Bottom Hole (SB-6)	"	4	X		442

Table 2
COG Operating LLC
Folk Federal Tank Battery
Eddy County, New Mexico

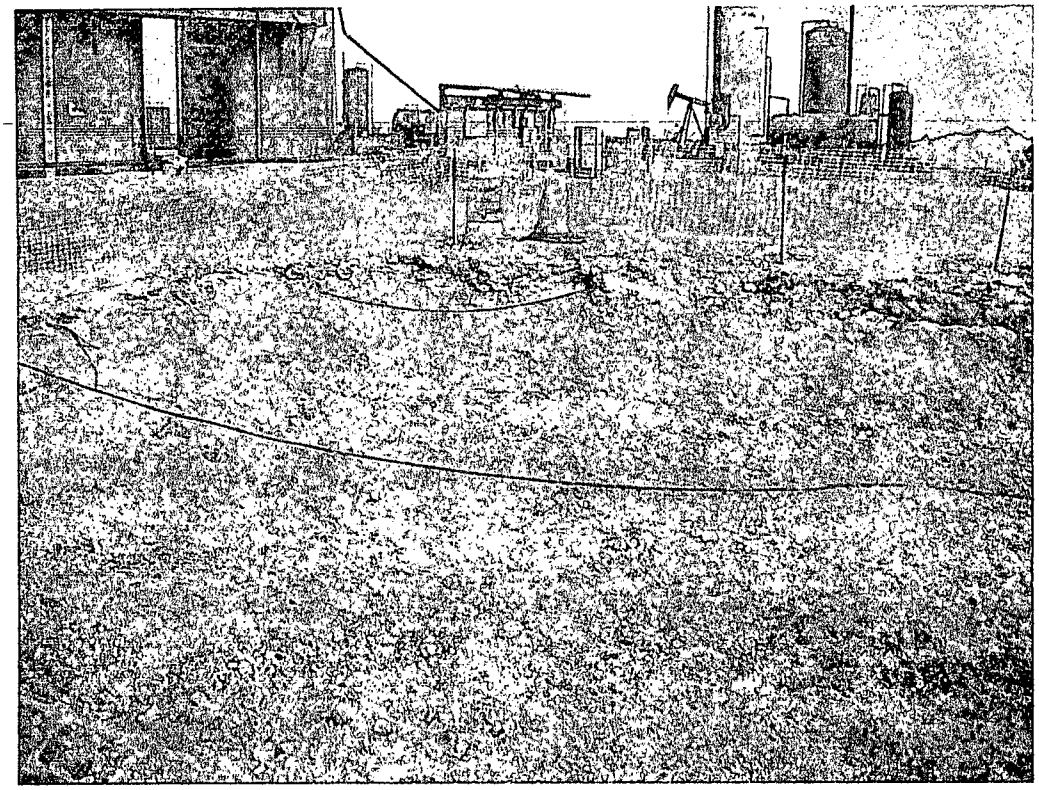
Sample ID	Sample Date	Sample Depth (ft)	Soil Status		Chloride (mg/kg)
			In-Situ	Removed	
CS-4 North Wall (SB-2)	8/10/2012	-	X		452
CS-4 South Wall (SB-2)	"	-	X		731
CS-4 East Wall (SB-2)	"	-	X		236
CS-4 Bottom Hole (SB-2)	"	4	X		447
CS-5 Surface (Road)	8/15/2012	-	X		217
CS-5 (Road)	"	1	X		197
CS-5 (Road)	"	2	X		130
CS-6 Bottom Hole (SB-3)	8/15/2012	4	X		404
CS-6 North Wall (SB-3)	"	-	X		260
CS-6 East Wall (SB-3)	"	-	X		202
CS-6 West Wall (SB-3)	"	-	X		154
CS-6 South Wall (SB-3)	"	-	X		505

(-) Not Analyzed

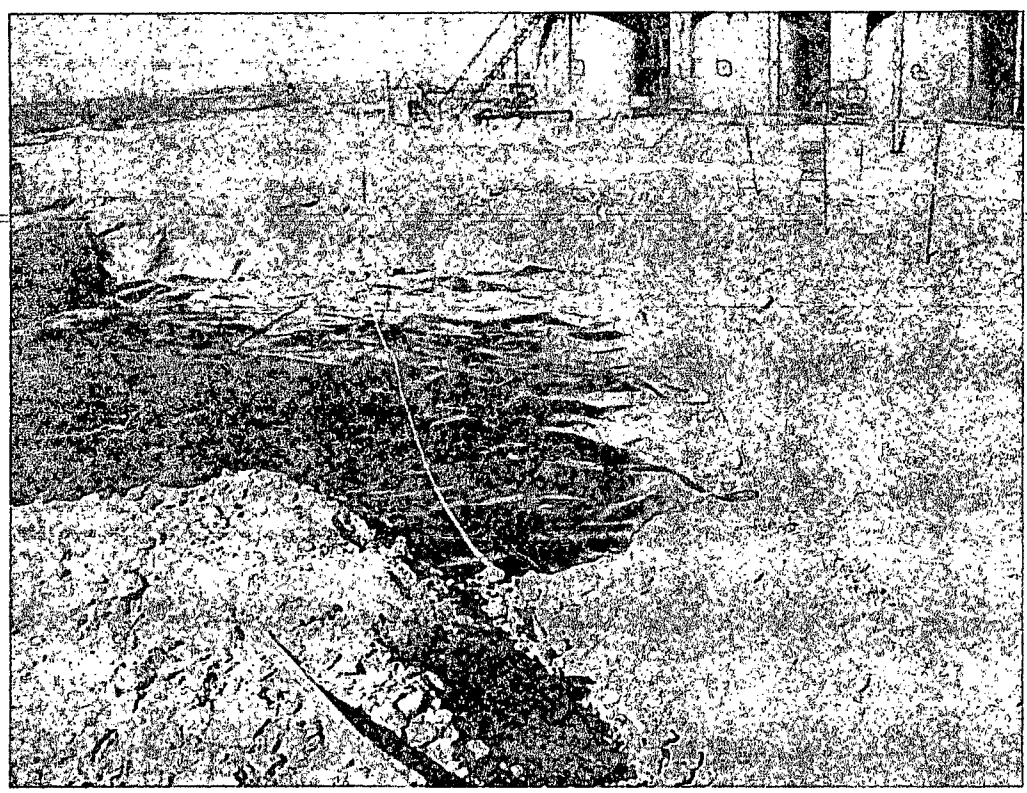
Photos

COG Operating LLC
Folk Federal #2 Tank Battery
Eddy County, New Mexico

TETRA TECH



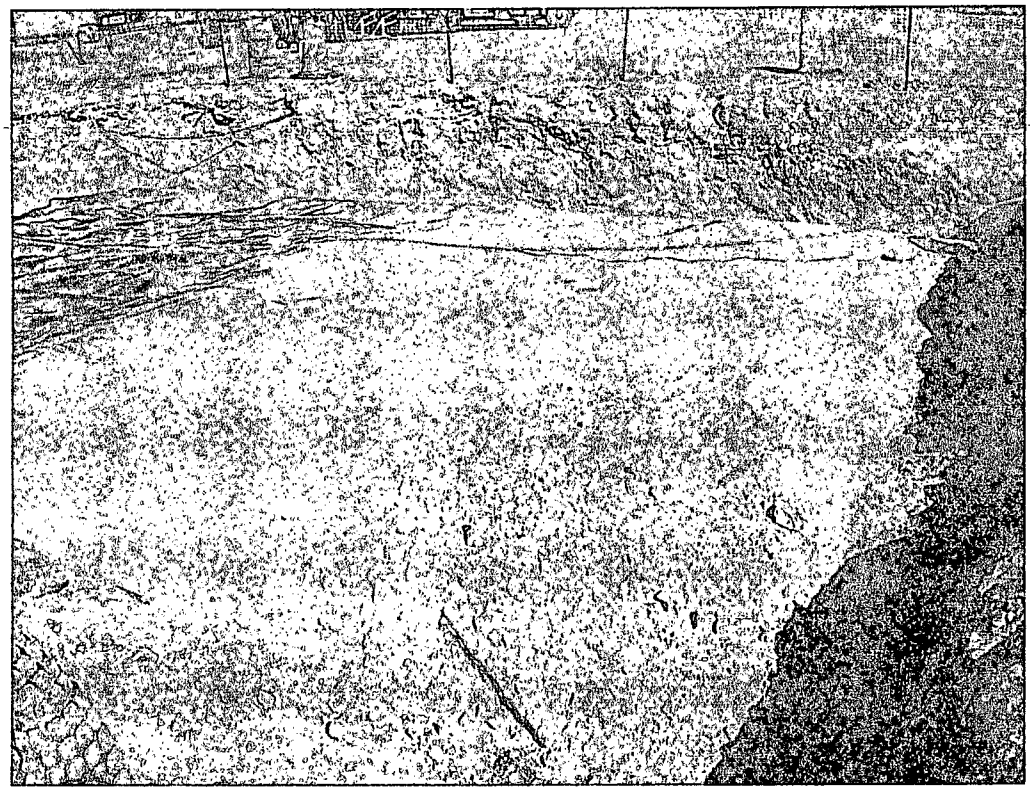
View North – Previous spill area



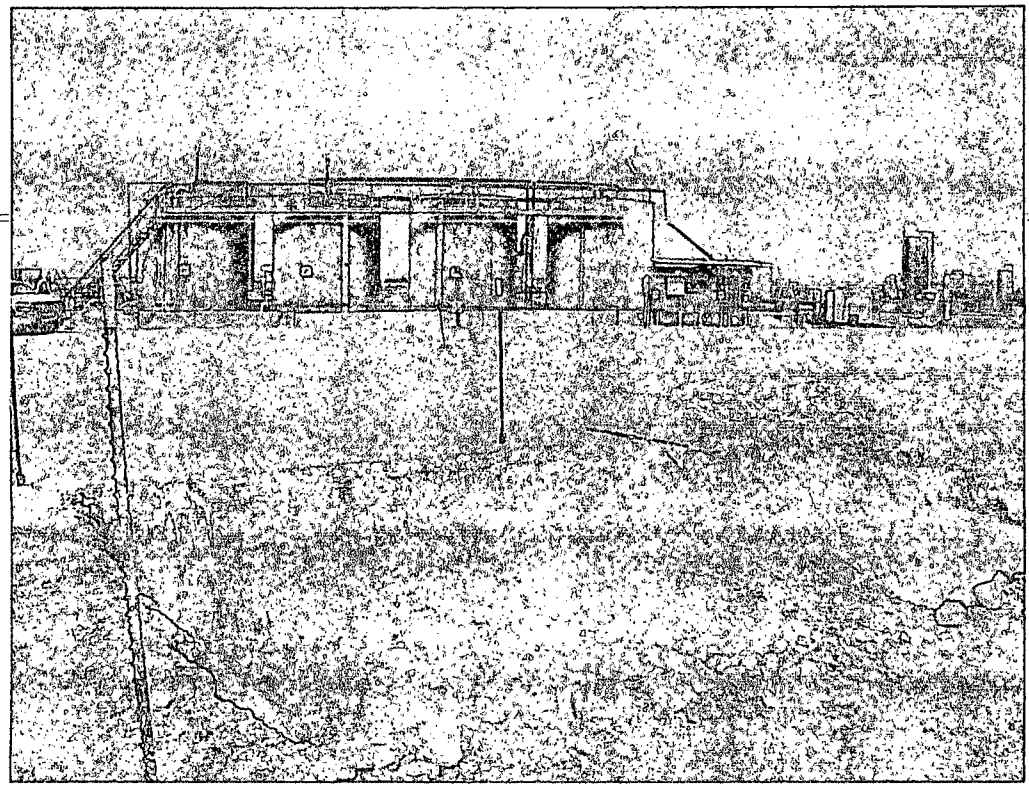
View West – Previous spill area, Liner Installation

COG Operating LLC
Folk Federal #2 Tank Battery
Eddy County, New Mexico

TETRA TECH



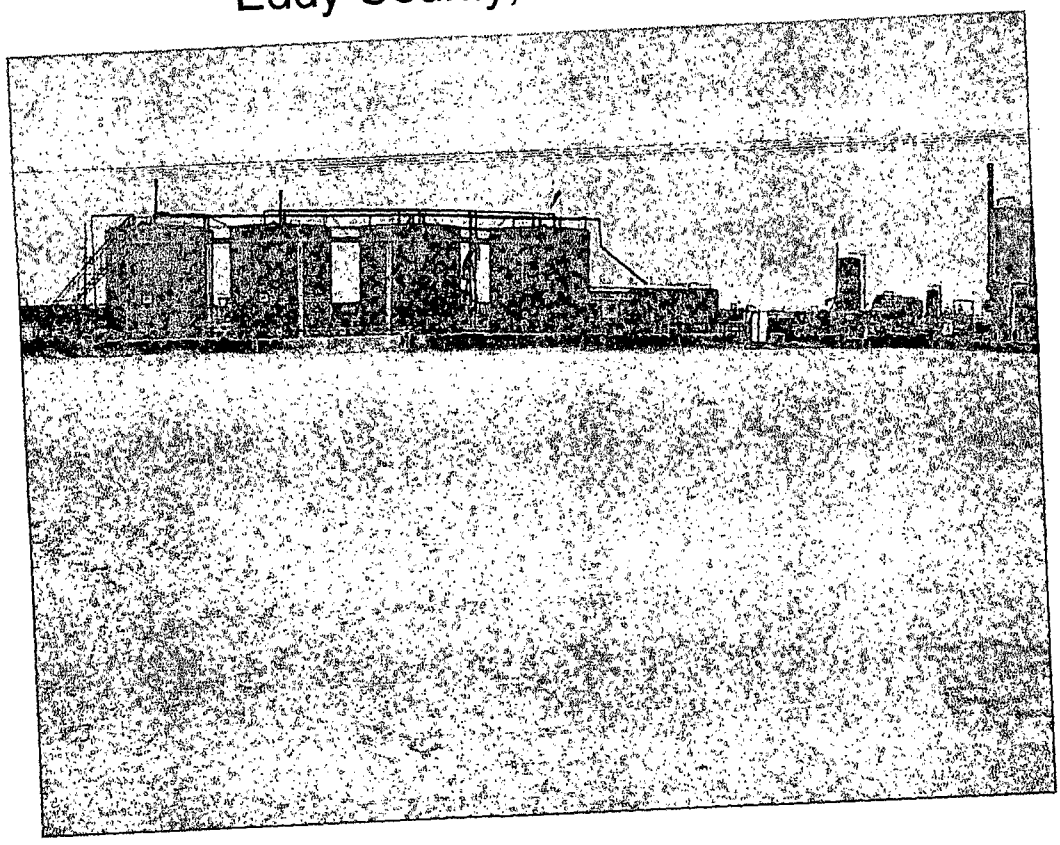
View North – Previous spill area, Backfill



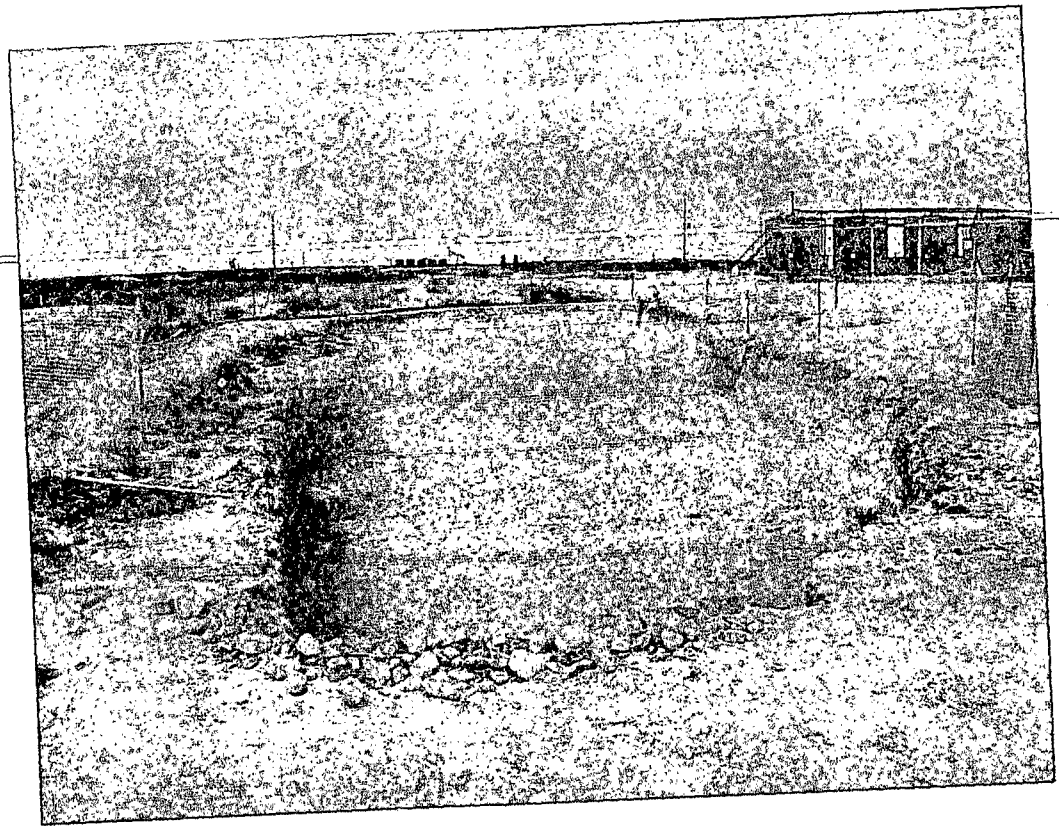
View West – Areas of AH-2 and AH-3

COG Operating LLC
Folk Federal #2 Tank Battery
Eddy County, New Mexico

TETRA TECH



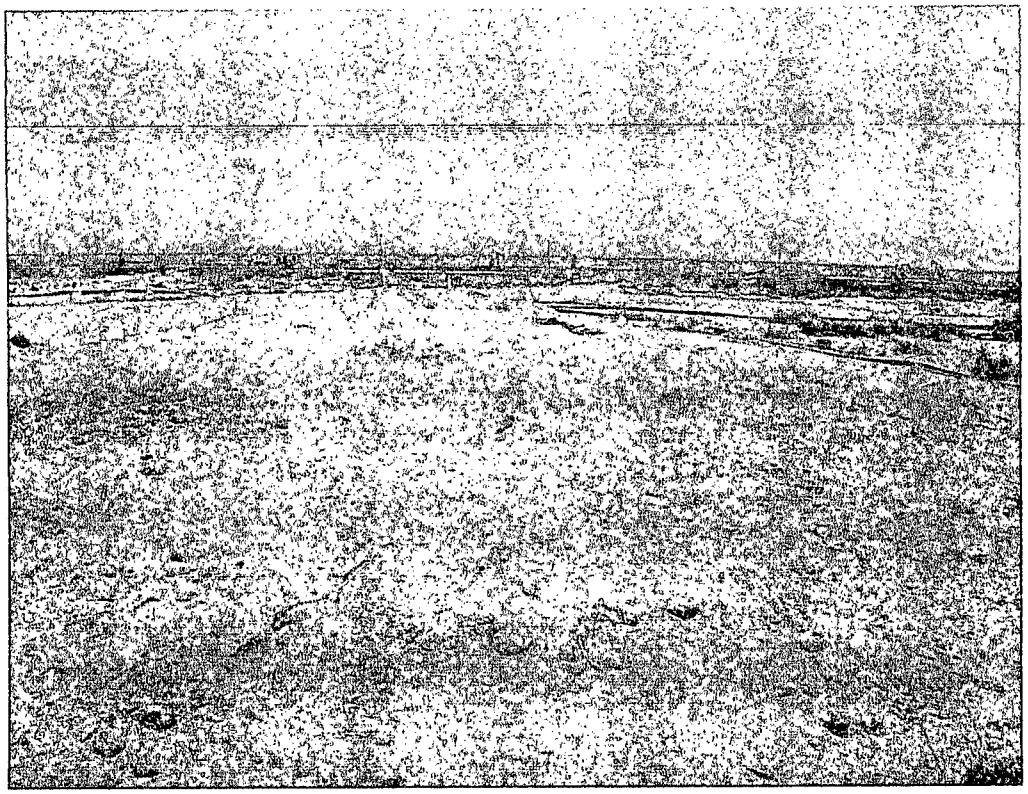
View West - Backfill



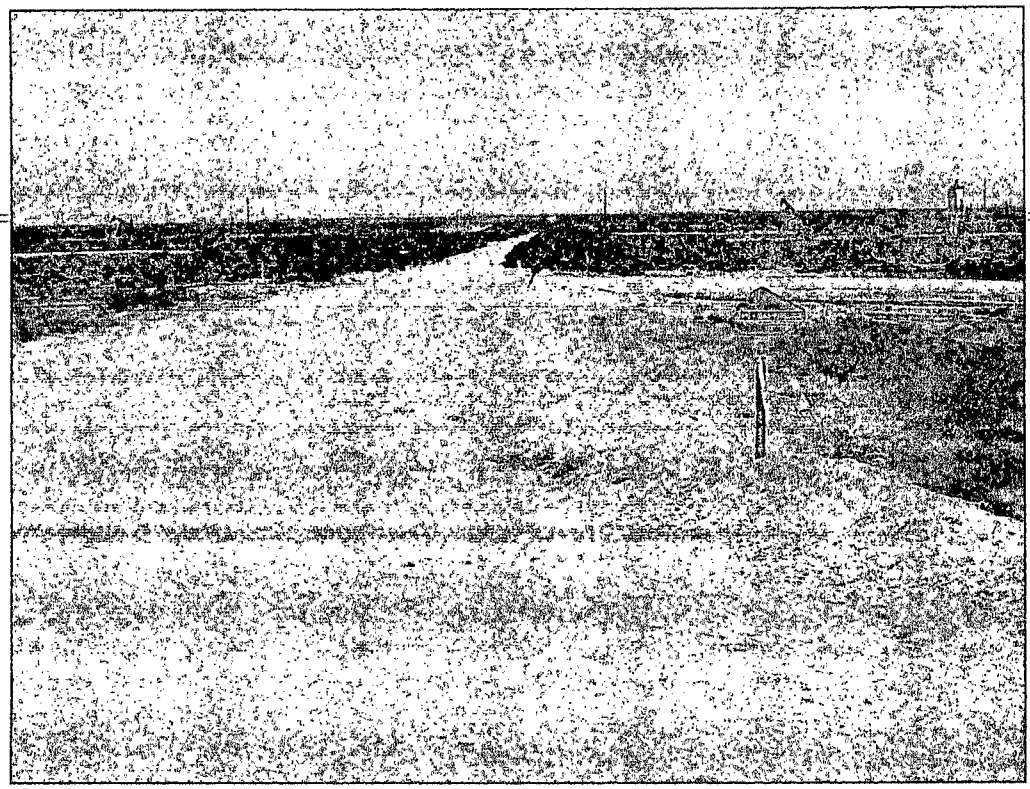
View West – Area of AH-8, AH-7 and AH-6

COG Operating LLC
Folk Federal #2 Tank Battery
Eddy County, New Mexico

TETRA TECH



View Southeast – Backfill



View Southeast - Backfill

Appendix A

TETRA TECH

March 1, 2011

Mr. Mike Bratcher
New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau
1301 W. Grand Ave.
Artesia, New Mexico 88210

Re: Assessment Report and Work Plan for the Spill located at the COG Operating, LLC, Folk Federal #2 Tank Battery, Located in Unit Letter H, Section 17, Township 17 South, Range 29 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech (Formerly Highlander Environmental Corp.) was contacted by COG Operating, LLC and Navajo Refining Company, L.P. (Navajo) to investigate a spill that occurred at the COG Folk Federal #2 Tank Battery. The tank battery is located in Unit Letter H, Section 17, Township 17 South, Range 29 East, Eddy County, New Mexico. The site coordinates are 32.83619° N, 104.09072° W. The Site is shown on Figures 1 and 2.

Background

According to the C-141 (Initial), Navajo released oil onto the ground when the transporter fell asleep while pumping out oil from COG' oil tanks, and the oil transport tank overflowed, on May 5, 2009. Approximately 192 barrels of crude oil was released and 14 barrels were recovered. The spill impacted the facility pad and ran down the lease road to south and east. The spill also extended south of the road out into the pasture. The spill location is shown on Figure 3. Navajo supervised the removal of the saturated soil to depths of 0.5'-7.0'. Approximately 1500 yds.^{3} of impacted soil was taken offsite for proper disposal. The initial C-141 is included in Appendix A.

Groundwater and Regulatory

The United States Geological Survey (USGS) database did show a well in Section 22, Township 17 South, Range 29 East that showed a depth of 80' below surface. The Geology and Groundwater Resources of Eddy County, New Mexico showed a well in Section 22, Township 17 South, Range 29 East to have been measured with a depth of 79.7' below surface. Copies of the well data are included in Appendix B.

A risk-based evaluation was performed for the Site in accordance with the 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 on the regional groundwater data, the proposed RRAL for TPH is 1,000 mg/kg.

Navajo Soil Assessment

On May 14, 2009, samples were collected from the spill area. A total of seven (7) auger holes were placed in the impacted area. The sample locations are shown on Figure 3. The soil samples were analyzed for TPH (Modified 8015), BTEX (8021 B), and Chloride (SM 4500-Cl B). Copies of the laboratory reports and chain of custody documents are included in Appendix C. The results are summarized in Table 1.

Corrective Action and Analytical Results

Referring to Table 1, none of the samples had TPH or BTEX concentrations exceeding the RRAL. Chloride impact was detected in the areas of AH-1, AH-3 and AH-7 and not vertically defined On May 20, 2009, Navajo excavated the areas (AH-1, AH-3 and AH-7) with the elevated chloride impact. Once excavated, three test trenches were installed to define chloride impact in these areas. Trench T-1 was placed near AH-1 and samples were collected to total depth of 8.0' below surface and the chloride impact was not defined at this location, with a chloride concentration of 2,310 mg/kg. The remaining trenches T-2 (AH-3) and T-3 (AH-7) declined with depth and had chloride concentrations of 531 mg/kg (T-2, 7.0') and 552 mg/kg (T-3, 2.0') respectively. The results are summarized in Table 1.

Navajo Spill Conclusions

The remedial activities performed at the site, leaves no residual TPH or BTEX concentrations that exceeded the RRAL. The excavations was been backfilled with clean soil. Based upon the spill being from crude oil, it was suspected that the elevated chloride concentrations were the result of historic spills and were then not the responsibility of Navajo. The chloride concentrations in the area of auger hole AH-1 were determined to be the responsibility of COG.

Area AH-1 – Soil Assessment

On August 19, 2009 Tetra Tech installed boreholes to assess and define the extents area of AH-1. A total of five (5) boreholes were installed in the vicinity of AH-1. The borehole locations are shown in Figure 4. Copies of the laboratory reports and chain of custody documents are included in Appendix C. The results are summarized in Table 2

Referring to Table 2, all the boreholes showed chloride concentrations declining with depth. BH-3 showed slight chloride impact to the subsurface soils. Boreholes (BH-1 and BH-2) did show chloride impact above 1,000 mg/kg from 6.0' to 15.0', with chloride concentrations ranging from 1,160 mg/kg to 1,980 mg/kg. Borehole (BH-5) showed elevated chloride impact from 6.0' to 9.0' with concentrations of 1,680 mg/kg and 2,800 mg/kg, respectively. Borehole (BH-4) did show a chloride impact from surface to 15.0' below surface, with concentrations from 686 mg/kg at 6.0' to 5,660 mg/kg at 0-1'.

Work Plan

Based on the results, the chloride impact on the pad appears to be from historical spills. In order to remove some of the chloride impacted soil, COG proposes to excavate the soil to a depth of 4.0' below surface and capped the area with a 40 mil liner. The proposed excavated area will measure approximately 30' x 45'. The excavated soil will be hauled to proper disposal. Once excavated and capped, the area will be backfilled with clean fill material. The proposed excavated area is shown on Figure 5.

The goal of the remediation is to reduce the environmental liabilities for the protection of the groundwater. Based on site formation, the proposed excavation depths may not be reached due to wall cave ins and safety concerns for onsite personnel. In addition, impacted soil around oil and gas equipment, structures or lines may not be feasible or practicable to be removed due to safely concerns. As such, Tetra Tech will excavate the soils to the maximum extent practicable. If the depths are not reached, a 40 mil liner will be installed at depth of 4' to 5' below surface to cap the impacted area.

TETRA TECH

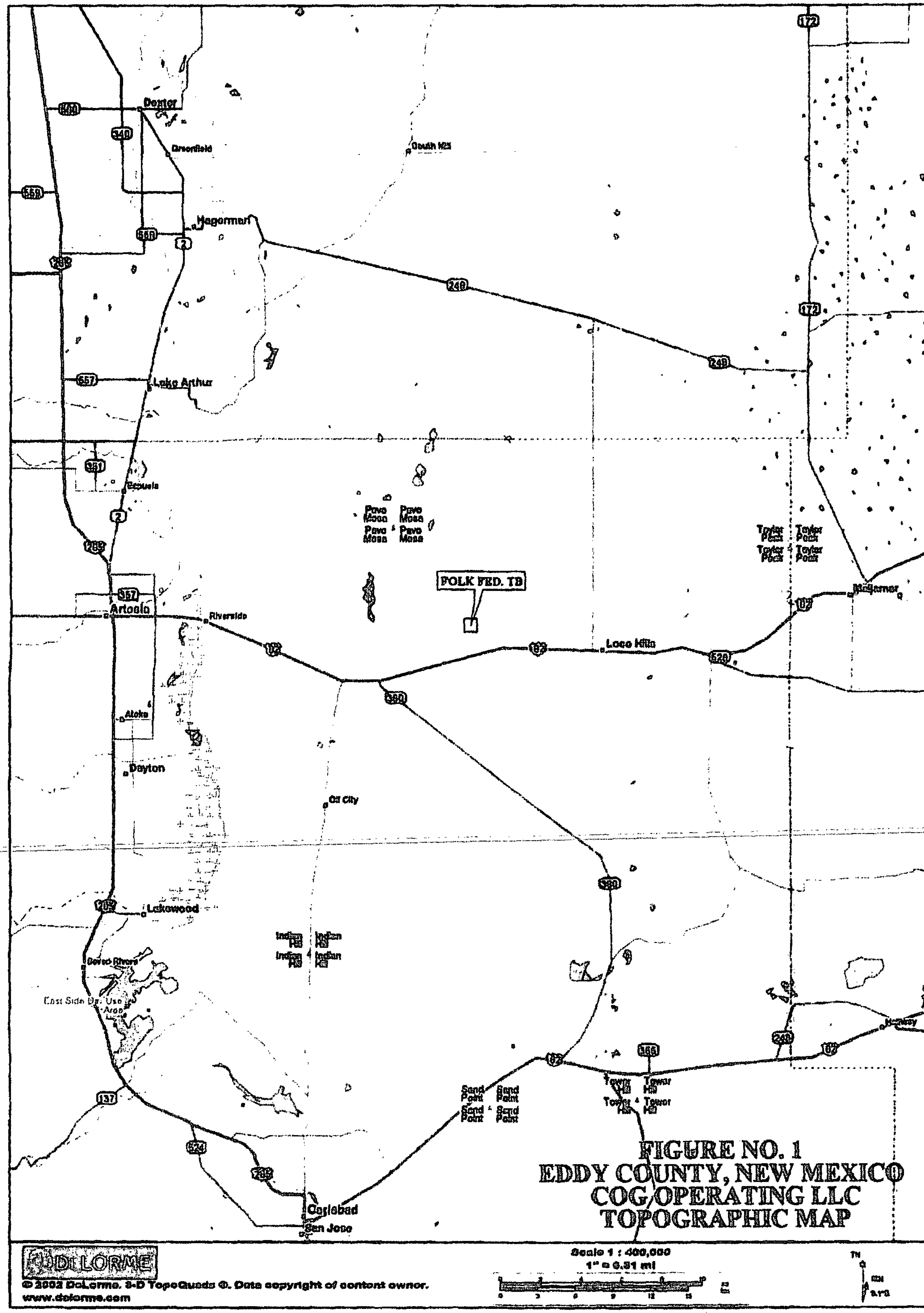
Once the remedial activities are performed, a closure report will be submitted for review. If you have any question or comments concerning the assessment or the activities performed at the Site, please call me at (432) 682-4559.

Respectfully submitted,
Tetra Tech, Inc.

Ike Tavarez, P.G.
Senior Project Manager

cc: Pat Ellis – COG
Terry Gregston - BLM

Figures



Dexter
Greenfield
South Hill
Hagerman
Lake Arthur
Espuela
Pavo Mesa
Taylor Peak
POLK FED. TB
Artesia
Riverside
Loco Hills
Maljamar
Atoka
Dayton
Oil City
Lakewood
Indian Hill
Sand Point
Tower Hill
Carlsbad
San Jose
FIGURE NO. 1
EDDY COUNTY, NEW MEXICO
COG OPERATING LLC
TOPOGRAPHIC MAP
DeLORME
© 2002 DeLorme. 3-D TopoQuads ©. Data copyright of content owner.
www.delorme.com
Scale 1 : 400,000
1" = 6.31 mi

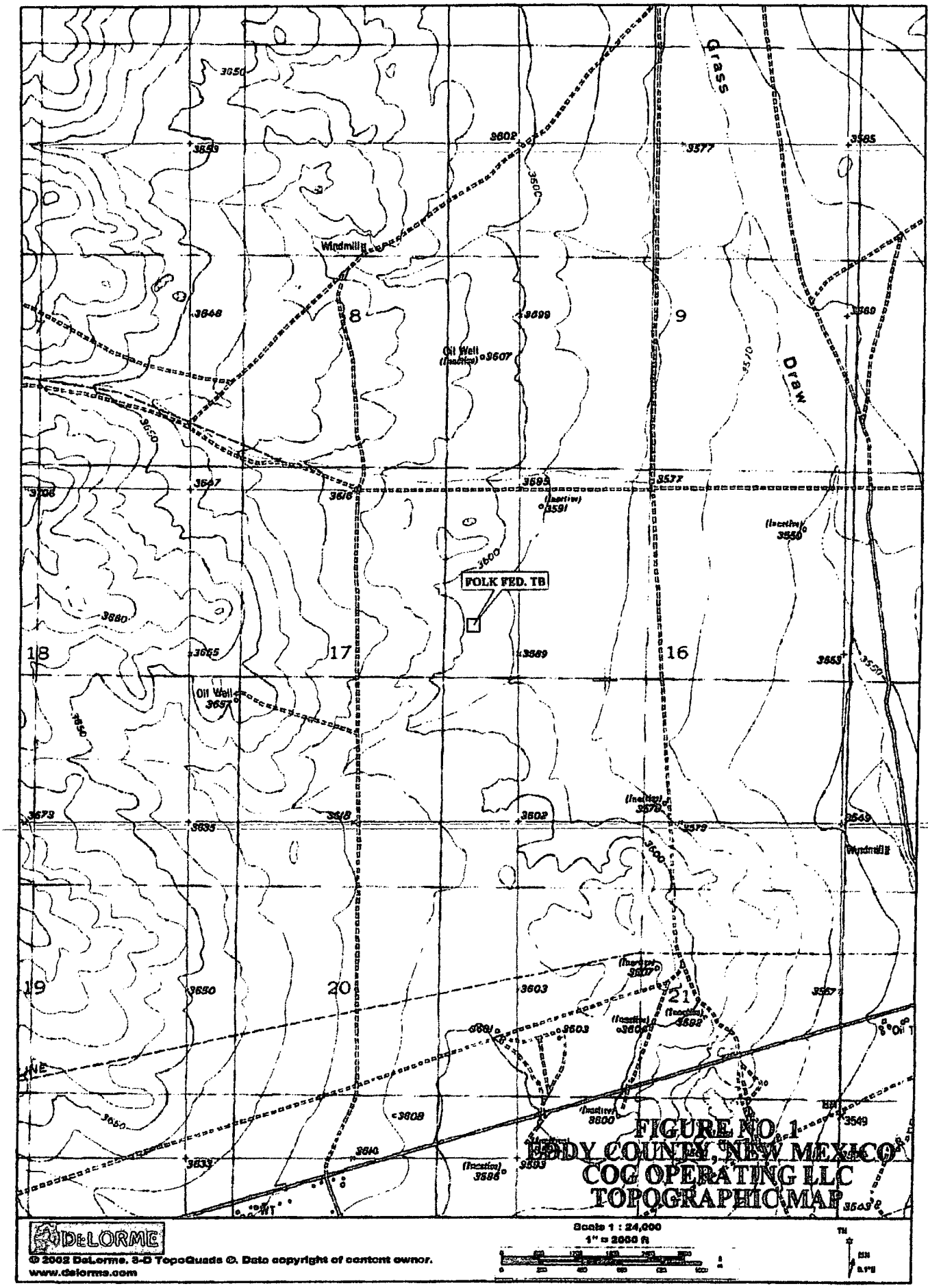
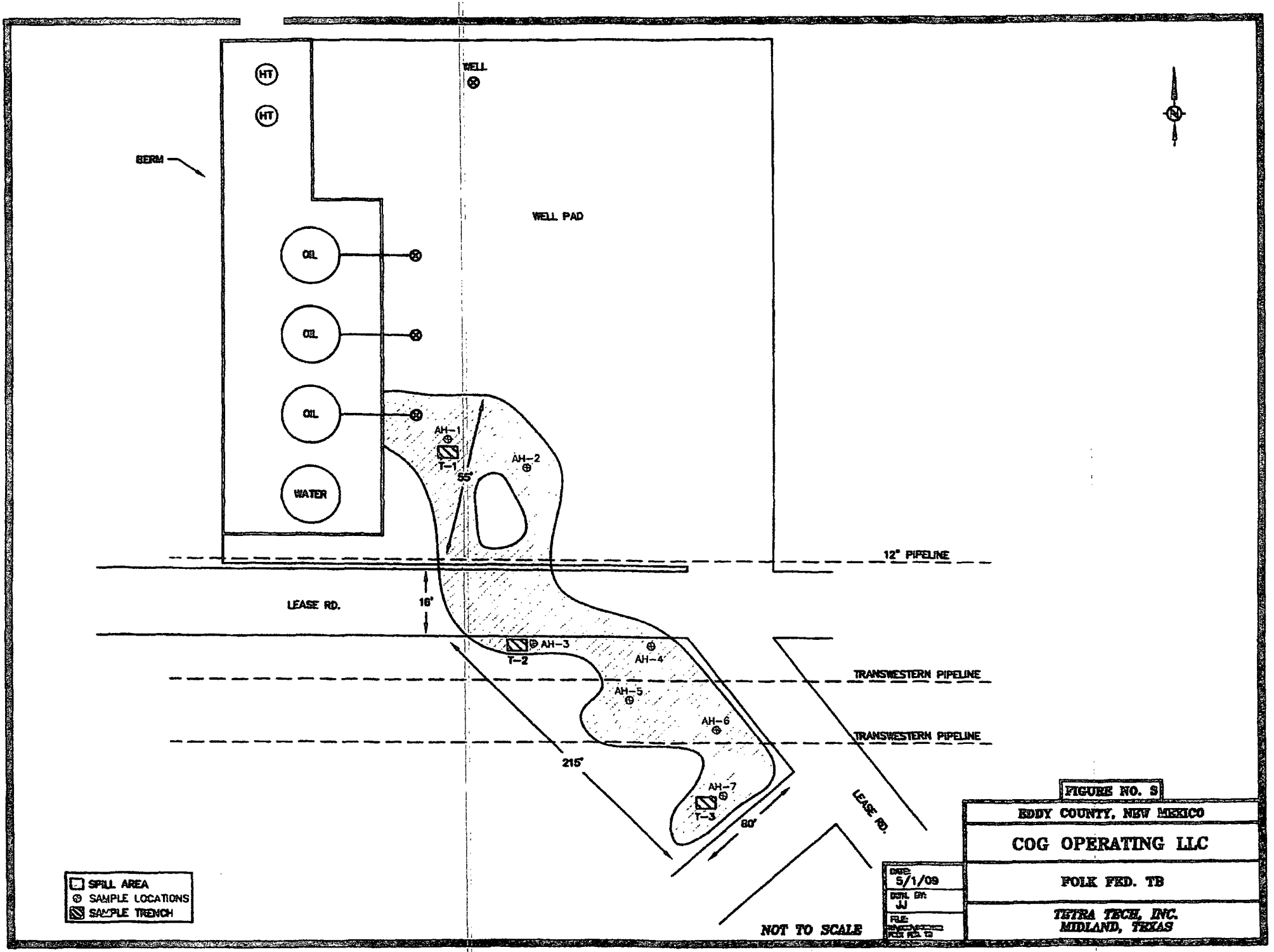
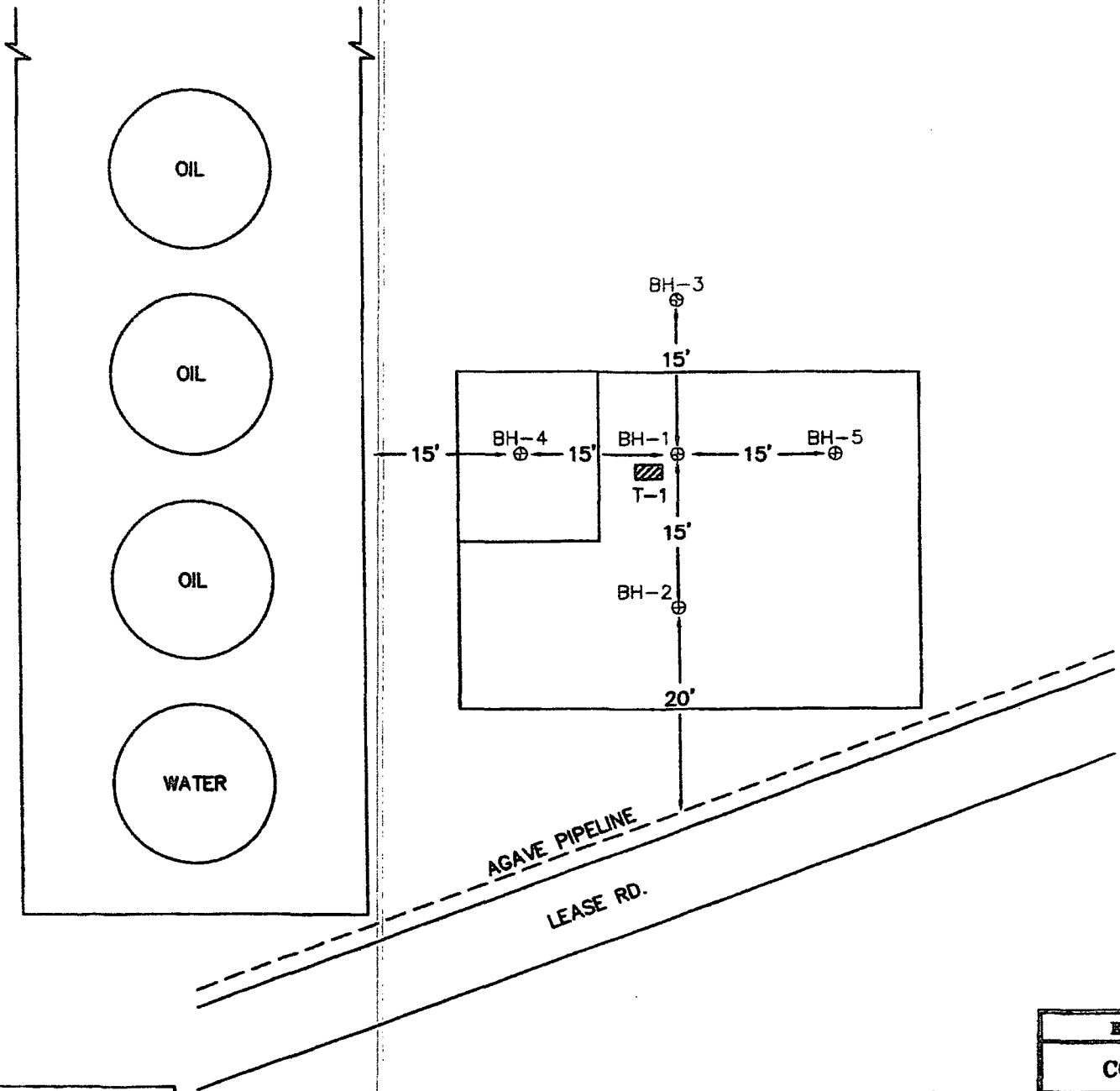


FIGURE NO. 1
EDDY COUNTY, NEW MEXICO
COG OPERATING LLC
TOPOGRAPHIC MAP


HT
HT
WELL
BERM
WELL PAD
OIL
OIL
OIL
WATER
AH-1
T-1
55'
AH-2
12" PIPELINE
LEASE RD.
16'
AH-3
T-2
AH-4
TRANSWESTERN PIPELINE
AH-5
AH-6
TRANSWESTERN PIPELINE
215'
AH-7
T-3
80'
LEASE RD.
SPILL AREA
SAMPLE LOCATIONS
SAMPLE TRENCH
NOT TO SCALE
FIGURE NO. 3
EDDY COUNTY, NEW MEXICO
COG OPERATING LLC
DATE: 5/1/09
DSN. BY: JJ
FILE:
FOLK FED. TB
TETRA TECH, INC.
MIDLAND, TEXAS



⊕ BORE HOLE LOCATIONS
▨ SAMPLE TRENCH LOCATION

SCALE: 1" = 15'

0 15'

FIGURE NO. 4

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

DATE: 5/1/09
DRWN BY: JJ
FILE:

FOLK FED. TB

TETRA TECH, INC.
MIDLAND, TEXAS

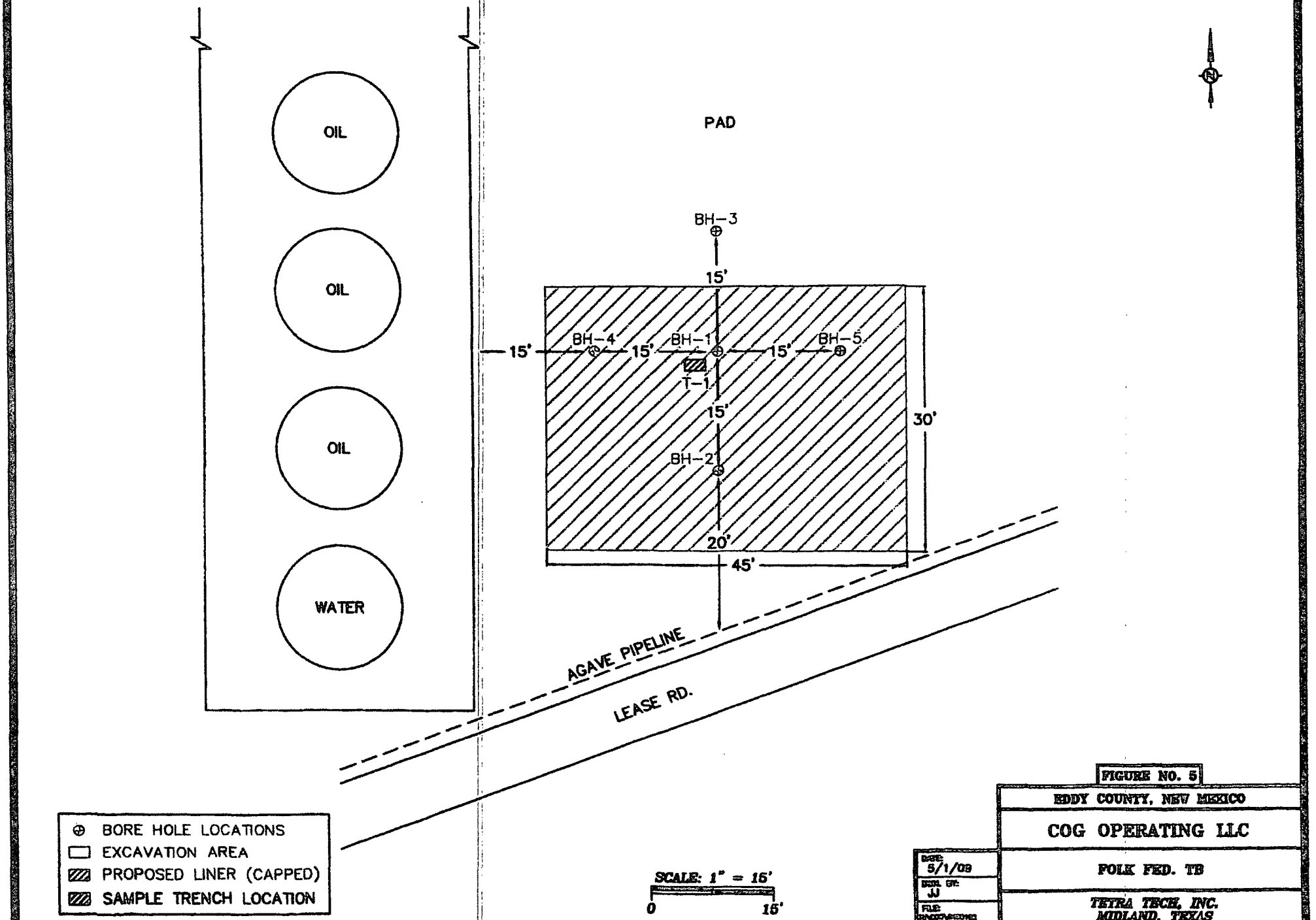


FIGURE NO. 5

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

DATE: 5/1/09

DRWN. BY: JJ

FILE:

FOLK FED. TB

TETRA TECH, INC.
MIDLAND, TEXAS

Tables

Table 1
COG
Folk Tank Battery
Eddy County, New Mexico

Sample ID	Date Sampled	Soil Status		Sample Depth (ft) (BEB)	Excavation Depth (ft)	TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
		Insitu	Removed			DRO	GRO	Total					
AH-1	5/14/2009		X	0-0.5	0.5	<50	1.23	1.23	-	-	-	-	1950
(T-1)	5/20/2009	X		0-1	0.5	-	-	-	-	-	-	-	1500
	5/20/2009	X		2		-	-	-	-	-	-	-	1020
	5/20/2009	X		4		-	-	-	-	-	-	-	2620
	5/20/2009	X		6		-	-	-	-	-	-	-	3400
	5/20/2009	X		8		-	-	-	-	-	-	-	2310
AH-2	5/14/2009	X		0-1	2	207.0	41.1	248.1	<0.01	0.185	0.428	0.939	<200
	5/14/2009	X		1-1.5		-	-	-	-	-	-	-	<200
	5/14/2009	X		2-2.5		-	-	-	-	-	-	-	<200
AH-3	5/14/2009		X	0-1	0.5	<50.0	10.3	10.3	<0.01	<0.01	<0.01	<0.01	1020
	5/14/2009		X	1-1.5		-	-	-	-	-	-	-	1280
	5/14/2009		X	2-2.5		-	-	-	-	-	-	-	522
(T-2)	5/20/2009	X		0-1	2	-	-	-	-	-	-	-	931
	5/20/2009	X		2		-	-	-	-	-	-	-	1290
	5/20/2009	X		5		-	-	-	-	-	-	-	896
	5/20/2009	X		7		-	-	-	-	-	-	-	531

Table 1
COG
Folk Tank Battery
Eddy County, New Mexico

Sample ID	Date Sampled	Soil Status		Sample Depth (ft) (BEB)	Excavation Depth (ft)	TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
		Insitu	Removed			DRO	GRO	Total					
AH-4	5/14/2009			0-1	2	<50.0	7.1	7.1	<0.01	<0.01	<0.01	<0.01	<200
	5/14/2009			1-1.5		-	-	-	-	-	-	-	<200
	5/14/2009			1.5-2.0		-	-	-	-	-	-	-	<200
AH-5	5/14/2009	X		0-1	2	126	7.9	133.9	<0.01	0.0917	<0.01	0.242	<200
AH-6	5/14/2009	X		0-1	7	<50.0	7.07	7.07	-	-	-	-	<200
	5/14/2009	X		1-1.5		-	-	-	-	-	-	-	<200
AH-7	5/14/2009		X	0-1	3	<50.0	6.05	6.05	-	-	-	-	322
	5/14/2009		X	1-1.5		-	-	-	-	-	-	-	787
(T-3)	5/20/2009	X		0-1	3								939
	5/20/2009	X		2									552

(-) Not Analyzed
Excavated Soil
Sample Depths (ft) - Below Bottom Excavation

Table 2
COG Operating LLC
Folk Tank Battery
Eddy County, New Mexico

Sample ID	Date Sampled	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	DRO	GRO	Total					
BH-1	8/19/2009	0-1	X		-	-	-	-	-	-	-	304
	8/19/2009	3-4	X		-	-	-	-	-	-	-	419
	8/19/2009	6-7	X		-	-	-	-	-	-	-	833
	8/19/2009	9-10	X		-	-	-	-	-	-	-	791
	8/19/2009	12-13	X		-	-	-	-	-	-	-	1,510
	8/19/2009	15-16	X		-	-	-	-	-	-	-	1,160
	8/19/2009	20-21	X		-	-	-	-	-	-	-	<200
BH-2	8/19/2009	0-1	X		-	-	-	-	-	-	-	<200
	8/19/2009	3-4	X		-	-	-	-	-	-	-	283
	8/19/2009	6-7	X		-	-	-	-	-	-	-	1,980
	8/19/2009	9-10	X		-	-	-	-	-	-	-	1,770
	8/19/2009	12-13	X		-	-	-	-	-	-	-	1,580
	8/19/2009	15-16	X		-	-	-	-	-	-	-	927
	8/19/2009	20-21	X		-	-	-	-	-	-	-	<200
BH-3	8/19/2009	0-1	X		-	-	-	-	-	-	-	<200
	8/19/2009	3-4	X		-	-	-	-	-	-	-	944
	8/19/2009	6-7	X		-	-	-	-	-	-	-	791
	8/19/2009	9-10	X		-	-	-	-	-	-	-	486
	8/19/2009	12-13	X		-	-	-	-	-	-	-	502
BH-4	8/19/2009	0-1	X		-	-	-	-	-	-	-	5,560
	8/19/2009	3-4	X		-	-	-	-	-	-	-	2,410
	8/19/2009	6-7	X		-	-	-	-	-	-	-	686
	8/19/2009	9-10	X		-	-	-	-	-	-	-	3,290
	8/19/2009	12-13	X		-	-	-	-	-	-	-	2,320
	8/19/2009	15-16	X		-	-	-	-	-	-	-	2,170
	8/19/2009	20-21	X		-	-	-	-	-	-	-	<200

Table 2
COG Operating LLC
Folk Tank Battery
Eddy County, New Mexico

Sample ID	Date Sampled	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	DRO	GRO	Total					
BH-5	8/19/2009	0-1	X		-	-	-	-	-	-	-	686
	8/19/2009	3-4	X		-	-	-	-	-	-	-	845
	8/19/2009	6-7	X		-	-	-	-	-	-	-	1,680
	8/19/2009	9-10	X		-	-	-	-	-	-	-	2,800
	8/19/2009	12-13	X		-	-	-	-	-	-	-	963
	8/19/2009	15-16	X		-	-	-	-	-	-	-	287

(-) Not Analyzed

Proposed Excavation Depths

Proposed Liner

Appendix A

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 Kanicia Carrillo
Address 550 W. Texas, Suite 1300 Midland, TX 79701	Telephone No. 432-685-4332
Facility Name – Folk Federal 2 - Battery	Facility Type- Battery

Surface Owner BLM	Mineral Owner	Lease No.API# 30-015-20198

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	17	17S	29E	1980	North	660	East	Eddy

Latitude_____ Longitude_____

NATURE OF RELEASE

Type of Release- oil	Volume of Release-192 bbls	Volume Recovered- 14 bbls
Source of Release-Navajo Truck	Date and Hour of Occurrence- 05/05/09- 6:40pm	Date and Hour of Discovery 05/05/09-6:40pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Jim Amos w/BLM & Mike Bratcher w/OCD.	
By Whom? Kanicia Carrillo & Navajo	Date and Hour May7, 2009, 1:00pm.	
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 Navajo transporter fell asleep while pumping out oil. Called immediately for vacuum truck to come out and pick up fluid.

Describe Area Affected and Cleanup Action Taken.*
Approximately 1400 to 1500 yards on battery, pasture and road. Navajo will dig up saturated soil. Soil samples and final report will be submitted by Tetra Tech for your approval.

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: K C	OIL CONSERVATION DIVISION
Printed Name: Kanicia Carrillo	Approved by District Supervisor:
Title: Regulatory Analyst	Approval Date: / Expiration Date:
E-mail Address: kandicarrillo@conchoresources.com	Conditions of Approval: / Attached ☐
Date: 05/07/09 Phone: 432-685-4332	

* Attach Additional Sheets If Necessary

Appendix B

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

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NMOCD ARTESIA

Form C-141
Revised October 10, 2003

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Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	**COG Operating LLC**	Contact	**Pat Ellis**
Address	**550 W. Texas, Suite 1300 Midland, Texas 79701**	Telephone No.	**(432) 230-0077**
Facility Name	**Folk Federal**	Facility Type	**Tank Battery**

Surface Owner: Federal	Mineral Owner	Lease No. (API#) 30-015-20198 NMNM-0397623

LOCATION OF RELEASE

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

Latitude N 32.83619° **Longitude** W 104.09072°

NATURE OF RELEASE

Type of Release: oil	Volume of Release 192 bbls	Volume Recovered 14 bbls
Source of Release: Water Tank	Date and Hour of Occurrence 05/05/2009	Date and Hour of Discovery 05/05/2009 6:40 p.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher - OCD Jim Amos - BLM	
By Whom? Josh Russo	Date and Hour 05/07/2009 1:20 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

Navajo transport fell asleep while pumping out oil. Navajo will dig out the saturated soil. Soil samples and final report will be submitted by Tetra Tech for your approval.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech personnel inspected the site and collected samples to define spill extents. Soil that exceeded RRAL was removed and hauled away for proper disposal. The site was then brought up to surface grade with clean backfill material. Tetra Tech prepared a closure report and submitted it 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 (agent for COG)	Approved by District Supervisor:	
Title: Project Manager	Approval Date:	Expiration Date:
E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval:	Attached ☐
Date: 10-16-12 Phone: (432) 682-4559		

* 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

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NMOCD ARTESIA

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	**Pat Ellis**
Address	**550 W. Texas, Suite 1300 Midland, Texas 79701**	Telephone No.	**(432) 230-0077**
Facility Name	**Folk Federal**	Facility Type	**Tank Battery**

Surface Owner: Federal	Mineral Owner	Lease No. (API#) 30-015-20198 NMNM-0397623

LOCATION OF RELEASE

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

Latitude N 32.83619° **Longitude** W 104.09072°

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release 180 bbls	Volume Recovered 160 bbls
Source of Release: Water Tank	Date and Hour of Occurrence 03/05/2011	Date and Hour of Discovery 03/05/2011 8:00a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher—OCD Terry Gregston--BLM	
By Whom? Josh Russo	Date and Hour 03/07/2011 9:20a.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

Due to a new well being turned on, there was an unexpected influx of water that neither the water trucks nor the transfer pumps were able to keep up with. This caused the water tank to overflow.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech personnel inspected the site and collected samples to define spill extents. Soil that exceeded RRAL was removed and hauled away for proper disposal. The site was then brought up to surface grade with clean backfill material. Tetra Tech prepared a closure report and submitted it 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:	
Title: Project Manager	Approval Date:	Expiration Date:
E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval:	Attached ☐
Date: 10-16-12 Phone: (432) 682-4559		

* 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 Kanicia Carrillo
Address 550 W. Texas, Suite 1300 Midland, TX 79701	Telephone No. 432-685-4332
Facility Name – Polk Federal 2 - Battery	Facility Type- Battery

Surface Owner BLM	Mineral Owner	Lease No.API# 30-015-20190

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	17	17S	29E	1980	North	660	East	Eddy

Latitude_____ Longitude_____

NATURE OF RELEASE

Type of Release- oil	Volume of Release-192 bbls	Volume Recovered- 14 bbls
Source of Release-Navajo Truck	Date and Hour of Occurrence-05/05/09- 6:40pm	Date and Hour of Discovery 05/05/09-6:40pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Jim Amos w/BLM & Mike Bratcher w/OCD.	
By Whom? Kanicia Carrillo & Navajo	Date and Hour May7, 2009, 1:00pm.	
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 Navajo transporter fell asleep while pumping out oil. Called immediately for vacuum truck to come out and pick up fluid.

Describe Area Affected and Cleanup Action Taken.*
Approximately 1400 to 1500 yards on battery, pasture and road. Navajo will dig up saturated soil. Soil samples and final report will be submitted by Tetra Tech for your approval.

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: Kanicia Carrillo	Approved by District Supervisor:	
Title: Regulatory Analyst	Approval Date:	Expiration Date:
E-mail Address: kandicarrillo@conchoresources.com	Conditions of Approval:	Attached ☐
Date: 05/07/09 Phone: 432-685-4332		

* 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
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State of New Mexico
Energy Minerals and Natural Resources

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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	Pat Ellis
Address	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Folk Federal	Facility Type	Tank Battery

Surface Owner Federal	Mineral Owner	Lease No. (API#) 30-015-20198 NMNM-0397623

LOCATION OF RELEASE

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

Latitude 32 50.154 **Longitude** 104 05.447

NATURE OF RELEASE

Type of Release Produced water	Volume of Release 180bbls	Volume Recovered 160bbls
Source of Release Water tank	Date and Hour of Occurrence 03/05/2011	Date and Hour of Discovery 03/05/2011 8:00 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher—OCD Terry Gregston—BLM	
By Whom? Josh Russo	Date and Hour 03/07/2011 9:20 a.m.	
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.*

Due to a new well being turned on, there was an unexpected influx of water that neither the water trucks nor the transfer pumps were able to keep up with. This caused the water tank to overflow.

Describe Area Affected and Cleanup Action Taken.*

Initially 180bbls of produced water was released from the water tanks at the Folk Federal Tank Battery. We were able to recover 160bbls with vacuum trucks. The water ran onto the location 60' x 60' and traveled down the lease road 20' x 90'; It then went off into the pasture 3' x 150'. The location and lease road were immediately scraped of contaminates and returned to their prior condition. Tetra Tech will sample the spill site area in the pasture to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD / BLM for approval prior to any significant remediation work.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Josh Russo	Approved by District Supervisor:	
Title: HSE Coordinator	Approval Date:	Expiration Date:
E-mail Address: jrusso@conchoresources.com	Conditions of Approval:	Attached ☐
Date: 03/09/2011 Phone: 432-212-2399		

* Attach Additional Sheets If Necessary

Appendix C

Water Well Data
Average Depth to Groundwater (ft)
COG - Folk 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	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	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	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22 **79**	23	24
30	29	28	27	26	25
31	32	33	34 **53**	35	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 **80**	23	24
30	29 **210** **208'**	28	27	26	25
31	32	33	34	35	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	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

18 South 28 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 **65**	36

18 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	23	24
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	24
30	29	28	27	26	25
31	32	33	34	35	36

- New Mexico State Engineers Well Reports
- USGS Well Reports
- Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)
- Geology and Groundwater Resources of Eddy County, NM (Report 3)

208 Abandoned Waterwell

Appendix D

Summary Report

Ike Tavarez
Tetra Tech
1910 N. Big Spring Street
Midland, TX 79705

Report Date: August 24, 2012

Work Order: 12081904

Project Location: Eddy Co., NM
Project Name: COG/Folk Federal Tank Battery
Project Number: 114-6400890

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
307139	CS-5 Surface (Road)	soil	2012-08-15	00:00	2012-08-17
307140	CS-5 1' (Road)	soil	2012-08-15	00:00	2012-08-17
307141	CS-5 2' (Road)	soil	2012-08-15	00:00	2012-08-17
307142	CS-6 Bottom Hole 4' (SB-3)	soil	2012-08-15	00:00	2012-08-17
307143	CS-6 North Wall (SB-3)	soil	2012-08-15	00:00	2012-08-17
307144	CS-6 East Wall (SB-3)	soil	2012-08-15	00:00	2012-08-17
307145	CS-6 West Wall (SB-3)	soil	2012-08-15	00:00	2012-08-17
307146	CS-6 South Wall (SB-3)	soil	2012-08-15	00:00	2012-08-17

Sample: 307139 - CS-5 Surface (Road)

Param	Flag	Result	Units	RL
Chloride		**217**	mg/Kg	4

Sample: 307140 - CS-5 1' (Road)

Param	Flag	Result	Units	RL
Chloride		**197**	mg/Kg	4

Sample: 307141 - CS-5 2' (Road)

Param	Flag	Result	Units	RL
Chloride		**130**	mg/Kg	4

Sample: 307142 - CS-6 Bottom Hole 4' (SB-3)

Param	Flag	Result	Units	RL
Chloride		**404**	mg/Kg	4

Sample: 307143 - CS-6 North Wall (SB-3)

Param	Flag	Result	Units	RL
Chloride		**260**	mg/Kg	4

Sample: 307144 - CS-6 East Wall (SB-3)

Param	Flag	Result	Units	RL
Chloride		**202**	mg/Kg	4

Sample: 307145 - CS-6 West Wall (SB-3)

Param	Flag	Result	Units	RL
Chloride		**154**	mg/Kg	4

Sample: 307146 - CS-6 South Wall (SB-3)

Param	Flag	Result	Units	RL
Chloride		**505**	mg/Kg	4

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972•242•7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Ike Tavarez
Tetra Tech
1910 N. Big Spring Street
Midland, TX, 79705

Report Date: August 24, 2012

Work Order: 12081904

Project Location: Eddy Co., NM
Project Name: COG/Folk Federal Tank Battery
Project Number: 114-6400890

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
307139	CS-5 Surface (Road)	soil	2012-08-15	00:00	2012-08-17
307140	CS-5 1' (Road)	soil	2012-08-15	00:00	2012-08-17
307141	CS-5 2' (Road)	soil	2012-08-15	00:00	2012-08-17
307142	CS-6 Bottom Hole 4' (SB-3)	soil	2012-08-15	00:00	2012-08-17
307143	CS-6 North Wall (SB-3)	soil	2012-08-15	00:00	2012-08-17
307144	CS-6 East Wall (SB-3)	soil	2012-08-15	00:00	2012-08-17
307145	CS-6 West Wall (SB-3)	soil	2012-08-15	00:00	2012-08-17
307146	CS-6 South Wall (SB-3)	soil	2012-08-15	00:00	2012-08-17

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Report Contents

Case Narrative

Samples for project COG/Folk Federal Tank Battery were received by TraceAnalysis, Inc. on 2012-08-17 and assigned to work order 12081904. Samples for work order 12081904 were received intact at a temperature of 8.8 C. Samples were received on ice.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	79857	2012-08-23 at 13:15	94227	2012-08-24 at 13:20
Chloride (Titration)	SM 4500-Cl B	79857	2012-08-23 at 13:15	94228	2012-08-24 at 13:21

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 12081904 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 307139 - CS-5 Surface (Road)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94227	Date Analyzed:	2012-08-24	Analyzed By:	AR
Prep Batch:	79857	Sample Preparation:	2012-08-24	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**217**	mg/Kg	5	4.00

Sample: 307140 - CS-5 1' (Road)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94228	Date Analyzed:	2012-08-24	Analyzed By:	AR
Prep Batch:	79857	Sample Preparation:	2012-08-24	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**197**	mg/Kg	5	4.00

Sample: 307141 - CS-5 2' (Road)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94228	Date Analyzed:	2012-08-24	Analyzed By:	AR
Prep Batch:	79857	Sample Preparation:	2012-08-24	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**130**	mg/Kg	5	4.00

Sample: 307142 - CS-6 Bottom Hole 4' (SB-3)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94228	Date Analyzed:	2012-08-24	Analyzed By:	AR
Prep Batch:	79857	Sample Preparation:	2012-08-24	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**404**	mg/Kg	5	4.00

Sample: 307143 - CS-6 North Wall (SB-3)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94228	Date Analyzed:	2012-08-24	Analyzed By:	AR
Prep Batch:	79857	Sample Preparation:	2012-08-24	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**260**	mg/Kg	5	4.00

Sample: 307144 - CS-6 East Wall (SB-3)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94228	Date Analyzed:	2012-08-24	Analyzed By:	AR
Prep Batch:	79857	Sample Preparation:	2012-08-24	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**202**	mg/Kg	5	4.00

Sample: 307145 - CS-6 West Wall (SB-3)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94228	Date Analyzed:	2012-08-24	Analyzed By:	AR
Prep Batch:	79857	Sample Preparation:	2012-08-24	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**154**	mg/Kg	5	4.00

Sample: 307146 - CS-6 South Wall (SB-3)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94228	Date Analyzed:	2012-08-24	Analyzed By:	AR
Prep Batch:	79857	Sample Preparation:	2012-08-24	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**505**	mg/Kg	5	4.00

Method Blanks

Method Blank (1) QC Batch: 94227

QC Batch:	94227	Date Analyzed:	2012-08-24	Analyzed By:	AR
Prep Batch:	79857	QC Preparation:	2012-08-23	Prepared By:	AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Method Blank (1) QC Batch: 94228

QC Batch:	94228	Date Analyzed:	2012-08-24	Analyzed By:	AR
Prep Batch:	79857	QC Preparation:	2012-08-23	Prepared By:	AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 94227 | Date Analyzed: 2012-08-24 | Analyzed By: AR
Prep Batch: 79857 | QC Preparation: 2012-08-23 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2630	mg/Kg	1	2500	<3.85	105	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2590	mg/Kg	1	2500	<3.85	104	85 - 115	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 94228 | Date Analyzed: 2012-08-24 | Analyzed By: AR
Prep Batch: 79857 | QC Preparation: 2012-08-23 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2640	mg/Kg	1	2500	<3.85	106	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2550	mg/Kg	1	2500	<3.85	102	85 - 115	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 307130

QC Batch: 94227 | Date Analyzed: 2012-08-24 | Analyzed By: AR
Prep Batch: 79857 | QC Preparation: 2012-08-23 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			4000	mg/Kg	10	2500	1510	100	78.9 - 121

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			4140	mg/Kg	10	2500	1510	105	78.9 - 121	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 307149

QC Batch: 94228 Date Analyzed: 2012-08-24 Analyzed By: AR
Prep Batch: 79857 QC Preparation: 2012-08-23 Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			15100	mg/Kg	10	2500	12200	116	78.9 - 121

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			15000	mg/Kg	10	2500	12200	112	78.9 - 121	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Calibration Standards

Standard (CCV-1)

QC Batch: 94227 | Date Analyzed: 2012-08-24 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.8	100	85 - 115	2012-08-24

Standard (CCV-2)

QC Batch: 94227 | Date Analyzed: 2012-08-24 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-08-24

Standard (CCV-1)

QC Batch: 94228 | Date Analyzed: 2012-08-24 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2012-08-24

Standard (CCV-2)

QC Batch: 94228 | Date Analyzed: 2012-08-24 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.3	99	85 - 115	2012-08-24

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

1200/1904

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 7890

PROJECT NAME: Folk Fed #2 TB

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
307139	8/15		S		X	CS-5 Surface (Road)	1																		X				
140			S		X	CS-5 1' (Road)	1																		X				
141			S		X	CS-5 2' (Road)	1																		X				
142			S		X	CS-6 Bottom hole (4') (SB-3)	1																		X				
143			S		X	CS-6 North Wall (SB-3)	1																		X				
144			S		X	CS-6 East Wall (SB-3)	1																		X				
145			S		X	CS-6 West Wall (SB-3)	1																		X				
146			S		X	CS-6 South Wall (SB-3)	1																		X				

RELINQUISHED BY: (Signature)	Date: 8/15/12 Time: 1205	RECEIVED BY: (Signature)	Date: 8/16/12 Time: 12:05
SAMPLED BY: (Print & Initial)	Date: 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:
TETRA TECH CONTACT PERSON: Ike Tavarez	Results by:		
RECEIVING LABORATORY: Trace ADDRESS: CITY: Midland STATE: ZIP: CONTACT: PHONE:	RECEIVED BY: (Signature) DATE: TIME:		RUSH Charges Authorized: Yes No
SAMPLE CONDITION WHEN RECEIVED: 8°	REMARKS: Midland Lab		

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

Summary Report

Ike Tavarez
Tetra Tech
1910 N. Big Spring Street
Midland, TX 79705

Report Date: August 21, 2012

Work Order: 12081318

Project Location: Eddy Co., NM
Project Name: COG/Folk Fed. #2 TB
Project Number: 114-6400192A

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
306617	CS-1 North Wall (SB-4)	soil	2012-08-01	00:00	2012-08-13
306618	CS-1 South Wall (SB-4)	soil	2012-08-01	00:00	2012-08-13
306619	CS-1 West Wall (SB-4)	soil	2012-08-01	00:00	2012-08-13
306620	CS-1 Bottom Hole 4' (SB-4)	soil	2012-08-01	00:00	2012-08-13
306621	CS-2 North Wall (SB-5)	soil	2012-07-31	00:00	2012-08-13
306622	CS-2 South Wall (SB-5)	soil	2012-08-01	00:00	2012-08-13
306623	CS-2 Bottom Hole 4' (SB-5)	soil	2012-08-01	00:00	2012-08-13
306624	CS-3 North Wall (SB-6)	soil	2012-08-02	00:00	2012-08-13
306625	CS-3 South Wall (SB-6)	soil	2012-08-02	00:00	2012-08-13
306626	CS-3 East Wall (SB-6)	soil	2012-08-02	00:00	2012-08-13
306627	CS-3 Bottom Hole 4' (SB-6)	soil	2012-08-02	00:00	2012-08-13
306628	CS-4 North Wall (SB-2)	soil	2012-08-10	00:00	2012-08-13
306629	CS-4 South Wall (SB-2)	soil	2012-08-10	00:00	2012-08-13
306630	CS-4 East Wall (SB-2)	soil	2012-08-10	00:00	2012-08-13
306631	CS-4 Bottom Hole 4' (SB-2)	soil	2012-08-10	00:00	2012-08-13

Sample: 306617 - CS-1 North Wall (SB-4)

Param	Flag	Result	Units	RL
Chloride		**385**	mg/Kg	5

Sample: 306618 - CS-1 South Wall (SB-4)

Param	Flag	Result	Units	RL
Chloride		**405**	mg/Kg	5

Sample: 306619 - CS-1 West Wall (SB-4)

Param	Flag	Result	Units	RL
Chloride		**215**	mg/Kg	5

Sample: 306620 - CS-1 Bottom Hole 4' (SB-4)

Param	Flag	Result	Units	RL
Chloride		**317**	mg/Kg	5

Sample: 306621 - CS-2 North Wall (SB-5)

Param	Flag	Result	Units	RL
Chloride		**439**	mg/Kg	5

Sample: 306622 - CS-2 South Wall (SB-5)

Param	Flag	Result	Units	RL
Chloride		**410**	mg/Kg	5

Sample: 306623 - CS-2 Bottom Hole 4' (SB-5)

Param	Flag	Result	Units	RL
Chloride		**405**	mg/Kg	5

Sample: 306624 - CS-3 North Wall (SB-6)

Param	Flag	Result	Units	RL
Chloride		**171**	mg/Kg	5

Sample: 306625 - CS-3 South Wall (SB-6)

Param	Flag	Result	Units	RL
Chloride		**634**	mg/Kg	5

Sample: 306626 - CS-3 East Wall (SB-6)

Param	Flag	Result	Units	RL
Chloride		**444**	mg/Kg	5

Sample: 306627 - CS-3 Bottom Hole 4' (SB-6)

Param	Flag	Result	Units	RL
Chloride		**442**	mg/Kg	5

Sample: 306628 - CS-4 North Wall (SB-2)

Param	Flag	Result	Units	RL
Chloride		**452**	mg/Kg	5

Sample: 306629 - CS-4 South Wall (SB-2)

Param	Flag	Result	Units	RL
Chloride		**731**	mg/Kg	5

Sample: 306630 - CS-4 East Wall (SB-2)

Param	Flag	Result	Units	RL
Chloride		**236**	mg/Kg	5

Sample: 306631 - CS-4 Bottom Hole 4' (SB-2)

Param	Flag	Result	Units	RL
Chloride		**447**	mg/Kg	5

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800-378-1296 806-794-1296 FAX 806-794-1298
200 East Sunset Road, Suite E El Paso, Texas 79922 915-585-3443 FAX 915-585-4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432-689-6301 FAX 432-689-6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972-242-7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Ike Tavarez
Tetra Tech
1910 N. Big Spring Street
Midland, TX, 79705

Report Date: August 21, 2012

Work Order: 12081318

Project Location: Eddy Co., NM
Project Name: COG/Folk Fed. #2 TB
Project Number: 114-6400192A

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
306617	CS-1 North Wall (SB-4)	soil	2012-08-01	00:00	2012-08-13
306618	CS-1 South Wall (SB-4)	soil	2012-08-01	00:00	2012-08-13
306619	CS-1 West Wall (SB-4)	soil	2012-08-01	00:00	2012-08-13
306620	CS-1 Bottom Hole 4' (SB-4)	soil	2012-08-01	00:00	2012-08-13
306621	CS-2 North Wall (SB-5)	soil	2012-07-31	00:00	2012-08-13
306622	CS-2 South Wall (SB-5)	soil	2012-08-01	00:00	2012-08-13
306623	CS-2 Bottom Hole 4' (SB-5)	soil	2012-08-01	00:00	2012-08-13
306624	CS-3 North Wall (SB-6)	soil	2012-08-02	00:00	2012-08-13
306625	CS-3 South Wall (SB-6)	soil	2012-08-02	00:00	2012-08-13
306626	CS-3 East Wall (SB-6)	soil	2012-08-02	00:00	2012-08-13
306627	CS-3 Bottom Hole 4' (SB-6)	soil	2012-08-02	00:00	2012-08-13
306628	CS-4 North Wall (SB-2)	soil	2012-08-10	00:00	2012-08-13
306629	CS-4 South Wall (SB-2)	soil	2012-08-10	00:00	2012-08-13
306630	CS-4 East Wall (SB-2)	soil	2012-08-10	00:00	2012-08-13
306631	CS-4 Bottom Hole 4' (SB-2)	soil	2012-08-10	00:00	2012-08-13

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 13 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Report Contents

Case Narrative

Samples for project COG/Folk Fed. #2 TB were received by TraceAnalysis, Inc. on 2012-08-13 and assigned to work order 12081318. Samples for work order 12081318 were received intact at a temperature of 0.8 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	79770	2012-08-20 at 16:00	94110	2012-08-21 at 10:00
Chloride (Titration)	SM 4500-Cl B	79772	2012-08-20 at 16:00	94111	2012-08-21 at 13:00

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 12081318 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 306617 - CS-1 North Wall (SB-4)

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94110	Date Analyzed:	2012-08-21	Analyzed By:	LM
Prep Batch:	79770	Sample Preparation:	2012-08-20	Prepared By:	LM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**385**	mg/Kg	10	5.00

Sample: 306618 - CS-1 South Wall (SB-4)

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94110	Date Analyzed:	2012-08-21	Analyzed By:	LM
Prep Batch:	79770	Sample Preparation:	2012-08-20	Prepared By:	LM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**405**	mg/Kg	10	5.00

Sample: 306619 - CS-1 West Wall (SB-4)

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94110	Date Analyzed:	2012-08-21	Analyzed By:	LM
Prep Batch:	79770	Sample Preparation:	2012-08-20	Prepared By:	LM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**215**	mg/Kg	10	5.00

Sample: 306620 - CS-1 Bottom Hole 4' (SB-4)

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94110	Date Analyzed:	2012-08-21	Analyzed By:	LM
Prep Batch:	79770	Sample Preparation:	2012-08-20	Prepared By:	LM

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**317**	mg/Kg	10	5.00

Sample: 306621 - CS-2 North Wall (SB-5)

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94110	Date Analyzed:	2012-08-21	Analyzed By:	LM
Prep Batch:	79770	Sample Preparation:	2012-08-20	Prepared By:	LM

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**439**	mg/Kg	10	5.00

Sample: 306622 - CS-2 South Wall (SB-5)

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94110	Date Analyzed:	2012-08-21	Analyzed By:	LM
Prep Batch:	79770	Sample Preparation:	2012-08-20	Prepared By:	LM

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**410**	mg/Kg	20	5.00

Sample: 306623 - CS-2 Bottom Hole 4' (SB-5)

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94110	Date Analyzed:	2012-08-21	Analyzed By:	LM
Prep Batch:	79770	Sample Preparation:	2012-08-20	Prepared By:	LM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**405**	mg/Kg	10	5.00

Sample: 306624 - CS-3 North Wall (SB-6)

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94110	Date Analyzed:	2012-08-21	Analyzed By:	LM
Prep Batch:	79770	Sample Preparation:	2012-08-20	Prepared By:	LM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**171**	mg/Kg	10	5.00

Sample: 306625 - CS-3 South Wall (SB-6)

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94110	Date Analyzed:	2012-08-21	Analyzed By:	LM
Prep Batch:	79770	Sample Preparation:	2012-08-20	Prepared By:	LM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**634**	mg/Kg	20	5.00

Sample: 306626 - CS-3 East Wall (SB-6)

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94110	Date Analyzed:	2012-08-21	Analyzed By:	LM
Prep Batch:	79770	Sample Preparation:	2012-08-20	Prepared By:	LM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**444**	mg/Kg	10	5.00

Sample: 306627 - CS-3 Bottom Hole 4' (SB-6)

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94111	Date Analyzed:	2012-08-21	Analyzed By:	LM
Prep Batch:	79772	Sample Preparation:	2012-08-20	Prepared By:	LM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**442**	mg/Kg	20	5.00

Sample: 306628 - CS-4 North Wall (SB-2)

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94111	Date Analyzed:	2012-08-21	Analyzed By:	LM
Prep Batch:	79772	Sample Preparation:	2012-08-20	Prepared By:	LM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**452**	mg/Kg	10	5.00

Sample: 306629 - CS-4 South Wall (SB-2)

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94111	Date Analyzed:	2012-08-21	Analyzed By:	LM
Prep Batch:	79772	Sample Preparation:	2012-08-20	Prepared By:	LM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**731**	mg/Kg	20	5.00

Sample: 306630 - CS-4 East Wall (SB-2)

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94111	Date Analyzed:	2012-08-21	Analyzed By:	LM
Prep Batch:	79772	Sample Preparation:	2012-08-20	Prepared By:	LM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**236**	mg/Kg	10	5.00

Sample: 306631 - CS-4 Bottom Hole 4' (SB-2)

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94111	Date Analyzed:	2012-08-21	Analyzed By:	LM
Prep Batch:	79772	Sample Preparation:	2012-08-20	Prepared By:	LM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**447**	mg/Kg	10	5.00

Method Blanks

Method Blank (1) QC Batch: 94110

QC Batch: 94110 | Date Analyzed: 2012-08-21 | Analyzed By: LM
Prep Batch: 79770 | QC Preparation: 2012-08-20 | Prepared By: LM

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.05	mg/Kg	5

Method Blank (1) QC Batch: 94111

QC Batch: 94111 | Date Analyzed: 2012-08-21 | Analyzed By: LM
Prep Batch: 79772 | QC Preparation: 2012-08-20 | Prepared By: LM

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.05	mg/Kg	5

Matrix Spike (MS-1) Spiked Sample: 306626

QC Batch: 94110 | Date Analyzed: 2012-08-21 | Analyzed By: LM
Prep Batch: 79770 | QC Preparation: 2012-08-20 | Prepared By: LM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			858	mg/Kg	10	500	443.9	83	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			858	mg/Kg	10	500	443.9	83	80 - 120	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 94111 | Date Analyzed: 2012-08-21 | Analyzed By: LM
Prep Batch: 79772 | QC Preparation: 2012-08-20 | Prepared By: LM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			3050	mg/Kg	50	500	2500	110	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			3000	mg/Kg	50	500	2500	101	80 - 120	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Calibration Standards

Standard (ICV-1)

QC Batch: 94110 | Date Analyzed: 2012-08-21 | Analyzed By: LM

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-08-21

Standard (CCV-1)

QC Batch: 94110 | Date Analyzed: 2012-08-21 | Analyzed By: LM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-08-21

Standard (ICV-1)

QC Batch: 94111 | Date Analyzed: 2012-08-21 | Analyzed By: LM

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	98.6	98	85 - 115	2012-08-21

Standard (CCV-1)

QC Batch: 94111 | Date Analyzed: 2012-08-21 | Analyzed By: LM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2012-08-21

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704219-12-8	Lubbock

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

1208318

Analysis Request of Chain of Custody Record

PAGE: 1 - 2

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG

SITE MANAGER: Tec Tavarez

PROJECT NO.: 114-64009.192A

PROJECT NAME: COG / Folk Fed #2 TB Eddy Co, NM

LAB I.D. NUMBER	DATE 2012	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
306617	8/1		S		X	CS-1 Northwall (S13-4)	1				X														X				
618						CS-1 South wall (S13-4)																							
619						CS-1 West wall (S13-4)																							
620	↓					CS-1 Bottom Hole 4' (S13-4)																							
621	7/31					CS-2 North wall (S13-5)																							
622	7/31					CS-2 South wall (S13-5)																							
623	8/1					CS-2 Bottom Hole 4' (S13-5)																							
624	8/2					CS-3 North wall (S13-6)																							
625	↓					CS-3 South wall (S13-6)																							
626	↓					CS-3 East wall (S13-6)	↓				↓														↓				

RELINQUISHED BY: (Signature) — Date: 8-13-12 Time: 1730
RECEIVED BY: (Signature) — Date: 8/13/12 Time: 1430

RELINQUISHED BY: (Signature) — Date: 8-13-12 Time: 1455
RECEIVED BY: (Signature) — Date: 8/13/12 Time: 1455

RELINQUISHED BY: (Signature) — Date: 8/13/12 Time: 1515
RECEIVED BY: (Signature) — Date: Time:

SAMPLED BY: (Print & Initial) Robert Gobbs Jr — Date: 8-7-12 Time: 1500

SAMPLE SHIPPED BY: (Circle)
FEDEX BUS
HAND DELIVERED UPS
AIRBILL #:
OTHER:

TETRA TECH CONTACT PERSON: Tec Tavarez

Results by:

RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: Trace PHONE:
RECEIVED BY: (Signature) Brenda Ward
DATE: 8/14/12 TIME: 9:00

SAMPLE CONDITION WHEN RECEIVED: 18° Intact

REMARKS: Billback acct LS ZP005100 2.4/24

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

1308131S

Analysis Request of Chain of Custody Record

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG
SITE MANAGER: Ike Tavarez
PROJECT NO.: 114-6400192A
PROJECT NAME: COG / Falcon Fed #2 H3 Eddy Co, NM

LAB I.D. NUMBER	DATE 2012	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
627	8/2		S		X	CS-3 Bottom Hole 4' (SB-6)	1				X													X				
628	8/10					CS-4 North wall (SB-2)																						
629						CS-4 South wall (SB-2)																						
630						CS-4 East wall (SB-2)																						
631						CS-4 Bottom Hole 4' (SB-2)																						

RELINQUISHED BY: (Signature)	Date: 8-10-12 Time: 1200	RECEIVED BY: (Signature)	Date: 8-13-12 Time: 1430
RELINQUISHED BY: (Signature)	Date: 8-13-12 Time: 1455	RECEIVED BY: (Signature)	Date: 8/13/12 Time: 1455
RELINQUISHED BY: (Signature)	Date: 8/13/12 Time: 5:45	RECEIVED BY: (Signature)	Date: Time:
RECEIVING LABORATORY: Trace		RECEIVED BY: (Signature) Brenda Ward	
ADDRESS:			
CITY: Midland STATE: Tx ZIP:		DATE: 8/14/12 TIME: 9:00	
CONTACT: Nicole PHONE:			

SAMPLED BY: (Print & Initial) Robert Gubbis Tc — Date: 8-10-12 Time: 1200
SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS — AIRBILL #: — OTHER:
TETRA TECH CONTACT PERSON: Ike Tavarez
Results by:
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: Cool Intact
REMARKS: LS ZP005100 2.4/2.6

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

AK

Summary Report

Ike Tavarez
Tetra Tech
1910 N. Big Spring Street
Midland, TX 79705

Report Date: July 18, 2011

Work Order: 11070105

Project Location: Eddy Co., NM
Project Name: COG/Folk Federal Tank Battery
Project Number: 114-6400890

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
270899	SB-1 0-1'	soil	2011-06-28	00:00	2011-06-30
270900	SB-1 3'	soil	2011-06-28	00:00	2011-06-30
270901	SB-1 5'	soil	2011-06-28	00:00	2011-06-30
270902	SB-1 7'	soil	2011-06-28	00:00	2011-06-30
270903	SB-1 10'	soil	2011-06-28	00:00	2011-06-30
270904	SB-1 15'	soil	2011-06-28	00:00	2011-06-30
270905	SB-1 20'	soil	2011-06-28	00:00	2011-06-30
270906	SB-1 25'	soil	2011-06-28	00:00	2011-06-30
270907	SB-1 30'	soil	2011-06-28	00:00	2011-06-30
270908	SB-2 0-1'	soil	2011-06-28	00:00	2011-06-30
270909	SB-2 3'	soil	2011-06-28	00:00	2011-06-30
270910	SB-2 5'	soil	2011-06-28	00:00	2011-06-30
270911	SB-2 7'	soil	2011-06-28	00:00	2011-06-30
270912	SB-2 10'	soil	2011-06-28	00:00	2011-06-30
270913	SB-2 15'	soil	2011-06-28	00:00	2011-06-30
270914	SB-2 20'	soil	2011-06-28	00:00	2011-06-30
270915	SB-2 25'	soil	2011-06-28	00:00	2011-06-30
270916	SB-2 30'	soil	2011-06-28	00:00	2011-06-30
270917	SB-3 0-1'	soil	2011-06-28	00:00	2011-06-30
270918	SB-3 5'	soil	2011-06-28	00:00	2011-06-30
270919	SB-3 7'	soil	2011-06-28	00:00	2011-06-30
270920	SB-3 10'	soil	2011-06-28	00:00	2011-06-30
270921	SB-3 15'	soil	2011-06-28	00:00	2011-06-30
270922	SB-3 20'	soil	2011-06-28	00:00	2011-06-30
270923	SB-3 25'	soil	2011-06-28	00:00	2011-06-30
270924	SB-3 30'	soil	2011-06-28	00:00	2011-06-30
270925	SB-3 3'	soil	2011-06-28	00:00	2011-06-30
270926	SB-4 0-1'	soil	2011-06-29	00:00	2011-06-30
270927	SB-4 3'	soil	2011-06-29	00:00	2011-06-30
270928	SB-4 5'	soil	2011-06-29	00:00	2011-06-30

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
270929	SB-4 7'	soil	2011-06-29	00:00	2011-06-30
270930	SB-4 10'	soil	2011-06-29	00:00	2011-06-30
270931	SB-4 15'	soil	2011-06-29	00:00	2011-06-30
270932	SB-4 20'	soil	2011-06-29	00:00	2011-06-30
270936	SB-5 0-1'	soil	2011-06-29	00:00	2011-06-30
270937	SB-5 3'	soil	2011-06-29	00:00	2011-06-30
270938	SB-5 5'	soil	2011-06-29	00:00	2011-06-30
270939	SB-5 7'	soil	2011-06-29	00:00	2011-06-30
270940	SB-5 10'	soil	2011-06-29	00:00	2011-06-30
270941	SB-5 15'	soil	2011-06-29	00:00	2011-06-30
270942	SB-5 20'	soil	2011-06-29	00:00	2011-06-30
270943	SB-5 25'	soil	2011-06-29	00:00	2011-06-30
270946	SB-6 0-1'	soil	2011-06-29	00:00	2011-06-30
270947	SB-6 3'	soil	2011-06-29	00:00	2011-06-30
270948	SB-6 5'	soil	2011-06-29	00:00	2011-06-30
270949	SB-6 7'	soil	2011-06-29	00:00	2011-06-30
270950	SB-6 10'	soil	2011-06-29	00:00	2011-06-30
270951	SB-6 15'	soil	2011-06-29	00:00	2011-06-30
270952	SB-6 20'	soil	2011-06-29	00:00	2011-06-30
270953	SB-6 25'	soil	2011-06-29	00:00	2011-06-30

Sample: 270899 - SB-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**4300**	mg/Kg	4

Sample: 270900 - SB-1 3'

Param	Flag	Result	Units	RL
Chloride		**3410**	mg/Kg	4

Sample: 270901 - SB-1 5'

Param	Flag	Result	Units	RL
Chloride		**2380**	mg/Kg	4

Sample: 270902 - SB-1 7'

Param	Flag	Result	Units	RL
Chloride		**3000**	mg/Kg	4

Sample: 270903 - SB-1 10'

Param	Flag	Result	Units	RL
Chloride		**3590**	mg/Kg	4

Sample: 270904 - SB-1 15'

Param	Flag	Result	Units	RL
Chloride		**1540**	mg/Kg	4

Sample: 270905 - SB-1 20'

Param	Flag	Result	Units	RL
Chloride		**237**	mg/Kg	4

Sample: 270906 - SB-1 25'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4

Sample: 270907 - SB-1 30'

Param	Flag	Result	Units	RL
Chloride		**207**	mg/Kg	4

Sample: 270908 - SB-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**10400**	mg/Kg	4

Sample: 270909 - SB-2 3'

Param	Flag	Result	Units	RL
Chloride		**566**	mg/Kg	4

Sample: 270910 - SB-2 5'

Param	Flag	Result	Units	RL
Chloride		**1250**	mg/Kg	4

Sample: 270911 - SB-2 7'

Param	Flag	Result	Units	RL
Chloride		**926**	mg/Kg	4

Sample: 270912 - SB-2 10'

Param	Flag	Result	Units	RL
Chloride		**1170**	mg/Kg	4

Sample: 270913 - SB-2 15'

Param	Flag	Result	Units	RL
Chloride		**343**	mg/Kg	4

Sample: 270914 - SB-2 20'

Param	Flag	Result	Units	RL
Chloride		**251**	mg/Kg	4

Sample: 270915 - SB-2 25'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4

Sample: 270916 - SB-2 30'

Param	Flag	Result	Units	RL
Chloride		**185**	mg/Kg	4

Sample: 270917 - SB-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**326**	mg/Kg	4

Sample: 270918 - SB-3 5'

Param	Flag	Result	Units	RL
Chloride		**2710**	mg/Kg	4

Sample: 270919 - SB-3 7'

Param	Flag	Result	Units	RL
Chloride		**1760**	mg/Kg	4

Sample: 270920 - SB-3 10'

Param	Flag	Result	Units	RL
Chloride		**675**	mg/Kg	4

Sample: 270921 - SB-3 15'

Param	Flag	Result	Units	RL
Chloride		**316**	mg/Kg	4

Sample: 270922 - SB-3 20'

Param	Flag	Result	Units	RL
Chloride		**268**	mg/Kg	4

Sample: 270923 - SB-3 25'

Param	Flag	Result	Units	RL
Chloride		**230**	mg/Kg	4

Sample: 270924 - SB-3 30'

Param	Flag	Result	Units	RL
Chloride		**396**	mg/Kg	4

Sample: 270925 - SB-3 3'

Param	Flag	Result	Units	RL
Chloride		**4240**	mg/Kg	4

Sample: 270926 - SB-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**10000**	mg/Kg	4

Sample: 270927 - SB-4 3'

Param	Flag	Result	Units	RL
Chloride		**5940**	mg/Kg	4

Sample: 270928 - SB-4 5'

Param	Flag	Result	Units	RL
Chloride		**1270**	mg/Kg	4

Sample: 270929 - SB-4 7'

Param	Flag	Result	Units	RL
Chloride		**316**	mg/Kg	4

Sample: 270930 - SB-4 10'

Param	Flag	Result	Units	RL
Chloride		**269**	mg/Kg	4

Sample: 270931 - SB-4 15'

Param	Flag	Result	Units	RL
Chloride		**432**	mg/Kg	4

Sample: 270932 - SB-4 20'

Param	Flag	Result	Units	RL
Chloride		**559**	mg/Kg	4

Sample: 270936 - SB-5 0-1'

Param	Flag	Result	Units	RL
Chloride		**469**	mg/Kg	4

Sample: 270937 - SB-5 3'

Param	Flag	Result	Units	RL
Chloride		**5400**	mg/Kg	4

Sample: 270938 - SB-5 5'

Param	Flag	Result	Units	RL
Chloride		**364**	mg/Kg	4

Sample: 270939 - SB-5 7'

Param	Flag	Result	Units	RL
Chloride		**248**	mg/Kg	4

Sample: 270940 - SB-5 10'

Param	Flag	Result	Units	RL
Chloride		**3770**	mg/Kg	4

Sample: 270941 - SB-5 15'

Param	Flag	Result	Units	RL
Chloride		**559**	mg/Kg	4

Sample: 270942 - SB-5 20'

Param	Flag	Result	Units	RL
Chloride		**549**	mg/Kg	4

Sample: 270943 - SB-5 25'

Param	Flag	Result	Units	RL
Chloride		**218**	mg/Kg	4

Sample: 270946 - SB-6 0-1'

Param	Flag	Result	Units	RL
Chloride		**5060**	mg/Kg	4

Sample: 270947 - SB-6 3'

Param	Flag	Result	Units	RL
Chloride		**10600**	mg/Kg	4

Sample: 270948 - SB-6 5'

Param	Flag	Result	Units	RL
Chloride		**782**	mg/Kg	4

Sample: 270949 - SB-6 7'

Param	Flag	Result	Units	RL
Chloride		**1360**	mg/Kg	4

Sample: 270950 - SB-6 10'

Param	Flag	Result	Units	RL
Chloride		**752**	mg/Kg	4

Sample: 270951 - SB-6 15'

Param	Flag	Result	Units	RL
Chloride		**247**	mg/Kg	4

Sample: 270952 - SB-6 20'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4

Sample: 270953 - SB-6 25'

Param	Flag	Result	Units	RL
Chloride		**396**	mg/Kg	4

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Ike Tavarez
Tetra Tech
1910 N. Big Spring Street
Midland, TX, 79705

Report Date: July 18, 2011

Work Order: 11070105

Project Location: Eddy Co., NM
Project Name: COG/Folk Federal Tank Battery
Project Number: 114-6400890

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
270899	SB-1 0-1'	soil	2011-06-28	00:00	2011-06-30
270900	SB-1 3'	soil	2011-06-28	00:00	2011-06-30
270901	SB-1 5'	soil	2011-06-28	00:00	2011-06-30
270902	SB-1 7'	soil	2011-06-28	00:00	2011-06-30
270903	SB-1 10'	soil	2011-06-28	00:00	2011-06-30
270904	SB-1 15'	soil	2011-06-28	00:00	2011-06-30
270905	SB-1 20'	soil	2011-06-28	00:00	2011-06-30
270906	SB-1 25'	soil	2011-06-28	00:00	2011-06-30
270907	SB-1 30'	soil	2011-06-28	00:00	2011-06-30
270908	SB-2 0-1'	soil	2011-06-28	00:00	2011-06-30
270909	SB-2 3'	soil	2011-06-28	00:00	2011-06-30
270910	SB-2 5'	soil	2011-06-28	00:00	2011-06-30
270911	SB-2 7'	soil	2011-06-28	00:00	2011-06-30
270912	SB-2 10'	soil	2011-06-28	00:00	2011-06-30
270913	SB-2 15'	soil	2011-06-28	00:00	2011-06-30
270914	SB-2 20'	soil	2011-06-28	00:00	2011-06-30
270915	SB-2 25'	soil	2011-06-28	00:00	2011-06-30
270916	SB-2 30'	soil	2011-06-28	00:00	2011-06-30

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
270917	SB-3 0-1'	soil	2011-06-28	00:00	2011-06-30
270918	SB-3 5'	soil	2011-06-28	00:00	2011-06-30
270919	SB-3 7'	soil	2011-06-28	00:00	2011-06-30
270920	SB-3 10'	soil	2011-06-28	00:00	2011-06-30
270921	SB-3 15'	soil	2011-06-28	00:00	2011-06-30
270922	SB-3 20'	soil	2011-06-28	00:00	2011-06-30
270923	SB-3 25'	soil	2011-06-28	00:00	2011-06-30
270924	SB-3 30'	soil	2011-06-28	00:00	2011-06-30
270925	SB-3 3'	soil	2011-06-28	00:00	2011-06-30
270926	SB-4 0-1'	soil	2011-06-29	00:00	2011-06-30
270927	SB-4 3'	soil	2011-06-29	00:00	2011-06-30
270928	SB-4 5'	soil	2011-06-29	00:00	2011-06-30
270929	SB-4 7'	soil	2011-06-29	00:00	2011-06-30
270930	SB-4 10'	soil	2011-06-29	00:00	2011-06-30
270931	SB-4 15'	soil	2011-06-29	00:00	2011-06-30
270932	SB-4 20'	soil	2011-06-29	00:00	2011-06-30
270936	SB-5 0-1'	soil	2011-06-29	00:00	2011-06-30
270937	SB-5 3'	soil	2011-06-29	00:00	2011-06-30
270938	SB-5 5'	soil	2011-06-29	00:00	2011-06-30
270939	SB-5 7'	soil	2011-06-29	00:00	2011-06-30
270940	SB-5 10'	soil	2011-06-29	00:00	2011-06-30
270941	SB-5 15'	soil	2011-06-29	00:00	2011-06-30
270942	SB-5 20'	soil	2011-06-29	00:00	2011-06-30
270943	SB-5 25'	soil	2011-06-29	00:00	2011-06-30
270946	SB-6 0-1'	soil	2011-06-29	00:00	2011-06-30
270947	SB-6 3'	soil	2011-06-29	00:00	2011-06-30
270948	SB-6 5'	soil	2011-06-29	00:00	2011-06-30
270949	SB-6 7'	soil	2011-06-29	00:00	2011-06-30
270950	SB-6 10'	soil	2011-06-29	00:00	2011-06-30
270951	SB-6 15'	soil	2011-06-29	00:00	2011-06-30
270952	SB-6 20'	soil	2011-06-29	00:00	2011-06-30
270953	SB-6 25'	soil	2011-06-29	00:00	2011-06-30

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Report Contents

Case Narrative

Samples for project COG/Folk Federal Tank Battery were received by TraceAnalysis, Inc. on 2011-06-30 and assigned to work order 11070105. Samples for work order 11070105 were received intact at a temperature of 8.0 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	70311	2011-07-06 at 08:36	82892	2011-07-08 at 15:54
Chloride (Titration)	SM 4500-Cl B	70311	2011-07-06 at 08:36	82893	2011-07-08 at 15:55
Chloride (Titration)	SM 4500-Cl B	70311	2011-07-06 at 08:36	82894	2011-07-08 at 15:56
Chloride (Titration)	SM 4500-Cl B	70311	2011-07-06 at 08:36	82895	2011-07-08 at 15:57
Chloride (Titration)	SM 4500-Cl B	70311	2011-07-06 at 08:36	82928	2011-07-11 at 14:05
Chloride (Titration)	SM 4500-Cl B	70604	2011-07-14 at 14:54	83123	2011-07-14 at 15:55

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11070105 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 270899 - SB-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82892	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**4300**	mg/Kg	100	4.00

Sample: 270900 - SB-1 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82892	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**3410**	mg/Kg	100	4.00

Sample: 270901 - SB-1 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82892	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**2380**	mg/Kg	100	4.00

Sample: 270902 - SB-1 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82892	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**3000**	mg/Kg	100	4.00

Sample: 270903 - SB-1 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82892	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**3590**	mg/Kg	100	4.00

Sample: 270904 - SB-1 15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82892	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1540**	mg/Kg	100	4.00

Sample: 270905 - SB-1 20'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82892	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**237**	mg/Kg	50	4.00

Sample: 270906 - SB-1 25'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82892	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			<200	mg/Kg	50	4.00

Sample: 270907 - SB-1 30'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82892	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**207**	mg/Kg	50	4.00

Sample: 270908 - SB-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82892	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**10400**	mg/Kg	100	4.00

Sample: 270909 - SB-2 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82893	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**566**	mg/Kg	50	4.00

Sample: 270910 - SB-2 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82893	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1250**	mg/Kg	100	4.00

Sample: 270911 - SB-2 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82893	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**926**	mg/Kg	100	4.00

Sample: 270912 - SB-2 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82893	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1170**	mg/Kg	100	4.00

Sample: 270913 - SB-2 15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82893	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**343**	mg/Kg	50	4.00

Sample: 270914 - SB-2 20'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82893	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**251**	mg/Kg	50	4.00

Sample: 270915 - SB-2 25'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82893	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			<200	mg/Kg	50	4.00

Sample: 270916 - SB-2 30'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	83123	Date Analyzed:	2011-07-14	Analyzed By:	AR
Prep Batch:	70604	Sample Preparation:	2011-07-14	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**185**	mg/Kg	25	4.00

Sample: 270917 - SB-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82893	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**326**	mg/Kg	50	4.00

Sample: 270918 - SB-3 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82893	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**2710**	mg/Kg	100	4.00

Sample: 270919 - SB-3 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82894	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1760**	mg/Kg	100	4.00

Sample: 270920 - SB-3 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82894	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**675**	mg/Kg	100	4.00

Sample: 270921 - SB-3 15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82894	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**316**	mg/Kg	50	4.00

Sample: 270922 - SB-3 20'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82894	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**268**	mg/Kg	50	4.00

Sample: 270923 - SB-3 25'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82894	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**230**	mg/Kg	50	4.00

Sample: 270924 - SB-3 30'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82894	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**396**	mg/Kg	50	4.00

Sample: 270925 - SB-3 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82894	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**4240**	mg/Kg	100	4.00

Sample: 270926 - SB-4 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82894	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**10000**	mg/Kg	100	4.00

Sample: 270927 - SB-4 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82894	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**5940**	mg/Kg	100	4.00

Sample: 270928 - SB-4 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82894	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1270**	mg/Kg	100	4.00

Sample: 270929 - SB-4 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82895	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**316**	mg/Kg	50	4.00

Sample: 270930 - SB-4 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82895	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**269**	mg/Kg	50	4.00

Sample: 270931 - SB-4 15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82895	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**432**	mg/Kg	50	4.00

Sample: 270932 - SB-4 20'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82895	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**559**	mg/Kg	100	4.00

Sample: 270936 - SB-5 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82895	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**469**	mg/Kg	50	4.00

Sample: 270937 - SB-5 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82895	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**5400**	mg/Kg	100	4.00

Sample: 270938 - SB-5 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82895	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**364**	mg/Kg	50	4.00

Sample: 270939 - SB-5 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82895	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**248**	mg/Kg	50	4.00

Sample: 270940 - SB-5 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82895	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**3770**	mg/Kg	100	4.00

Sample: 270941 - SB-5 15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82895	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**559**	mg/Kg	50	4.00

Sample: 270942 - SB-5 20'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82928	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**549**	mg/Kg	50	4.00

Sample: 270943 - SB-5 25'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82928	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**218**	mg/Kg	50	4.00

Sample: 270946 - SB-6 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82928	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**5060**	mg/Kg	100	4.00

Sample: 270947 - SB-6 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82928	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**10600**	mg/Kg	100	4.00

Sample: 270948 - SB-6 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82928	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**782**	mg/Kg	100	4.00

Sample: 270949 - SB-6 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82928	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**1360**	mg/Kg	100	4.00

Sample: 270950 - SB-6 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82928	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**752**	mg/Kg	100	4.00

Sample: 270951 - SB-6 15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82928	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**247**	mg/Kg	50	4.00

Sample: 270952 - SB-6 20'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82928	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			<200	mg/Kg	50	4.00

Sample: 270953 - SB-6 25'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82928	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**396**	mg/Kg	50	4.00

Method Blanks

Method Blank (1) QC Batch: 82892

QC Batch:	82892	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	QC Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Method Blank (1) QC Batch: 82893

QC Batch:	82893	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	QC Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Method Blank (1) QC Batch: 82894

QC Batch:	82894	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	QC Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Method Blank (1) QC Batch: 82895

QC Batch:	82895	Date Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	QC Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Method Blank (1) QC Batch: 82928

QC Batch:	82928	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	QC Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Method Blank (1) QC Batch: 83123

QC Batch:	83123	Date Analyzed:	2011-07-14	Analyzed By:	AR
Prep Batch:	70604	QC Preparation:	2011-07-14	Prepared By:	AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 82892 Date Analyzed: 2011-07-08 Analyzed By: AR
Prep Batch: 70311 QC Preparation: 2011-07-06 Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			96.3	mg/Kg	1	100	<3.85	96	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			104	mg/Kg	1	100	<3.85	104	85 - 115	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 82893 Date Analyzed: 2011-07-08 Analyzed By: AR
Prep Batch: 70311 QC Preparation: 2011-07-06 Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			97.5	mg/Kg	1	100	<3.85	98	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			108	mg/Kg	1	100	<3.85	108	85 - 115	10	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 82894 Date Analyzed: 2011-07-08 Analyzed By: AR
Prep Batch: 70311 QC Preparation: 2011-07-06 Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			96.7	mg/Kg	1	100	<3.85	97	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			103	mg/Kg	1	100	<3.85	103	85 - 115	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 82895 | Date Analyzed: 2011-07-08 | Analyzed By: AR
Prep Batch: 70311 | QC Preparation: 2011-07-06 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			97.0	mg/Kg	1	100	<3.85	97	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			104	mg/Kg	1	100	<3.85	104	85 - 115	7	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 82928 | Date Analyzed: 2011-07-11 | Analyzed By: AR
Prep Batch: 70311 | QC Preparation: 2011-07-06 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			97.8	mg/Kg	1	100	<3.85	98	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			104	mg/Kg	1	100	<3.85	104	85 - 115	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 83123 | Date Analyzed: 2011-07-14 | Analyzed By: AR
Prep Batch: 70604 | QC Preparation: 2011-07-14 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			98.0	mg/Kg	1	100	<3.85	98	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			102	mg/Kg	1	100	<3.85	102	85 - 115	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 270908

QC Batch: 82892 | Date Analyzed: 2011-07-08 | Analyzed By: AR
Prep Batch: 70311 | QC Preparation: 2011-07-06 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			21400	mg/Kg	100	10000	10400	110	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			22200	mg/Kg	100	10000	10400	118	80 - 120	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 270918

QC Batch: 82893 | Date Analyzed: 2011-07-08 | Analyzed By: AR
Prep Batch: 70311 | QC Preparation: 2011-07-06 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			12200	mg/Kg	100	10000	2710	95	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			12500	mg/Kg	100	10000	2710	98	80 - 120	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 270928

QC Batch: 82894 | Date Analyzed: 2011-07-08 | Analyzed By: AR
Prep Batch: 70311 | QC Preparation: 2011-07-06 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			12400	mg/Kg	100	10000	1270	111	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			12700	mg/Kg	100	10000	1270	114	80 - 120	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 270941

QC Batch: 82895 | Date Analyzed: 2011-07-08 | Analyzed By: AR
Prep Batch: 70311 | QC Preparation: 2011-07-06 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			11500	mg/Kg	100	10000	559	109	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			10800	mg/Kg	100	10000	559	102	80 - 120	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 270953

QC Batch: 82928 | Date Analyzed: 2011-07-11 | Analyzed By: AR
Prep Batch: 70311 | QC Preparation: 2011-07-06 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10800	mg/Kg	100	10000	<385	104	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			11400	mg/Kg	100	10000	<385	110	80 - 120	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 270916

QC Batch: 83123 | Date Analyzed: 2011-07-14 | Analyzed By: AR
Prep Batch: 70604 | QC Preparation: 2011-07-14 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			9930	mg/Kg	100	10000	<385	97	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			10200	mg/Kg	100	10000	<385	100	80 - 120	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Calibration Standards

Standard (ICV-1)

QC Batch: 82892 | Date Analyzed: 2011-07-08 | Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	102	102	85 - 115	2011-07-08

Standard (CCV-1)

QC Batch: 82892 | Date Analyzed: 2011-07-08 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	97.9	98	85 - 115	2011-07-08

Standard (ICV-1)

QC Batch: 82893 | Date Analyzed: 2011-07-08 | Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	94.4	94	85 - 115	2011-07-08

Standard (CCV-1)

QC Batch: 82893 | Date Analyzed: 2011-07-08 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	106	106	85 - 115	2011-07-08

Standard (ICV-1)

QC Batch: 82894 Date Analyzed: 2011-07-08 Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	98.9	99	85 - 115	2011-07-08

Standard (CCV-1)

QC Batch: 82894 Date Analyzed: 2011-07-08 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2011-07-08

Standard (ICV-1)

QC Batch: 82895 Date Analyzed: 2011-07-08 Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.5	100	85 - 115	2011-07-08

Standard (CCV-1)

QC Batch: 82895 Date Analyzed: 2011-07-08 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2011-07-08

Standard (ICV-1)

QC Batch: 82928 Date Analyzed: 2011-07-11 Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	93.9	94	85 - 115	2011-07-11

Standard (CCV-1)

QC Batch: 82928 Date Analyzed: 2011-07-11 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	106	106	85 - 115	2011-07-11

Standard (ICV-1)

QC Batch: 83123 Date Analyzed: 2011-07-14 Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2011-07-14

Standard (CCV-1)

QC Batch: 83123 Date Analyzed: 2011-07-14 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.3	99	85 - 115	2011-07-14

Appendix

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

xwo #: 1107010S

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 6

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-64008 90

PROJECT NAME: COG / Folk Federal TB

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
270899	6/28		S		X	SB-1 0-1'	1				X	
900						3'	1					
901						5'	1					
902						7'	1					
903						10'	1					
904						15'	1					
905						20'	1					
906						25'	1					
907						30'	1					
908						SB-2 0-1'	1					

ANALYSIS REQUEST (Circle or Specify Method No.)

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; Chlorides; Gamma Spec.; Alpha Beta (Air); PLM (Asbestos); Major Anions/Cations, pH, TDS

RELINQUISHED BY: (Signature)	Date: 6/30/11 Time: 1645	RECEIVED BY: (Signature)	Date: 6/30/11 Time: 1645
SAMPLED BY: (Print & Initial) Kim	Date: 6/30/11 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:
TETRA TECH CONTACT PERSON: Ike Tavarez	Results by: RUSH Charges Authorized: Yes No		
RECEIVING LABORATORY: TRACE ADDRESS: CITY: MIDLAND STATE: TX ZIP: CONTACT: PHONE:	RECEIVED BY: (Signature) DATE: TIME:		
SAMPLE CONDITION WHEN RECEIVED: 8.0°c intact	REMARKS: All tests-Midland		

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

XWO #: 11070105

Analysis Request of Chain of Custody Record

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114640089O

PROJECT NAME: COG / Folk Federal TB

Eddy Co., NM

LAB I.D. NUMBER	DATE 2011	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. 8081/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
270908	6/28		S		X	SB-2 3'	1				X													X				
910						5'	1				X													X				
911						7'	1				X													X				
912						10'	1				X													X				
913						15'	1				X													X				
914						20'	1				X													X				
915						25'	1				X													X				
916						30'	1				X													X				
917						SB-3 0-1	1				X													X				
918						5'	1				X													X				

RELINQUISHED BY: (Signature) Date: 6/30/11 Time: 1645

RECEIVED BY: (Signature) Date: 6/30/11 Time: 16:45

SAMPLED BY: (Print & Initial) Kim Date: 6/30/11 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:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RECEIVING LABORATORY: TRACE

ADDRESS:

CITY: MIDLAND STATE: TX ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: TIME:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 8.0°C intact

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.

XWO #: 110701C

Analysis Request of Chain of Custody Record

PAGE: 3 OF: 6

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-64008390

PROJECT NAME: COG / Folk Federal TB
Eddy Co., NM

LAB I.D. NUMBER	DATE 2011	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
27919	6/28		S		X	SB-3 7'	1				X													X				
920						10'	1				X													X				
921						15'	1				X													X				
922						20'	1				X													X				
923						25'	1				X													X				
924						30'	1				X													X				
925						SB-3 3'					X													X				
~~926~~																												
~~927~~																												
~~928~~																												

RELINQUISHED BY: (Signature) Date: 6/30/11 Time: 1645
RECEIVED BY: (Signature) Date: 6/30/11 Time: 1645
SAMPLED BY: (Print & Initial) Kim Date: 6/30/11 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:
TETRA TECH CONTACT PERSON: Ike Tavarez
Results by:

RECEIVING LABORATORY: TRACE
ADDRESS:
CITY: MID CAND STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 8.0°C Intact
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.

Xwo#: 1107105

Analysis Request of Chain of Custody Record

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400890

PROJECT NAME: COG / Folk Federal TB

LAB I.D. NUMBER	DATE 2011	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
927	6/29		S		X	SB-4 0-1'	1				X													X				
928						3'	1																	X				
929						5'	1																	X				
930						7'	1																	X				
931						10'	1																	X				
932						15'	1																	X				
933						20'	1																	X				
934						25'	1																					
935						30'	1																					
						40'	1																					

RELINQUISHED BY: (Signature) — Date: 6/30/11 Time: 1645
RECEIVED BY: (Signature) — Date: 6/30/11 Time: 1645
SAMPLED BY: (Print & Initial) Kim — Date: 6/30/11 Time:

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

RELINQUISHED BY: (Signature) — Date: Time:
RECEIVED BY: (Signature) — Date: Time:
TETRA TECH CONTACT PERSON: Ike Tavarez
Results by:

RECEIVING LABORATORY: TRACE
ADDRESS:
CITY: MIDLAND STATE: TX ZIP:
CONTACT: PHONE: DATE: TIME:
RECEIVED BY: (Signature)
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 8.0°C Intact

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.

Xwo #: 11070105

Analysis Request of Chain of Custody Record

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114400890

PROJECT NAME: COG / Folk Federal TB
Eddy Co., NM

LAB I.D. NUMBER	DATE 2011	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
270936	6/29		S		X	SB-5 0-1'	1				X													X				
937						3'	1																	X				
938						5'	1																	X				
939						7'	1																	X				
940						10'	1																	X				
941						15'	1																	X				
942						20'	1																	X				
943						25'	1																	X				
944						30'	1																					
945						40'	1																					

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature) Date: 6/30/11 Time: 1645
RECEIVED BY: (Signature) Date: 6/30/11 Time: 1645
SAMPLED BY: (Print & Initial) Kim Date: 6/30/11 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:
TETRA TECH CONTACT PERSON: Ike Tavarez
Results by:

RECEIVING LABORATORY: TRACE
ADDRESS:
CITY: MIDLAND STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 8.0°c intact
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.

*WO #: 11070105

Analysis Request of Chain of Custody Record

PAGE: 6 OF: 6

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400890

PROJECT NAME: COG / Folk Federal TB
Eddy Co., NM

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
947	6/29		S		X	SB-6 0-1'	1				X	
948						3'	1					
949						5'	1					
950						7'	1					
951						10'	1					
952						15'	1					
953						20'	1					
954						25'	1					
756						30'	1					
						40'	1					

ANALYSIS REQUEST (Circle or Specify Method No.)

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. 806/608; Chloride; Gamma Spec.; Alpha Beta (Air); PLM (Asbestos); Major Anions/Cations, pH, TDS

RELINQUISHED BY: (Signature)	Date: 6/30/11 Time: 1645	RECEIVED BY: (Signature)	Date: 6/30/11 Time: 16:45
SAMPLED BY: (Print & Initial) Kim	Date: 6/30/11 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: TRACE 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: 8.0°c iAA cl

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.

Summary Report

Ike Tavarez
Tetra Tech
1910 N. Big Spring Street
Midland, TX 79705

Report Date: June 1, 2011

Work Order: 11051609

Project Location: Eddy Co., NM
Project Name: COG/Folk Federal Tank Battery
Project Number: 114-6400890

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
266551	AH-1 0-0.5'	soil	2011-05-11	00:00	2011-05-16
266552	AH2 0-0.5'	soil	2011-05-11	00:00	2011-05-16
266553	AH-3 0-1'	soil	2011-05-11	00:00	2011-05-16
266554	AH-3 1-1.5'	soil	2011-05-11	00:00	2011-05-16
266555	AH-3 2-2.5'	soil	2011-05-11	00:00	2011-05-16
266556	AH-4 0-1'	soil	2011-05-11	00:00	2011-05-16
266557	AH-5 0-1'	soil	2011-05-11	00:00	2011-05-16
266558	AH-6 0-1'	soil	2011-05-11	00:00	2011-05-16
266559	AH-7 0-1'	soil	2011-05-11	00:00	2011-05-16
266560	AH-7 1-1.5'	soil	2011-05-11	00:00	2011-05-16
266561	AH-7 2-2.5'	soil	2011-05-11	00:00	2011-05-16
266562	AH-7 2.5-3'	soil	2011-05-11	00:00	2011-05-16
266563	AH-8 0-1'	soil	2011-05-11	00:00	2011-05-16
266564	AH-8 1-1.5'	soil	2011-05-11	00:00	2011-05-16
266565	AH-8 2-2.5'	soil	2011-05-11	00:00	2011-05-16

	BTEX				TPH DRO - NEW	TPH GRO
	Benzene	Toluene	Ethylbenzene	Xylene	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
266551 - AH-1 0-0.5'	<0.0200	**0.133**	<0.0200	<0.0200	<50.0	**3.58**
266552 - AH2 0-0.5'					<50.0	<2.00
266553 - AH-3 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	**3.44**
266556 - AH-4 0-1'	<0.100	<0.100	<0.100	<0.100	**473**	**56.3**
266557 - AH-5 0-1'					<50.0	<2.00
266558 - AH-6 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
266559 - AH-7 0-1'					<50.0	<2.00
266563 - AH-8 0-1'					<50.0	<2.00

Sample: 266551 - AH-1 0-0.5'

Param	Flag	Result	Units	RL
Chloride		**12400**	mg/Kg	4

Sample: 266552 - AH2 0-0.5'

Param	Flag	Result	Units	RL
Chloride		**19900**	mg/Kg	4

Sample: 266553 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**8590**	mg/Kg	4

Sample: 266554 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**8260**	mg/Kg	4

Sample: 266555 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**3540**	mg/Kg	4

Sample: 266556 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**1060**	mg/Kg	4

Sample: 266557 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		**2870**	mg/Kg	4

Sample: 266558 - AH-6 0-1'

Param	Flag	Result	Units	RL
Chloride		**9950**	mg/Kg	4

Sample: 266559 - AH-7 0-1'

Param	Flag	Result	Units	RL
Chloride		**6710**	mg/Kg	4

Sample: 266560 - AH-7 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**5530**	mg/Kg	4

Sample: 266561 - AH-7 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**261**	mg/Kg	4

Sample: 266562 - AH-7 2.5-3'

Param	Flag	Result	Units	RL
Chloride		**1140**	mg/Kg	4

Sample: 266563 - AH-8 0-1'

Param	Flag	Result	Units	RL
Chloride		**8790**	mg/Kg	4

Sample: 266564 - AH-8 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**7650**	mg/Kg	4

Sample: 266565 - AH-8 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**15400**	mg/Kg	4

TRACEANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Ike Tavarez
Tetra Tech
1910 N. Big Spring Street
Midland, TX, 79705

Report Date: June 1, 2011

Work Order: 11051609

Project Location: Eddy Co., NM
Project Name: COG/Folk Federal Tank Battery
Project Number: 114-6400890

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
266551	AH-1 0-0.5'	soil	2011-05-11	00:00	2011-05-16
266552	AH2 0-0.5'	soil	2011-05-11	00:00	2011-05-16
266553	AH-3 0-1'	soil	2011-05-11	00:00	2011-05-16
266554	AH-3 1-1.5'	soil	2011-05-11	00:00	2011-05-16
266555	AH-3 2-2.5'	soil	2011-05-11	00:00	2011-05-16
266556	AH-4 0-1'	soil	2011-05-11	00:00	2011-05-16
266557	AH-5 0-1'	soil	2011-05-11	00:00	2011-05-16
266558	AH-6 0-1'	soil	2011-05-11	00:00	2011-05-16
266559	AH-7 0-1'	soil	2011-05-11	00:00	2011-05-16
266560	AH-7 1-1.5'	soil	2011-05-11	00:00	2011-05-16
266561	AH-7 2-2.5'	soil	2011-05-11	00:00	2011-05-16
266562	AH-7 2.5-3'	soil	2011-05-11	00:00	2011-05-16
266563	AH-8 0-1'	soil	2011-05-11	00:00	2011-05-16
266564	AH-8 1-1.5'	soil	2011-05-11	00:00	2011-05-16
266565	AH-8 2-2.5'	soil	2011-05-11	00:00	2011-05-16

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 29 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Report Contents

Case Narrative

Samples for project COG/Folk Federal Tank Battery were received by TraceAnalysis, Inc. on 2011-05-16 and assigned to work order 11051609. Samples for work order 11051609 were received intact at a temperature of 3.5 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	69052	2011-05-17 at 12:30	81336	2011-05-17 at 12:55
Chloride (Titration)	SM 4500-Cl B	69151	2011-05-20 at 10:57	81652	2011-05-26 at 14:23
Chloride (Titration)	SM 4500-Cl B	69151	2011-05-20 at 10:57	81653	2011-05-26 at 14:24
TPH DRO - NEW	S 8015 D	69091	2011-05-18 at 09:14	81382	2011-05-18 at 09:14
TPH GRO	S 8015 D	69052	2011-05-17 at 12:30	81337	2011-05-17 at 15:12

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11051609 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 266551 - AH-1 0-0.5'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	81336	Date Analyzed:	2011-05-17	Analyzed By:	ME
Prep Batch:	69052	Sample Preparation:	2011-05-17	Prepared By:	ME

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene		1	<0.0200	mg/Kg	1	0.0200
Toluene		1	**0.133**	mg/Kg	1	0.0200
Ethylbenzene		1	<0.0200	mg/Kg	1	0.0200
Xylene		1	<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.56	mg/Kg	1	2.00	128	52.8 - 137
4-Bromofluorobenzene (4-BFB)			2.81	mg/Kg	1	2.00	140	38.4 - 157

Sample: 266551 - AH-1 0-0.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	81652	Date Analyzed:	2011-05-26	Analyzed By:	AR
Prep Batch:	69151	Sample Preparation:	2011-05-20	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**12400**	mg/Kg	100	4.00

Sample: 266551 - AH-1 0-0.5'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	81382	Date Analyzed:	2011-05-18	Analyzed By:	kg
Prep Batch:	69091	Sample Preparation:	2011-05-18	Prepared By:	kg

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
DRO		1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			102	mg/Kg	1	100	102	70 - 130

Sample: 266551 - AH-1 0-0.5'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	81337	Date Analyzed:	2011-05-17	Analyzed By:	ME
Prep Batch:	69052	Sample Preparation:	2011-05-17	Prepared By:	ME

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
GRO		1	**3.58**		mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.90	mg/Kg	1	2.00	145	48.5 - 152
4-Bromofluorobenzene (4-BFB)			3.02	mg/Kg	1	2.00	151	42 - 159

Sample: 266552 - AH2 0-0.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	81652	Date Analyzed:	2011-05-26	Analyzed By:	AR
Prep Batch:	69151	Sample Preparation:	2011-05-20	Prepared By:	AR

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Chloride			**19900**		mg/Kg	100	4.00

Sample: 266552 - AH2 0-0.5'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	81382	Date Analyzed:	2011-05-18	Analyzed By:	kg
Prep Batch:	69091	Sample Preparation:	2011-05-18	Prepared By:	kg

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
DRO		1	<50.0		mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			87.5	mg/Kg	1	100	88	70 - 130

Sample: 266552 - AH2 0-0.5'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	81337	Date Analyzed:	2011-05-17	Analyzed By:	ME
Prep Batch:	69052	Sample Preparation:	2011-05-17	Prepared By:	ME

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	<2.00	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.65	mg/Kg	1	2.00	132	48.5 - 152
4-Bromofluorobenzene (4-BFB)			2.68	mg/Kg	1	2.00	134	42 - 159

Sample: 266553 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	81336	Date Analyzed:	2011-05-17	Analyzed By:	ME
Prep Batch:	69052	Sample Preparation:	2011-05-17	Prepared By:	ME

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	<0.0200	mg/Kg	1	0.0200
Toluene		1	<0.0200	mg/Kg	1	0.0200
Ethylbenzene		1	<0.0200	mg/Kg	1	0.0200
Xylene		1	<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.44	mg/Kg	1	2.00	122	52.8 - 137
4-Bromofluorobenzene (4-BFB)			2.65	mg/Kg	1	2.00	132	38.4 - 157

Sample: 266553 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	81652	Date Analyzed:	2011-05-26	Analyzed By:	AR
Prep Batch:	69151	Sample Preparation:	2011-05-20	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**8590**	mg/Kg	100	4.00

Sample: 266553 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	81382	Date Analyzed:	2011-05-18	Analyzed By:	kg
Prep Batch:	69091	Sample Preparation:	2011-05-18	Prepared By:	kg

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			87.5	mg/Kg	1	100	88	70 - 130

Sample: 266553 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	81337	Date Analyzed:	2011-05-17	Analyzed By:	ME
Prep Batch:	69052	Sample Preparation:	2011-05-17	Prepared By:	ME

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**3.44**	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.76	mg/Kg	1	2.00	138	48.5 - 152
4-Bromofluorobenzene (4-BFB)			2.97	mg/Kg	1	2.00	148	42 - 159

Sample: 266554 - AH-3 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	81652	Date Analyzed:	2011-05-26	Analyzed By:	AR
Prep Batch:	69151	Sample Preparation:	2011-05-20	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**8260**	mg/Kg	100	4.00

Sample: 266555 - AH-3 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	81652	Date Analyzed:	2011-05-26	Analyzed By:	AR
Prep Batch:	69151	Sample Preparation:	2011-05-20	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**3540**	mg/Kg	100	4.00

Sample: 266556 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	81336	Date Analyzed:	2011-05-17	Analyzed By:	ME
Prep Batch:	69052	Sample Preparation:	2011-05-17	Prepared By:	ME

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene		1	<0.100	mg/Kg	5	0.0200
Toluene		1	<0.100	mg/Kg	5	0.0200
Ethylbenzene		1	<0.100	mg/Kg	5	0.0200
Xylene		1	<0.100	mg/Kg	5	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			5.90	mg/Kg	5	5.00	118	52.8 - 137
4-Bromofluorobenzene (4-BFB)			6.54	mg/Kg	5	5.00	131	38.4 - 157

Sample: 266556 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	81652	Date Analyzed:	2011-05-26	Analyzed By:	AR
Prep Batch:	69151	Sample Preparation:	2011-05-20	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1060**	mg/Kg	100	4.00

Sample: 266556 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	81382	Date Analyzed:	2011-05-18	Analyzed By:	kg
Prep Batch:	69091	Sample Preparation:	2011-05-18	Prepared By:	kg

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	**473**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			175	mg/Kg	1	100	175	70 - 130

Sample: 266556 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	81337	Date Analyzed:	2011-05-17	Analyzed By:	ME
Prep Batch:	69052	Sample Preparation:	2011-05-17	Prepared By:	ME

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**56.3**	mg/Kg	5	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			6.69	mg/Kg	5	5.00	134	48.5 - 152
4-Bromofluorobenzene (4-BFB)			6.76	mg/Kg	5	5.00	135	42 - 159

Sample: 266557 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	81652	Date Analyzed:	2011-05-26	Analyzed By:	AR
Prep Batch:	69151	Sample Preparation:	2011-05-20	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**2870**	mg/Kg	100	4.00

Sample: 266557 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	81382	Date Analyzed:	2011-05-18	Analyzed By:	kg
Prep Batch:	69091	Sample Preparation:	2011-05-18	Prepared By:	kg

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
DRO		1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			89.8	mg/Kg	1	100	90	70 - 130

Sample: 266557 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	81337	Date Analyzed:	2011-05-17	Analyzed By:	ME
Prep Batch:	69052	Sample Preparation:	2011-05-17	Prepared By:	ME

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
GRO		1	<2.00	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.61	mg/Kg	1	2.00	130	48.5 - 152
4-Bromofluorobenzene (4-BFB)			2.62	mg/Kg	1	2.00	131	42 - 159

Sample: 266558 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	81336	Date Analyzed:	2011-05-17	Analyzed By:	ME
Prep Batch:	69052	Sample Preparation:	2011-05-17	Prepared By:	ME

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	<0.0200	mg/Kg	1	0.0200
Toluene		1	<0.0200	mg/Kg	1	0.0200
Ethylbenzene		1	<0.0200	mg/Kg	1	0.0200
Xylene		1	<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.43	mg/Kg	1	2.00	122	52.8 - 137
4-Bromofluorobenzene (4-BFB)			2.62	mg/Kg	1	2.00	131	38.4 - 157

Sample: 266558 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	81652	Date Analyzed:	2011-05-26	Analyzed By:	AR
Prep Batch:	69151	Sample Preparation:	2011-05-20	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**9950**	mg/Kg	100	4.00

Sample: 266558 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	81382	Date Analyzed:	2011-05-18	Analyzed By:	kg
Prep Batch:	69091	Sample Preparation:	2011-05-18	Prepared By:	kg

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			87.7	mg/Kg	1	100	88	70 - 130

Sample: 266558 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	81337	Date Analyzed:	2011-05-17	Analyzed By:	ME
Prep Batch:	69052	Sample Preparation:	2011-05-17	Prepared By:	ME

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	<2.00	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.75	mg/Kg	1	2.00	138	48.5 - 152
4-Bromofluorobenzene (4-BFB)			2.73	mg/Kg	1	2.00	136	42 - 159

Sample: 266559 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	81652	Date Analyzed:	2011-05-26	Analyzed By:	AR
Prep Batch:	69151	Sample Preparation:	2011-05-20	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**6710**	mg/Kg	100	4.00

Sample: 266559 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	81382	Date Analyzed:	2011-05-18	Analyzed By:	kg
Prep Batch:	69091	Sample Preparation:	2011-05-18	Prepared By:	kg

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			89.2	mg/Kg	1	100	89	70 - 130

Sample: 266559 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	81337	Date Analyzed:	2011-05-17	Analyzed By:	ME
Prep Batch:	69052	Sample Preparation:	2011-05-17	Prepared By:	ME

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	<2.00	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.76	mg/Kg	1	2.00	138	48.5 - 152
4-Bromofluorobenzene (4-BFB)			2.73	mg/Kg	1	2.00	136	42 - 159

Sample: 266560 - AH-7 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	81652	Date Analyzed:	2011-05-26	Analyzed By:	AR
Prep Batch:	69151	Sample Preparation:	2011-05-20	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**5530**	mg/Kg	100	4.00

Sample: 266561 - AH-7 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	81653	Date Analyzed:	2011-05-26	Analyzed By:	AR
Prep Batch:	69151	Sample Preparation:	2011-05-20	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**261**	mg/Kg	50	4.00

Sample: 266562 - AH-7 2.5-3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	81653	Date Analyzed:	2011-05-26	Analyzed By:	AR
Prep Batch:	69151	Sample Preparation:	2011-05-20	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1140**	mg/Kg	100	4.00

Sample: 266563 - AH-8 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	81653	Date Analyzed:	2011-05-26	Analyzed By:	AR
Prep Batch:	69151	Sample Preparation:	2011-05-20	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**8790**	mg/Kg	100	4.00

Sample: 266563 - AH-8 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	81382	Date Analyzed:	2011-05-18	Analyzed By:	kg
Prep Batch:	69091	Sample Preparation:	2011-05-18	Prepared By:	kg

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			91.8	mg/Kg	1	100	92	70 - 130

Sample: 266563 - AH-8 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	81337	Date Analyzed:	2011-05-17	Analyzed By:	ME
Prep Batch:	69052	Sample Preparation:	2011-05-17	Prepared By:	ME

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	<2.00	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.65	mg/Kg	1	2.00	132	48.5 - 152
4-Bromofluorobenzene (4-BFB)			2.58	mg/Kg	1	2.00	129	42 - 159

Sample: 266564 - AH-8 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	81653	Date Analyzed:	2011-05-26	Analyzed By:	AR
Prep Batch:	69151	Sample Preparation:	2011-05-20	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**7650**	mg/Kg	100	4.00

Sample: 266565 - AH-8 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	81653	Date Analyzed:	2011-05-26	Analyzed By:	AR
Prep Batch:	69151	Sample Preparation:	2011-05-20	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**15400**	mg/Kg	100	4.00

Method Blanks

Method Blank (1) QC Batch: 81336

QC Batch: 81336 | Date Analyzed: 2011-05-17 | Analyzed By: ME
Prep Batch: 69052 | QC Preparation: 2011-05-17 | Prepared By: AG

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.0118	mg/Kg	0.02
Toluene		1	<0.00600	mg/Kg	0.02
Ethylbenzene		1	<0.00850	mg/Kg	0.02
Xylene		1	<0.00613	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.90	mg/Kg	1	2.00	95	66.6 - 122
4-Bromofluorobenzene (4-BFB)			1.91	mg/Kg	1	2.00	96	55.4 - 124

Method Blank (1) QC Batch: 81337

QC Batch: 81337 | Date Analyzed: 2011-05-17 | Analyzed By: ME
Prep Batch: 69052 | QC Preparation: 2011-05-17 | Prepared By: AG

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<0.753	mg/Kg	2

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.19	mg/Kg	1	2.00	110	67.6 - 150
4-Bromofluorobenzene (4-BFB)			2.02	mg/Kg	1	2.00	101	52.4 - 130

Method Blank (1) QC Batch: 81382

QC Batch: 81382 | Date Analyzed: 2011-05-18 | Analyzed By: kg
Prep Batch: 69091 | QC Preparation: 2011-05-18 | Prepared By: kg

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	<15.7	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			107	mg/Kg	1	100	107	70 - 130

Method Blank (1) QC Batch: 81652

QC Batch:	81652	Date Analyzed:	2011-05-26	Analyzed By:	AR
Prep Batch:	69151	QC Preparation:	2011-05-20	Prepared By:	AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Method Blank (1) QC Batch: 81653

QC Batch:	81653	Date Analyzed:	2011-05-26	Analyzed By:	AR
Prep Batch:	69151	QC Preparation:	2011-05-20	Prepared By:	AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 81336 | Date Analyzed: 2011-05-17 | Analyzed By: ME
Prep Batch: 69052 | QC Preparation: 2011-05-17 | Prepared By: AG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.78	mg/Kg	1	2.00	<0.0118	89	81.9 - 108
Toluene		1	2.01	mg/Kg	1	2.00	<0.00600	100	81.9 - 118
Ethylbenzene		1	1.77	mg/Kg	1	2.00	<0.00850	88	78.4 - 115
Xylene		1	5.28	mg/Kg	1	6.00	<0.00613	88	79.1 - 116

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.05	mg/Kg	1	2.00	<0.0118	102	81.9 - 108	14	20
Toluene		1	2.28	mg/Kg	1	2.00	<0.00600	114	81.9 - 118	13	20
Ethylbenzene		1	1.97	mg/Kg	1	2.00	<0.00850	98	78.4 - 115	11	20
Xylene		1	5.89	mg/Kg	1	6.00	<0.00613	98	79.1 - 116	11	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.72	1.77	mg/Kg	1	2.00	86	88	70.2 - 114
4-Bromofluorobenzene (4-BFB)	1.82	1.84	mg/Kg	1	2.00	91	92	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 81337 | Date Analyzed: 2011-05-17 | Analyzed By: ME
Prep Batch: 69052 | QC Preparation: 2011-05-17 | Prepared By: AG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	16.8	mg/Kg	1	20.0	<0.753	84	60.9 - 95.4

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

continued ...

control spikes continued ...

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	17.6	mg/Kg	1	20.0	<0.753	88	60.9 - 95.4	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.04	2.19	mg/Kg	1	2.00	102	110	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.96	2.10	mg/Kg	1	2.00	98	105	68.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 81382 | Date Analyzed: 2011-05-18 | Analyzed By: kg
Prep Batch: 69091 | QC Preparation: 2011-05-18 | Prepared By: kg

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	238	mg/Kg	1	250	<15.7	95	47.5 - 144.1

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	221	mg/Kg	1	250	<15.7	88	47.5 - 144.1	7	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	111	112	mg/Kg	1	100	111	112	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 81652 | Date Analyzed: 2011-05-26 | Analyzed By: AR
Prep Batch: 69151 | QC Preparation: 2011-05-20 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			97.4	mg/Kg	1	100	<3.85	97	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			104	mg/Kg	1	100	<3.85	104	85 - 115	7	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 81653 | Date Analyzed: 2011-05-26 | Analyzed By: AR
Prep Batch: 69151 | QC Preparation: 2011-05-20 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			95.7	mg/Kg	1	100	<3.85	96	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			105	mg/Kg	1	100	<3.85	105	85 - 115	9	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 266604

QC Batch: 81336 | Date Analyzed: 2011-05-17 | Analyzed By: ME
Prep Batch: 69052 | QC Preparation: 2011-05-17 | Prepared By: AG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.97	mg/Kg	1	2.00	<0.0118	98	80.5 - 112
Toluene		1	2.25	mg/Kg	1	2.00	<0.00600	112	82.4 - 113
Ethylbenzene		1	1.98	mg/Kg	1	2.00	0.1103	93	83.9 - 114
Xylene		1	5.78	mg/Kg	1	6.00	0.3528	90	84 - 114

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.96	mg/Kg	1	2.00	<0.0118	98	80.5 - 112	0	20
Toluene		1	2.21	mg/Kg	1	2.00	<0.00600	110	82.4 - 113	2	20
Ethylbenzene		1	1.99	mg/Kg	1	2.00	0.1103	94	83.9 - 114	0	20
Xylene		1	5.83	mg/Kg	1	6.00	0.3528	91	84 - 114	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.15	2.51	mg/Kg	1	2	108	126	41.3 - 117
4-Bromofluorobenzene (4-BFB)	2.50	2.80	mg/Kg	1	2	125	140	35.5 - 129

Matrix Spike (MS-1) Spiked Sample: 266558

QC Batch: 81337 | Date Analyzed: 2011-05-17 | Analyzed By: ME
Prep Batch: 69052 | QC Preparation: 2011-05-17 | Prepared By: AG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	22.2	mg/Kg	1	20.0	<0.753	111	61.8 - 114

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	20.5	mg/Kg	1	20.0	<0.753	102	61.8 - 114	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.69	2.63	mg/Kg	1	2	134	132	50 - 162
4-Bromofluorobenzene (4-BFB)	2.83	2.76	mg/Kg	1	2	142	138	50 - 162

Matrix Spike (MS-1) Spiked Sample: 266559

QC Batch: 81382 | Date Analyzed: 2011-05-18 | Analyzed By: kg
Prep Batch: 69091 | QC Preparation: 2011-05-18 | Prepared By: kg

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	214	mg/Kg	1	250	<15.7	86	11.7 - 152.3

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	207	mg/Kg	1	250	<15.7	83	11.7 - 152.3	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	105	103	mg/Kg	1	100	105	103	70 - 130

Matrix Spike (MS-1) Spiked Sample: 266560

QC Batch: 81652 | Date Analyzed: 2011-05-26 | Analyzed By: AR
Prep Batch: 69151 | QC Preparation: 2011-05-20 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			14400	mg/Kg	100	10000	5530	89	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			15100	mg/Kg	100	10000	5530	96	80 - 120	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 266565

QC Batch: 81653 | Date Analyzed: 2011-05-26 | Analyzed By: AR
Prep Batch: 69151 | QC Preparation: 2011-05-20 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			24800	mg/Kg	100	10000	15400	94	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			25400	mg/Kg	100	10000	15400	100	80 - 120	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Calibration Standards

Standard (CCV-1)

QC Batch: 81336 | Date Analyzed: 2011-05-17 | Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.0954	95	80 - 120	2011-05-17
Toluene		1	mg/Kg	0.100	0.107	107	80 - 120	2011-05-17
Ethylbenzene		1	mg/Kg	0.100	0.0935	94	80 - 120	2011-05-17
Xylene		1	mg/Kg	0.300	0.279	93	80 - 120	2011-05-17

Standard (CCV-2)

QC Batch: 81336 | Date Analyzed: 2011-05-17 | Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.0958	96	80 - 120	2011-05-17
Toluene		1	mg/Kg	0.100	0.106	106	80 - 120	2011-05-17
Ethylbenzene		1	mg/Kg	0.100	0.0910	91	80 - 120	2011-05-17
Xylene		1	mg/Kg	0.300	0.275	92	80 - 120	2011-05-17

Standard (CCV-3)

QC Batch: 81336 | Date Analyzed: 2011-05-17 | Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.0915	92	80 - 120	2011-05-17
Toluene		1	mg/Kg	0.100	0.101	101	80 - 120	2011-05-17
Ethylbenzene		1	mg/Kg	0.100	0.0879	88	80 - 120	2011-05-17
Xylene		1	mg/Kg	0.300	0.262	87	80 - 120	2011-05-17

Standard (CCV-1)

QC Batch: 81337 Date Analyzed: 2011-05-17 Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.18	118	80 - 120	2011-05-17

Standard (CCV-2)

QC Batch: 81337 Date Analyzed: 2011-05-17 Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.11	111	80 - 120	2011-05-17

Standard (CCV-3)

QC Batch: 81337 Date Analyzed: 2011-05-17 Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.16	116	80 - 120	2011-05-17

Standard (CCV-1)

QC Batch: 81382 Date Analyzed: 2011-05-18 Analyzed By: kg

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	219	88	80 - 120	2011-05-18

Standard (CCV-2)

QC Batch: 81382 Date Analyzed: 2011-05-18 Analyzed By: kg

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	266	106	80 - 120	2011-05-18

Standard (CCV-3)

QC Batch: 81382 Date Analyzed: 2011-05-18 Analyzed By: kg

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	268	107	80 - 120	2011-05-18

Standard (ICV-1)

QC Batch: 81652 Date Analyzed: 2011-05-26 Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.9	100	85 - 115	2011-05-26

Standard (CCV-1)

QC Batch: 81652 Date Analyzed: 2011-05-26 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2011-05-26

Standard (ICV-1)

QC Batch: 81653 Date Analyzed: 2011-05-26 Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	95.6	96	85 - 115	2011-05-26

Standard (CCV-1)

QC Batch: 81653 Date Analyzed: 2011-05-26 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	104	104	85 - 115	2011-05-26

Appendix

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-10-TX	Midland

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

XWO #: 1105609

Analysis Request of Chain of Custody Record

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

PAGE: 1 OF: 2

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400890

PROJECT NAME: Folk Federal Tank Battery
Eddy Co NM

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH TX1005 (Ext. to C35)	TPH 8015 MOD	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. 8081/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
260551	5/11		S		X	AH-1 0-0.5'	1				X			X	X											X				
552						AH-2 0-0.5'									X											X				
553						AH-3 0-1'									X											X				
554						AH-3 1-1.5'																				X				
555						AH-3 2-2.5'																				X				
556						AH-4 0-1'									X											X				
557						AH-5 0-1'									X											X				
558						AH-6 0-1'									X											X				
559						AH-7 0-1'									X											X				
560						AH-7 1-1.5'																				X				

RELINQUISHED BY: (Signature)	Date: May 16, 2011 Time: 0935	RECEIVED BY: (Signature)	Date: 5/16/11 Time: 9:35
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:

SAMPLED BY: (Print & Initial) KD TF — Date: 5-11-11 Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS — AIRBILL #: — OTHER:

RECEIVING LABORATORY: Trace
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: 3.5°C intact

REMARKS: If total TPH > 5,000 Run deeper sample

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

Run BTEX on 4 highest TPH

XWO #: 1105609

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 2

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400890

PROJECT NAME: Folk Federal Tank Battery
Eddy Co NM

LAB I.D. NUMBER	DATE 2011	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
266561	5/11		S		X	AH-7 2-2.5'	1				X													X				
562						AH-7 2.5-3'																		X				
563						AH-8 0-1'								X										X				
564						AH-8 1-1.5'																		X				
565						AH-8 2-2.5'																		X				

RELINQUISHED BY: (Signature) Gilbert Kindley	Date: May 16, 2011 Time: 935	RECEIVED BY: (Signature)	Date: 5/17/11 Time: 9:35
SAMPLED BY: (Print & Initial) RO TF	Date: 5-11-11 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:
TETRA TECH CONTACT PERSON: Ike Tavarez	Results by: RUSH Charges Authorized: Yes No		
RECEIVING LABORATORY: Trace ADDRESS: CITY: Midland STATE: TX ZIP: CONTACT: PHONE:	RECEIVED BY: (Signature) DATE: TIME:		
SAMPLE CONDITION WHEN RECEIVED: 3.5°C intact	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.

Run BTEX on 4 highest TPH