SITE INFORMATION

Report Type: Work Plan

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
Type Release:	Produced Water
Source of Contamination:	Tank overflowed
Fluid Released:	180 bbls
Fluids Recovered:	160 bbls

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	
>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

May 1, 2012

Mr. Mike Bratcher
Environmental Engineer Specialist
Oil Conservation Division, District 2
1301 West Grand Avenue
Artesia, New Mexico 88210

Re: Work Plan 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.

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 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.

Work Plan

COG proposes to removal of impacted material as highlighted (green) in Table 1 and shown on Figure 4. As stated in the previous work plan, COG proposed the area of AH-1 be excavated to a depth of 3.0' to 4.0' and the bottom of the excavation capped with a 40 mil liner. In the areas of AH-4 and AH-5 (lease road), a surficial scrape will be performed due to the road activity and proximity of the Agave Pipeline and Transwestern Pipeline, which is a safety concern. AH-2 will be scraped approximately 1.0' and the remaining areas of AH-3, AH-6, AH-7 and AH-8 will be excavated to a depth of approximately 3.0' to 5.0' below surface.

The goal of the remediation is to establish surface growth and to reduce the environmental liabilities for the protection of the groundwater. Based on location of spill, 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 active 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

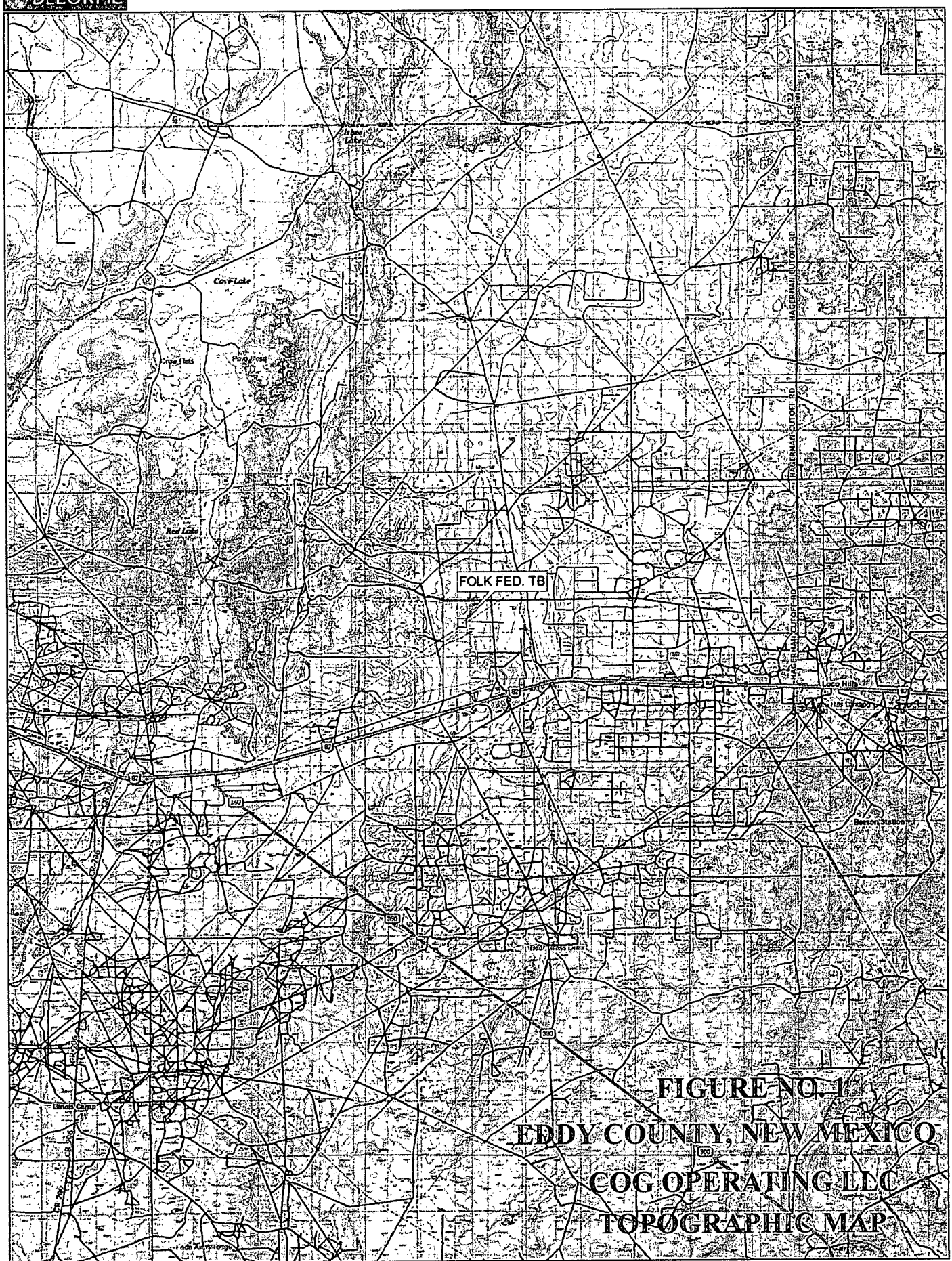


FIGURE NO. 1

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

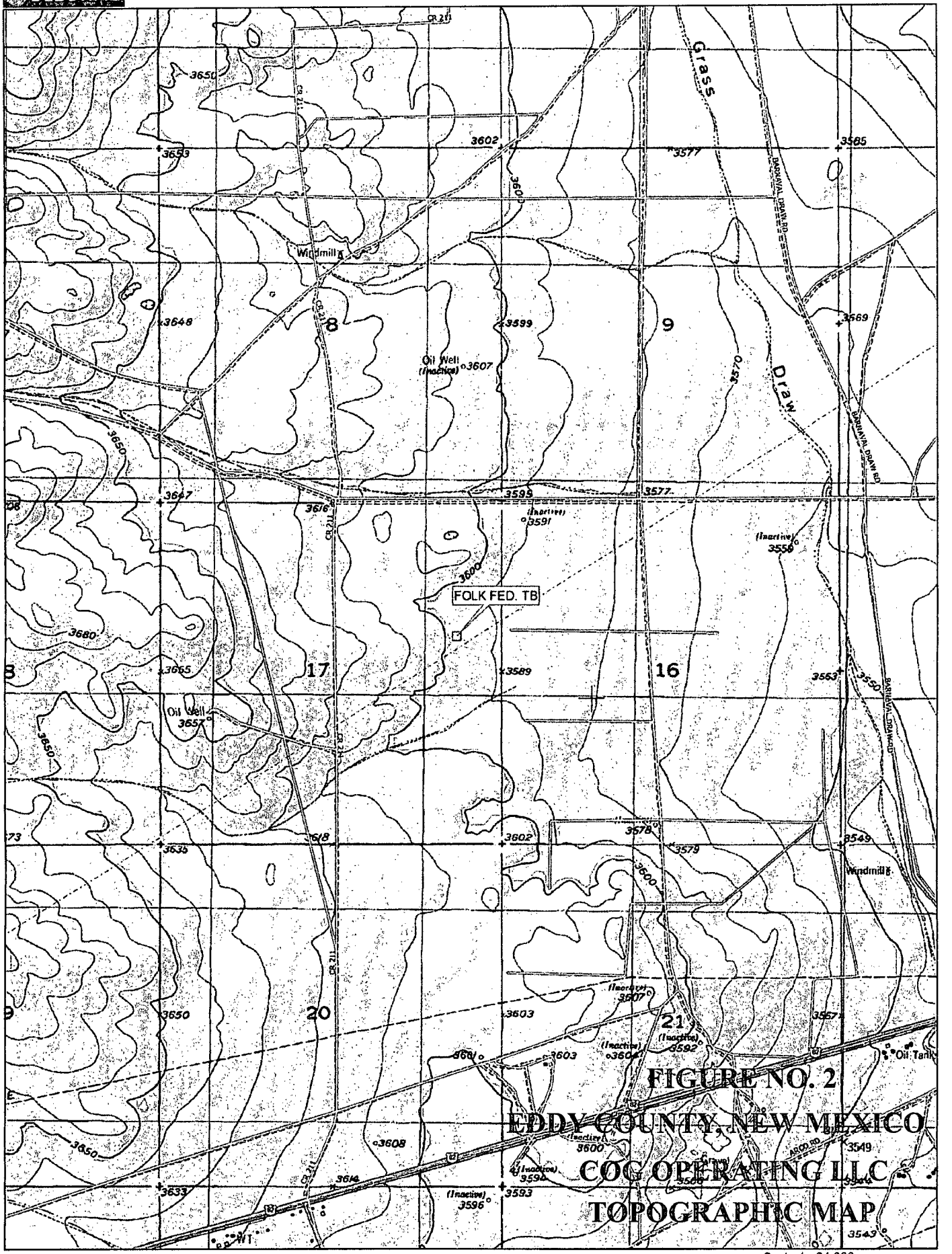


FIGURE NO. 2
EDDY COUNTY, NEW MEXICO
COG OPERATING LLC
TOPOGRAPHIC MAP

TN
MN (7.9°E)

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

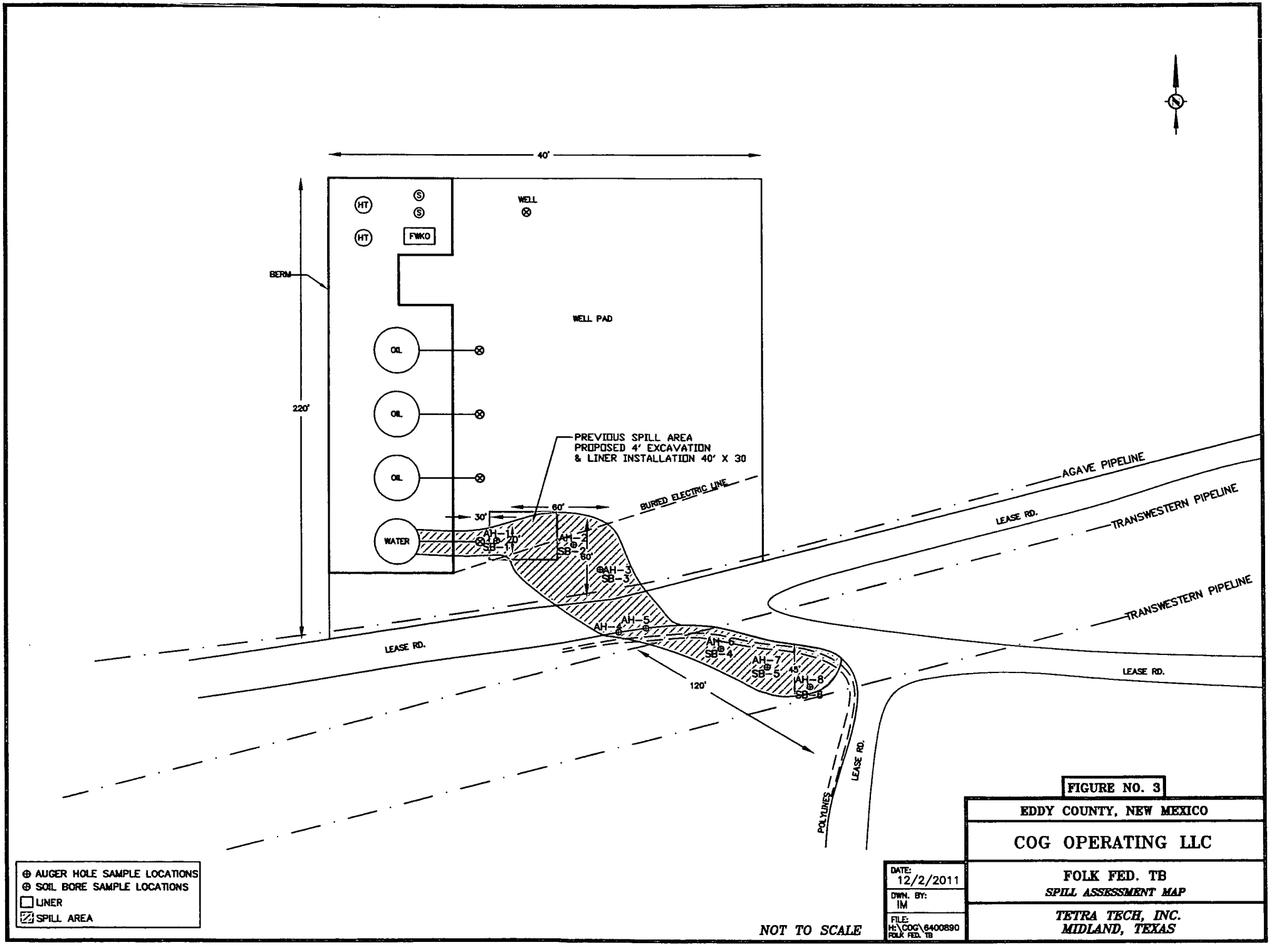


FIGURE NO. 3

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

FOLK FED. TB

SPILL ASSESSMENT MAP

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 12/2/2011
DWN. BY: IM
FILE: H:\COG\6400890 FOLK FED. TB

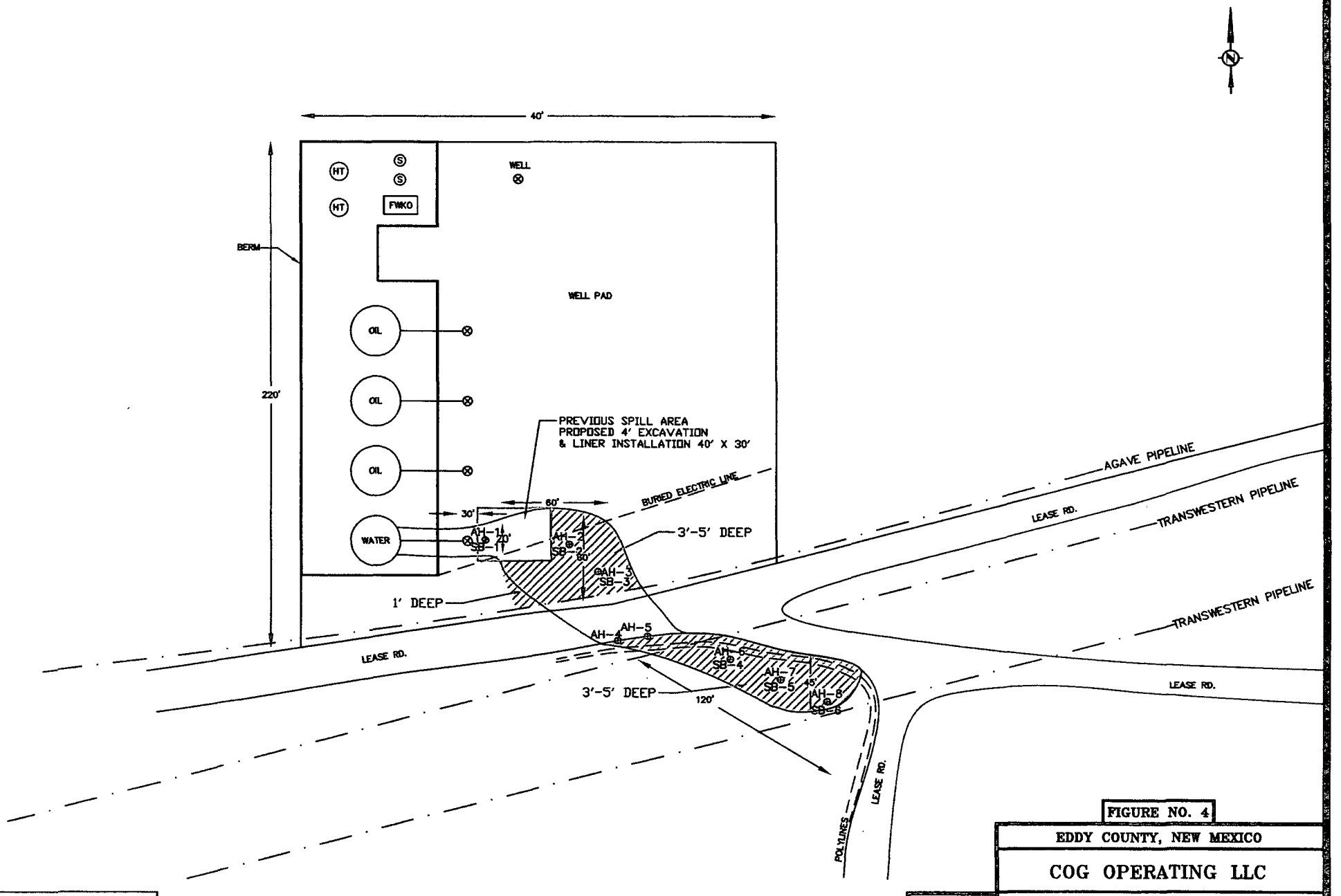


FIGURE NO. 4

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

FOLK FED. TB

PROPOSED EXCAVATION AREAS & DEPTHS MAP

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 4/26/2012
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

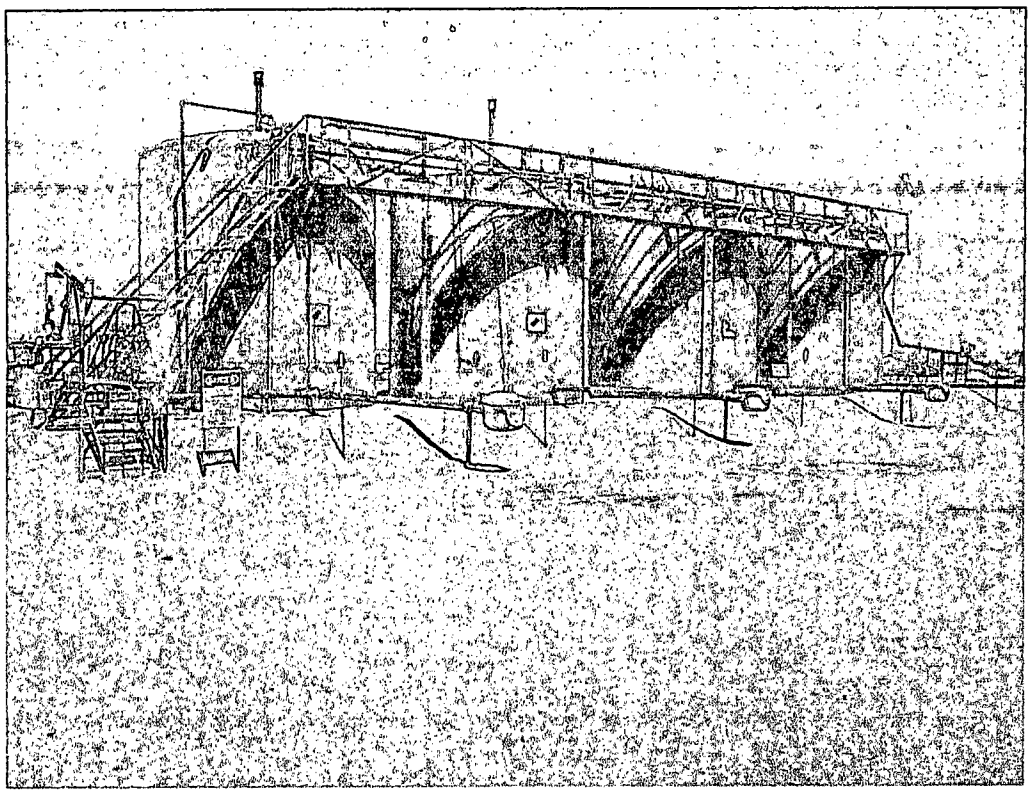
(--) Not Analyzed

Proposed Liner Depth

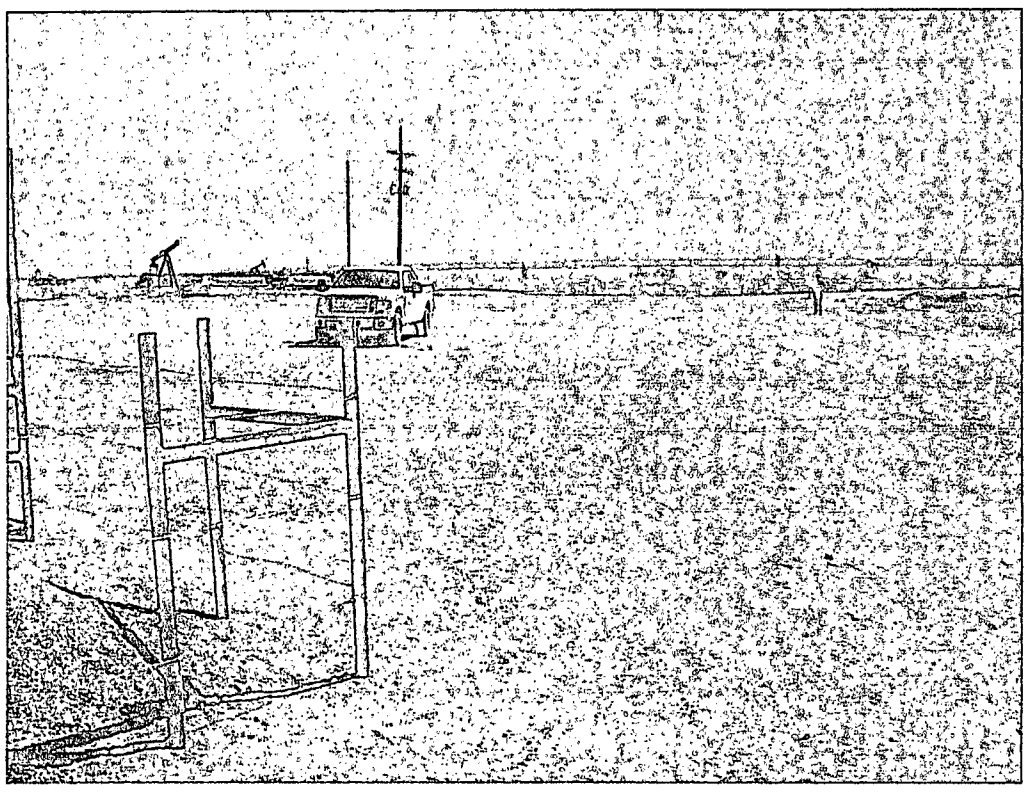
Proposed Excavation Depths

Photos

COG Operating LLC
Folk Tank Battery
Eddy County, New Mexico



View south – Front of tank battery near AH-1

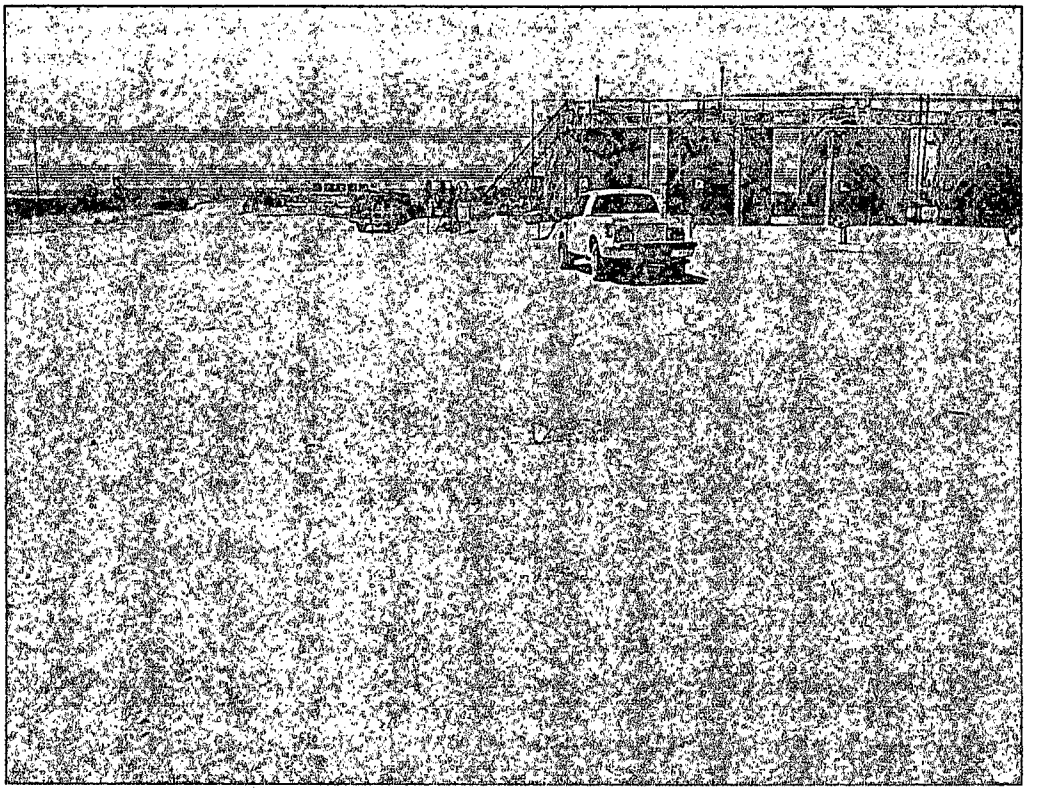


View east – Pad area near AH-1 and AH-2

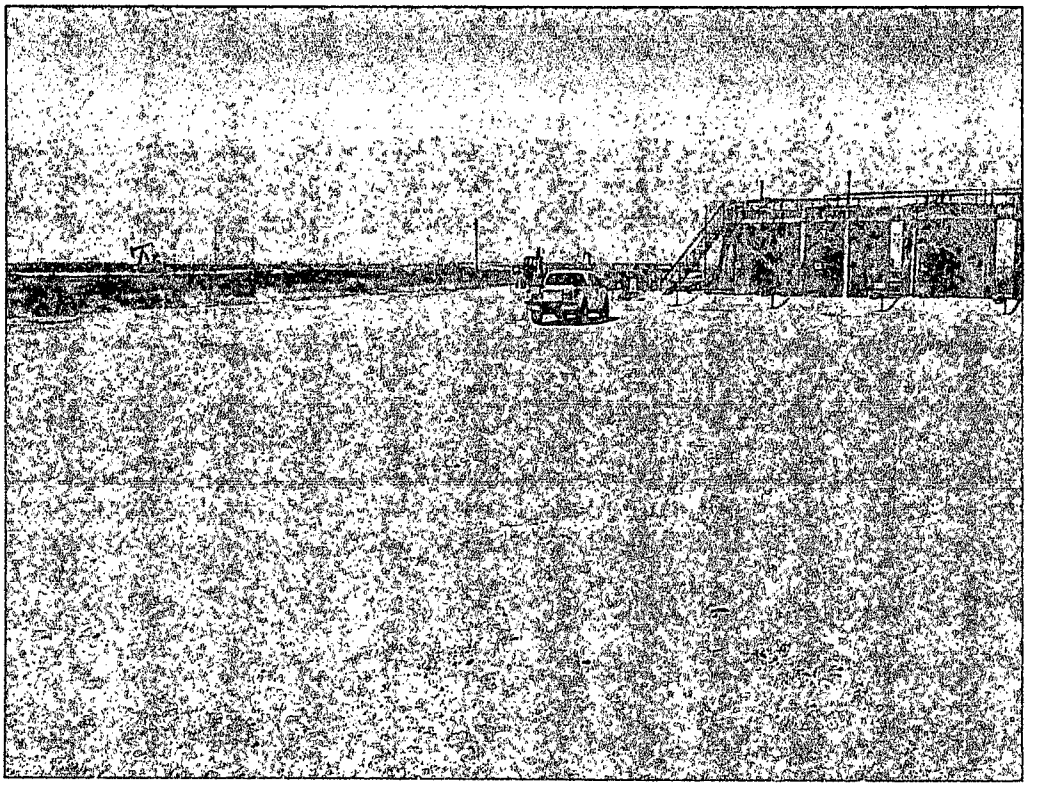
TETRA TECH

COG Operating LLC
Folk Tank Battery
Eddy County, New Mexico

TETRA TECH



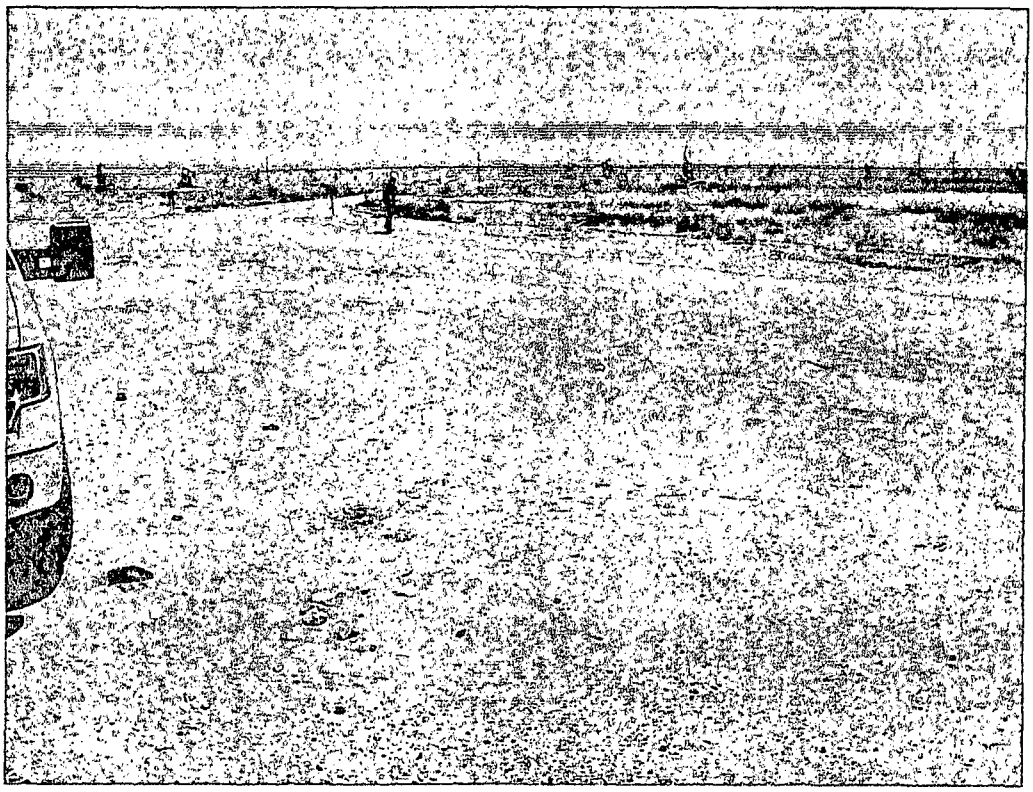
View west – Tank Battery Pad, area of AH-3



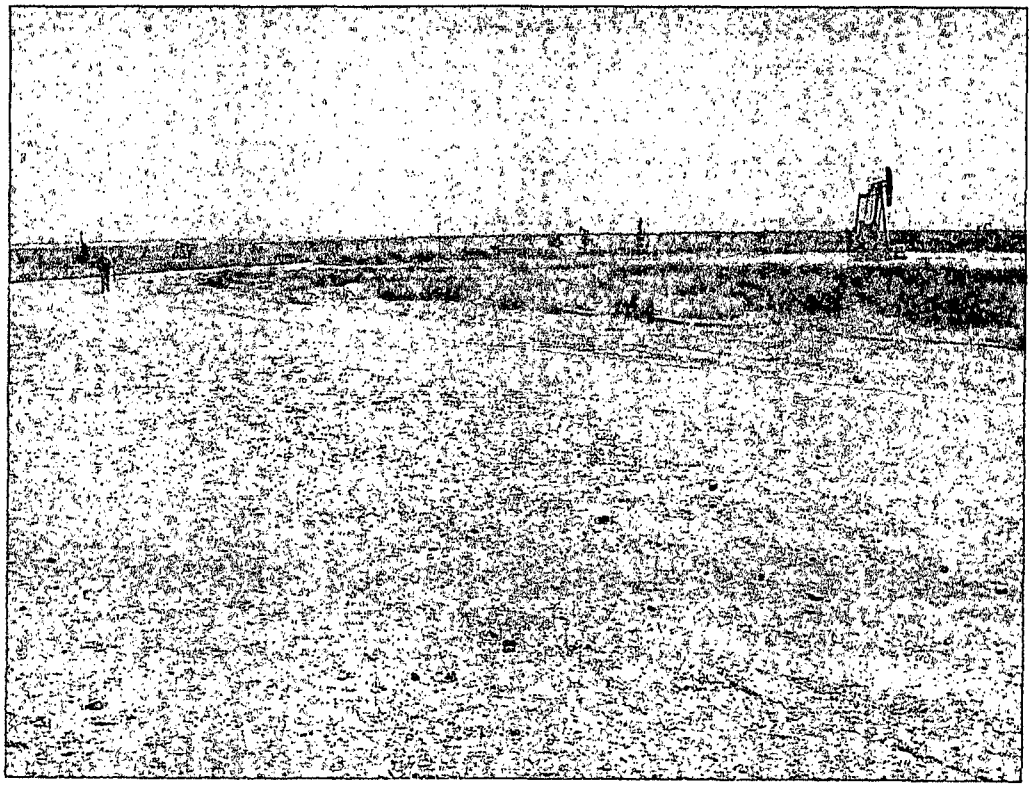
View west – Tank Battery Pad

COG Operating LLC
Folk Tank Battery
Eddy County, New Mexico

TETRA TECH



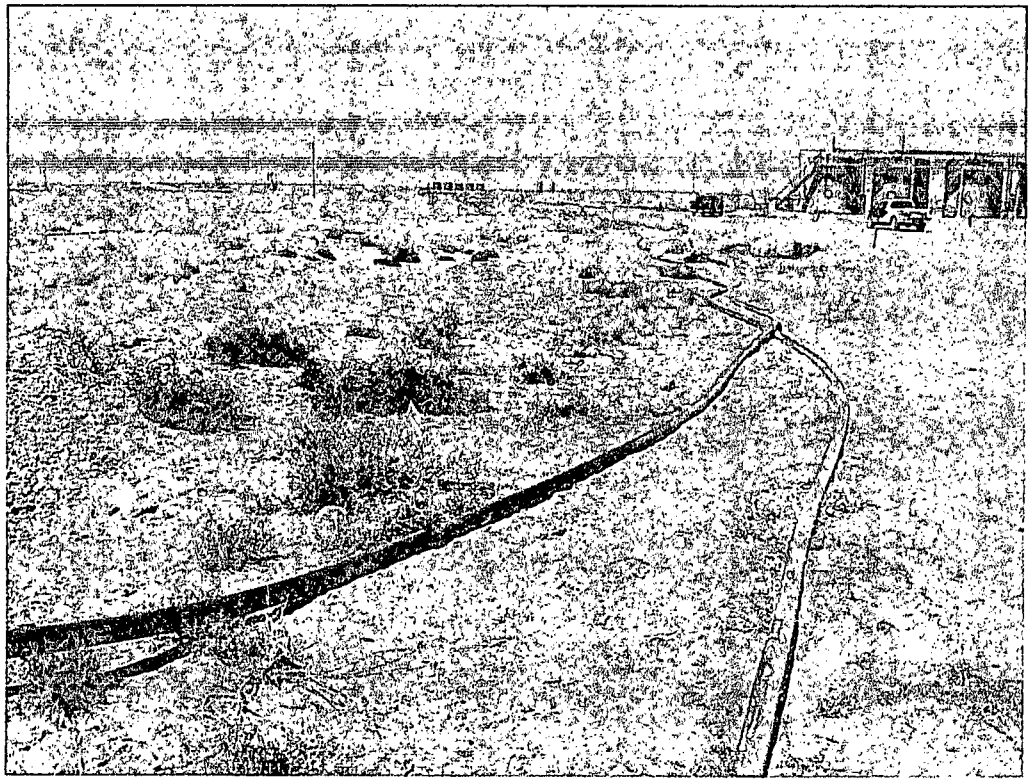
View southeast – Pad and lease road



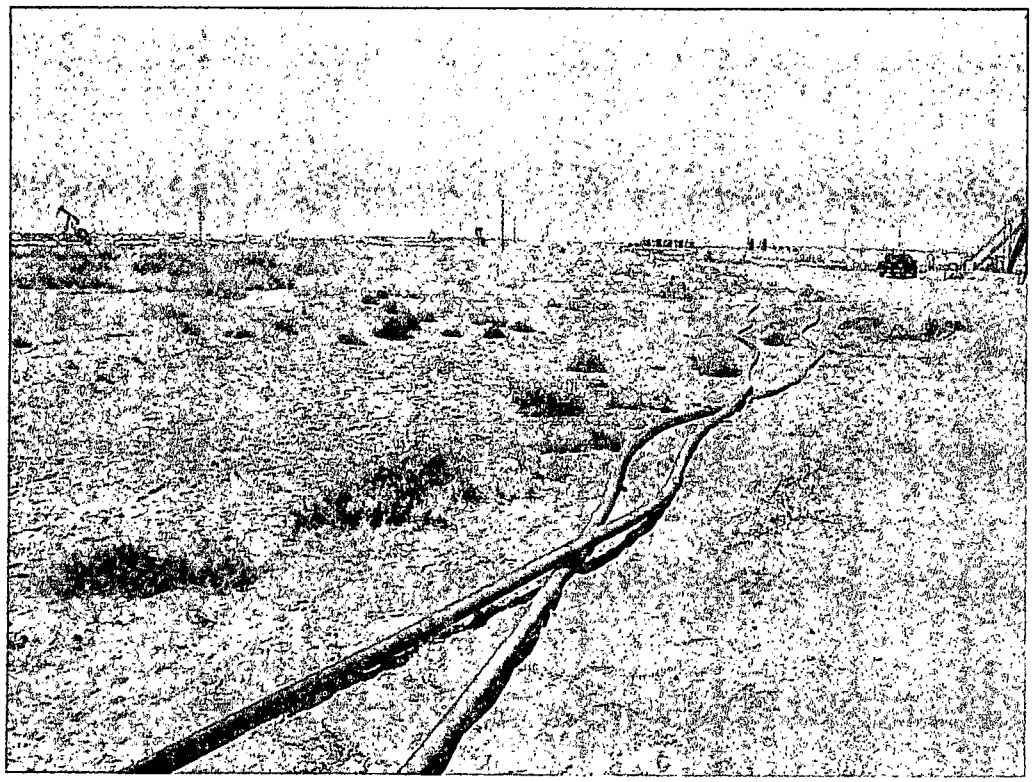
View southeast – Pad and lease road

COG Operating LLC
Folk Tank Battery
Eddy County, New Mexico

TETRA TECH



View west – area of AH-6, AH-7 and AH-8



View west – area of AH-6, AH-7 and AH-8

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.

Tetra Tech

Tel Fax

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

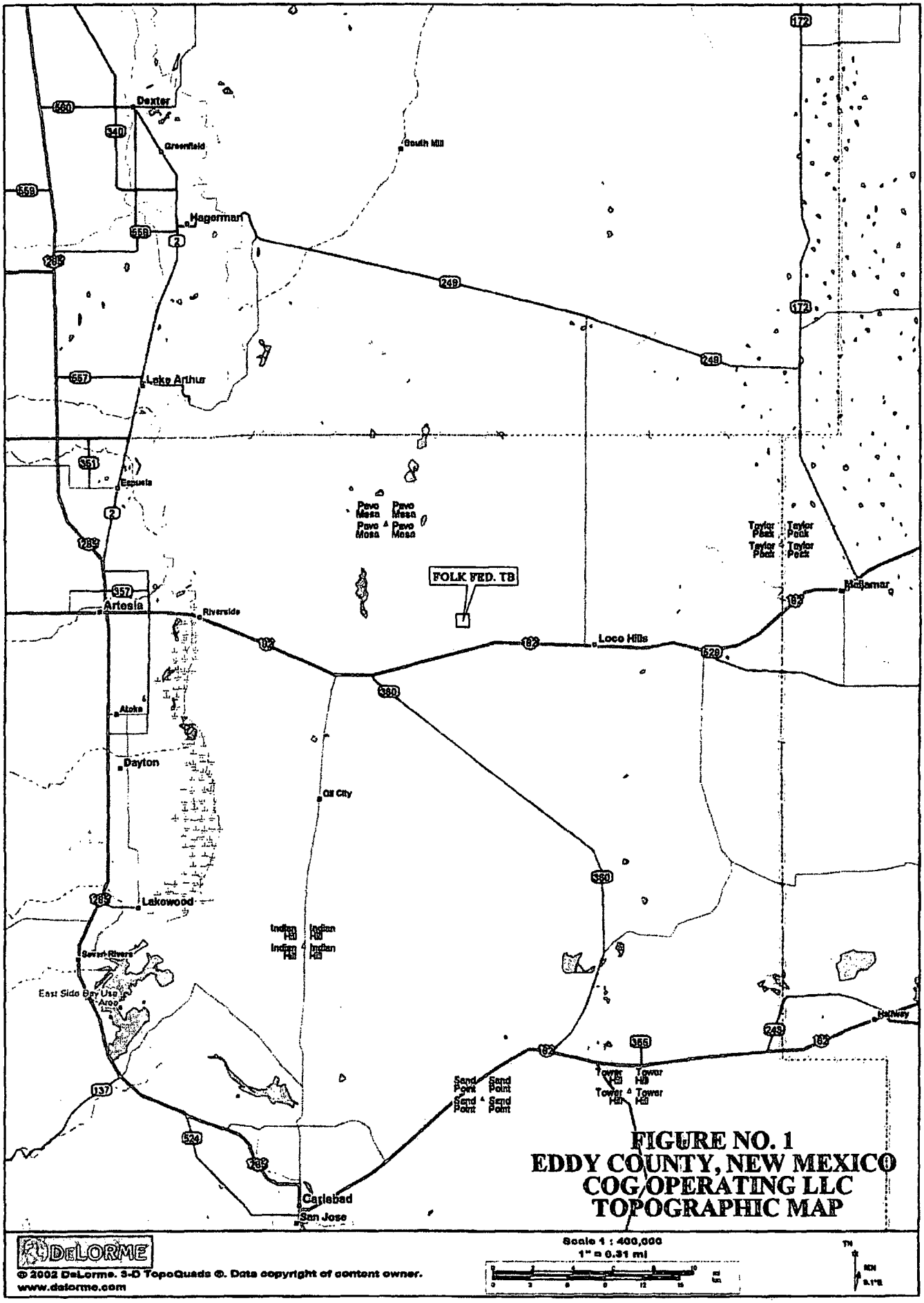
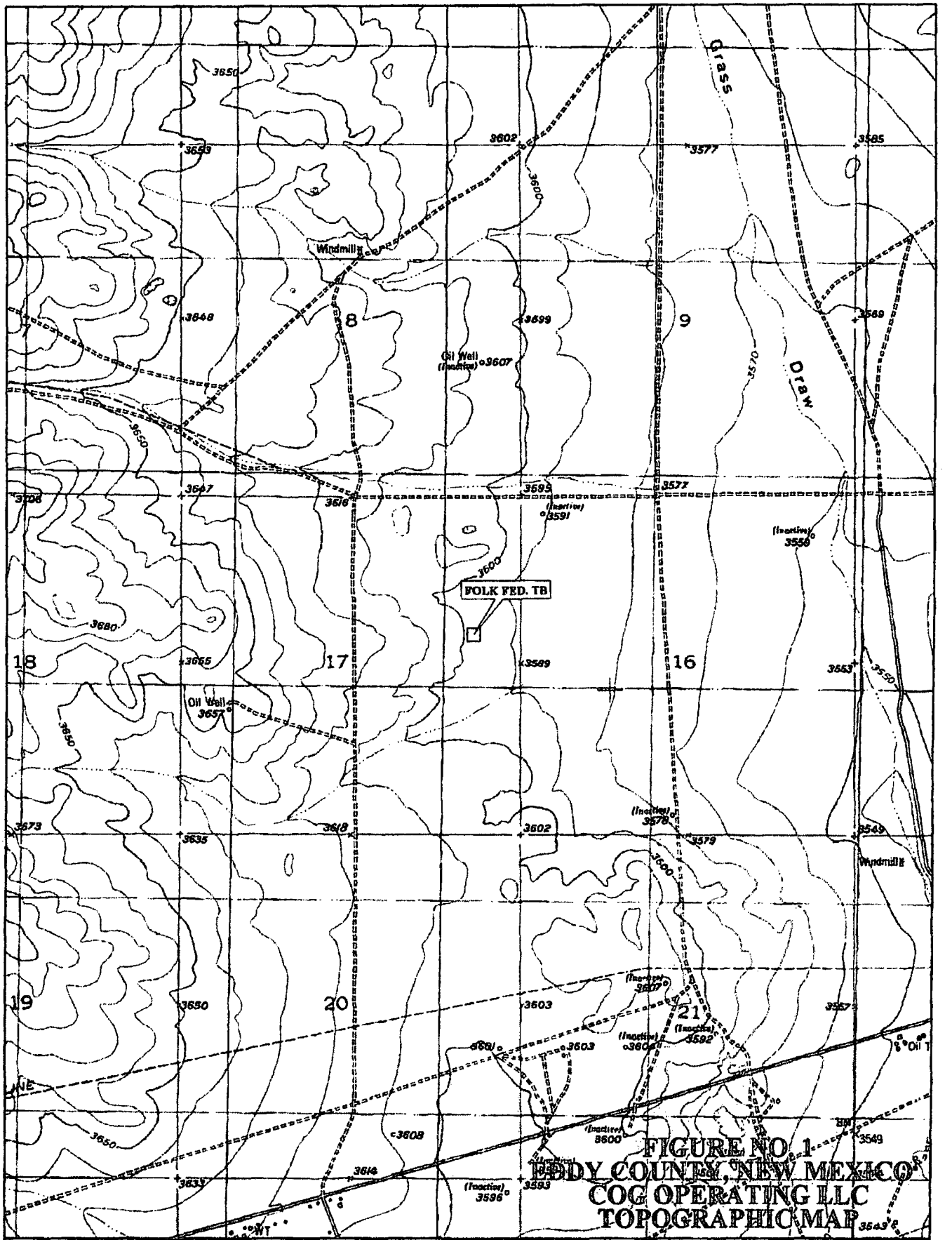


FIGURE NO. 1
EDDY COUNTY, NEW MEXICO
COG OPERATING LLC
TOPOGRAPHIC MAP



DeLORME

Scale 1 : 24,000
1" = 2000 ft

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

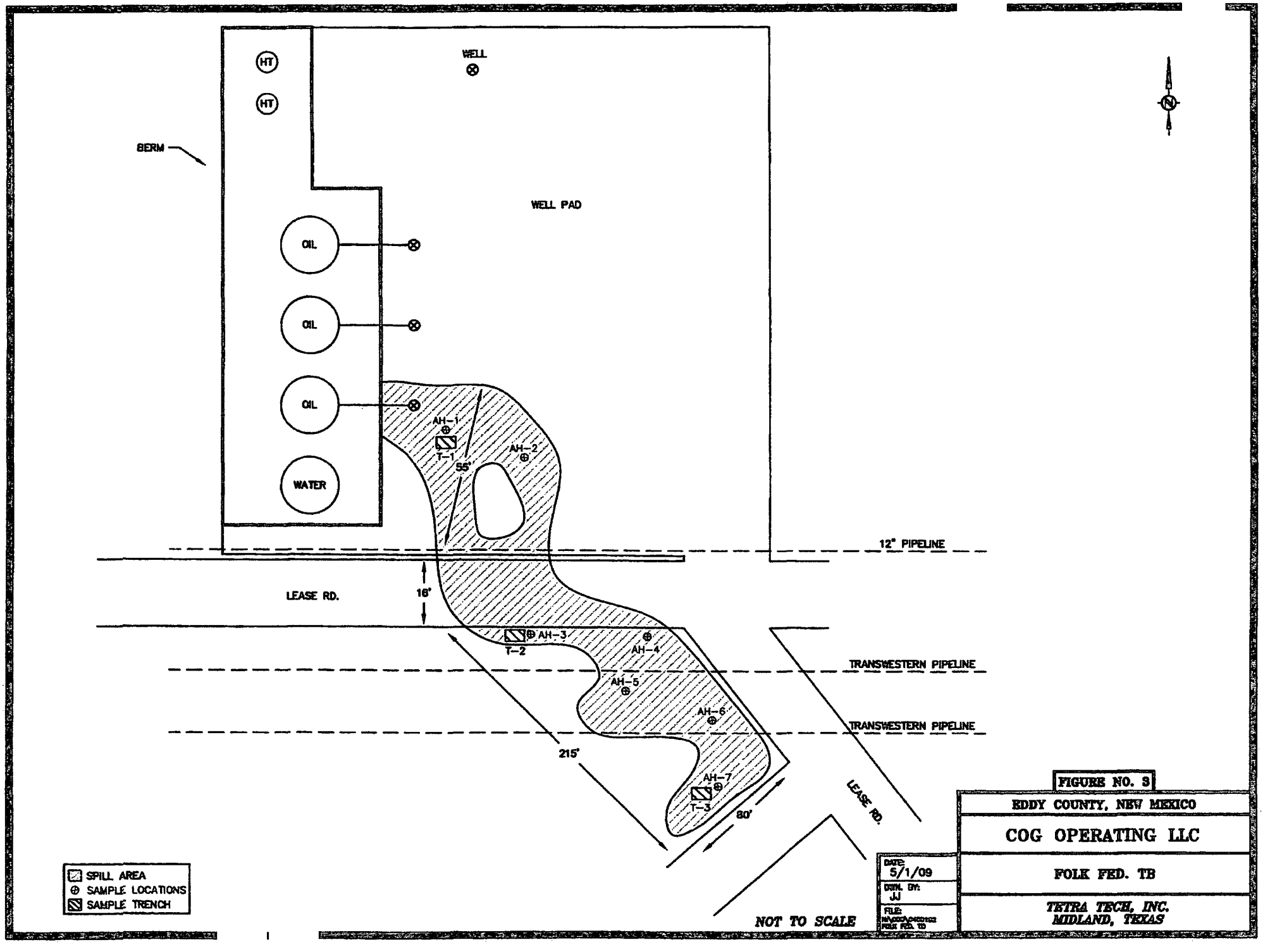


FIGURE NO. 3

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

FOLK FED. TB

TETRA TECH, INC.
MIDLAND, TEXAS

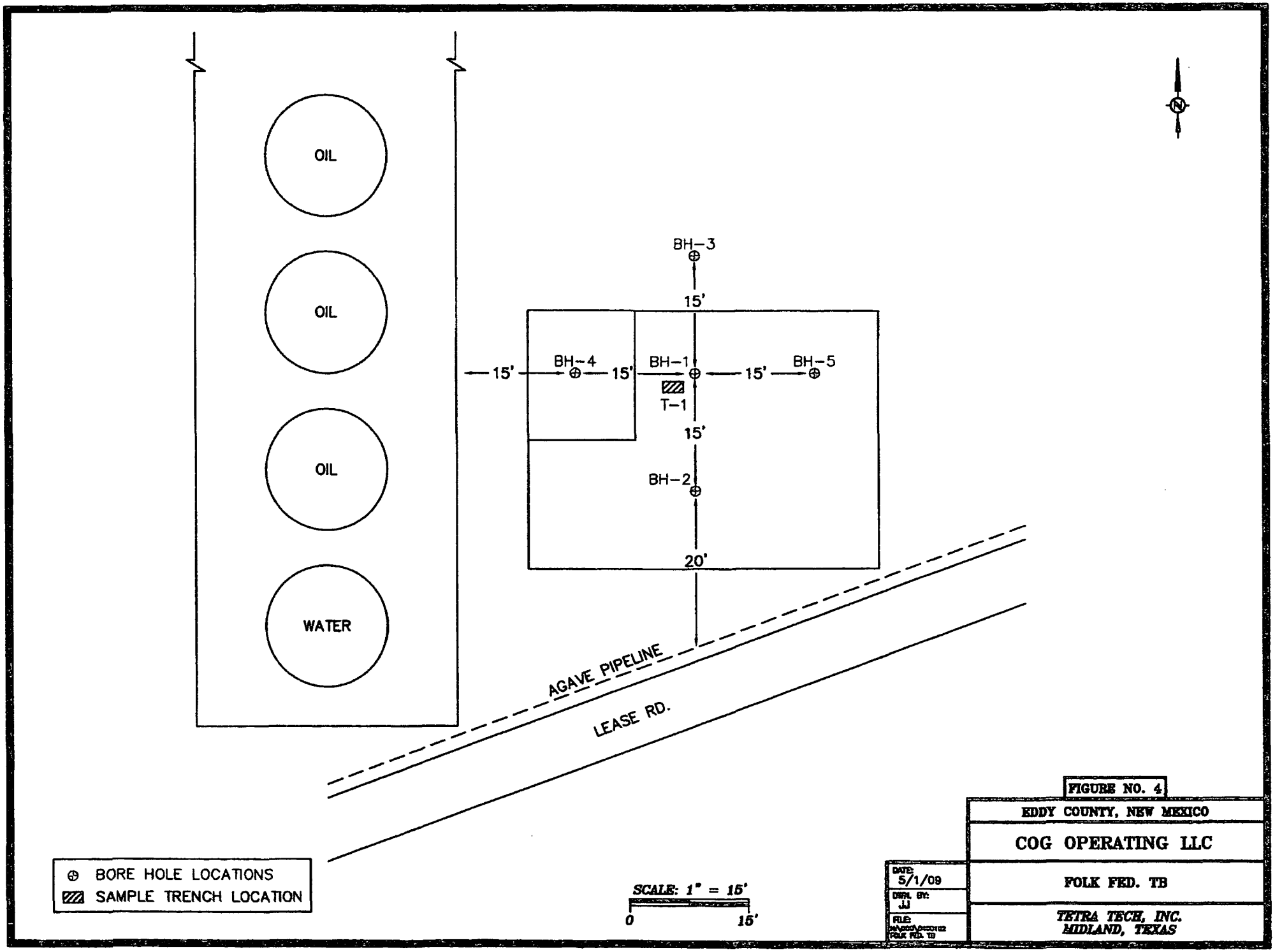


FIGURE NO. 4

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

FOLK FED. TB

DATE: 5/1/09

DWN. BY: JJ

FILE:

TETRA TECH, INC.
MIDLAND, TEXAS

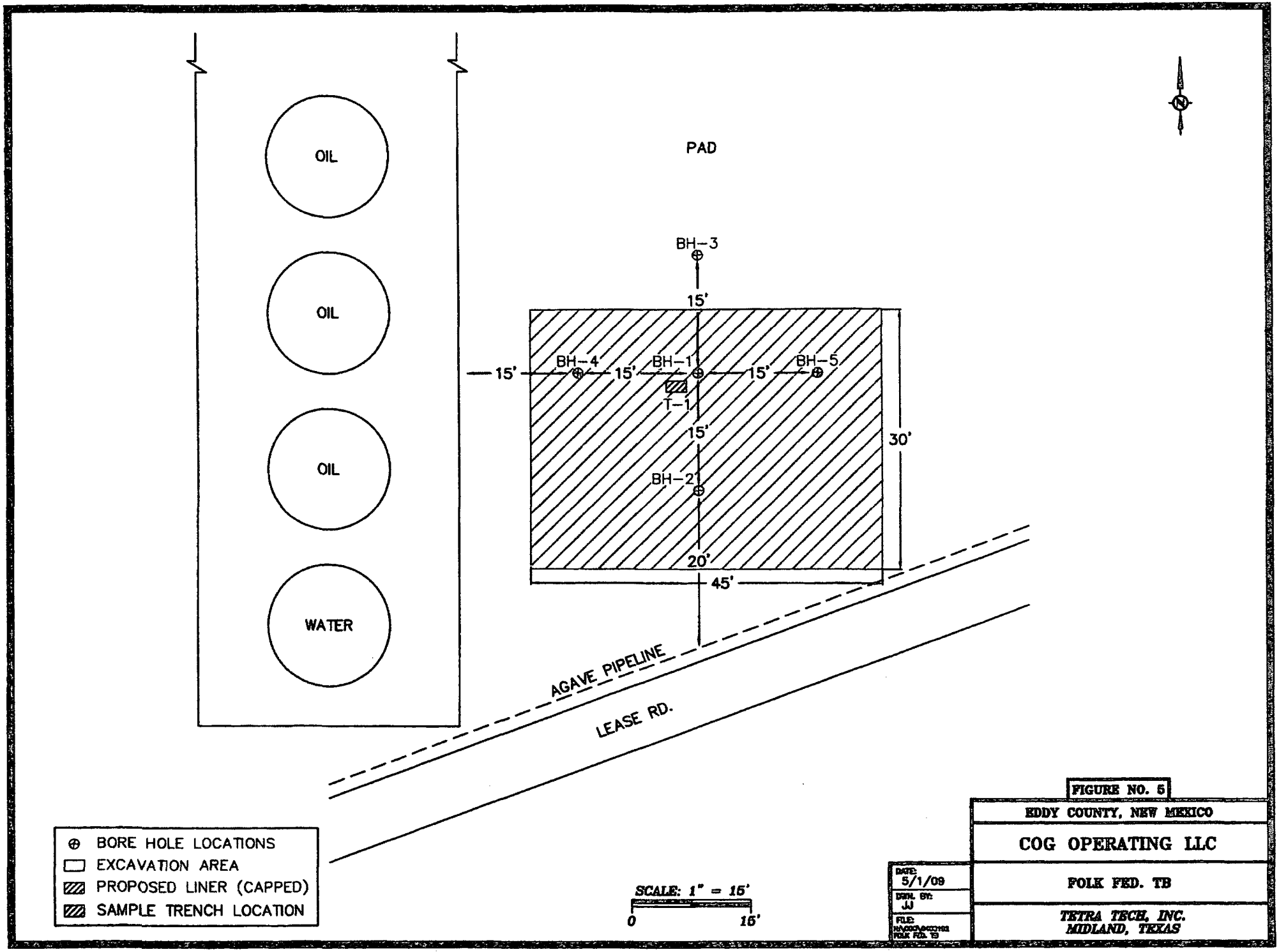


FIGURE NO. 5

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

DATE: 5/1/09

DRN. 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

T le 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

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

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

90 *Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)*
Geology and Groundwater Resources of Eddy County, NM (Report 3)

34 NMOCD - Groundwater Data

121 *Abandoned Waterwell (recently measured)*

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

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

POD Number	Sub basin	Use	County	Q 64	Q 16	Q 4	Sec	Twp	Rng	X	Y	Depth Well	Depth Water	Water Column
RA 09342		DOM	ED	4	4	3	19	16S	29E	582737	3640640*	220	110	110

Average Depth to Water: **110 feet**
Minimum Depth: **110 feet**
Maximum Depth: **110 feet**

Record Count: 1

PLSS Search:

Township: 16S Range: 29E

Usage Filter:

Use: All Usages

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

Appendix C

Summary Report

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

Report Date: May 15, 2009

Work Order: 9051415

Project Location: Eddy Co., NM
Project Name: Navajo/Folk Fed. TB
Project Number: 114-6400192

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
195938	AH-1 0-0.5' (0.5' BEB)	soil	2009-05-14	00:00	2009-05-14
195939	AH-2 0-1' (2' BEB)	soil	2009-05-14	00:00	2009-05-14
195940	AH-2 1'-1.5' (2' BEB)	soil	2009-05-14	00:00	2009-05-14
195941	AH-2 2'-2.5' (2' BEB)	soil	2009-05-14	00:00	2009-05-14
195942	AH-3 0-1' (0.5' BEB)	soil	2009-05-14	00:00	2009-05-14
195943	AH-3 1'-1.5' (0.5' BEB)	soil	2009-05-14	00:00	2009-05-14
195944	AH-3 2'-2.5' (0.5' BEB)	soil	2009-05-14	00:00	2009-05-14
195945	AH-4 0-1' (2' BEB)	soil	2009-05-14	00:00	2009-05-14
195946	AH-4 1'-1.5' (2' BEB)	soil	2009-05-14	00:00	2009-05-14
195947	AH-4 1.5'-2' (2' BEB)	soil	2009-05-14	00:00	2009-05-14
195948	AH-5 0-1' (2' BEB)	soil	2009-05-14	00:00	2009-05-14
195949	AH-6 0-1' (7' BEB)	soil	2009-05-14	00:00	2009-05-14
195950	AH-6 1'-1.5' (7' BEB)	soil	2009-05-14	00:00	2009-05-14
195951	AH-7 0-1' (3' BEB)	soil	2009-05-14	00:00	2009-05-14
195952	AH-7 1'-1.5' (3' BEB)	soil	2009-05-14	00:00	2009-05-14

	BTEX				TPH DRO	TPH GRO
Sample - Field Code	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
195938 - AH-1 0-0.5' (0.5' BEB)					<50.0	1.23
195939 - AH-2 0-1' (2' BEB)	<0.0100	0.185	0.428	0.939	207	41.1
195942 - AH-3 0-1' (0.5' BEB)	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	10.3
195945 - AH-4 0-1' (2' BEB)	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	7.11
195948 - AH-5 0-1' (2' BEB)	<0.0100	0.0917	<0.0100	0.242	126	7.94
195949 - AH-6 0-1' (7' BEB)					<50.0	7.07
195951 - AH-7 0-1' (3' BEB)					<50.0	6.05

Sample: 195938 - AH-1 0-0.5' (0.5' BEB)

Param	Flag	Result	Units	RL
Chloride		1950	mg/Kg	4.00

Sample: 195939 - AH-2 0-1' (2' BEB)

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 195940 - AH-2 1'-1.5' (2' BEB)

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 195941 - AH-2 2'-2.5' (2' BEB)

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 195942 - AH-3 0-1' (0.5' BEB)

Param	Flag	Result	Units	RL
Chloride		1020	mg/Kg	4.00

Sample: 195943 - AH-3 1'-1.5' (0.5' BEB)

Param	Flag	Result	Units	RL
Chloride		1280	mg/Kg	4.00

Sample: 195944 - AH-3 2'-2.5' (0.5' BEB)

Param	Flag	Result	Units	RL
Chloride		522	mg/Kg	4.00

Sample: 195945 - AH-4 0-1' (2' BEB)

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 195946 - AH-4 1'-1.5' (2' BEB)

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 195947 - AH-4 1.5'-2' (2' BEB)

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 195948 - AH-5 0-1' (2' BEB)

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 195949 - AH-6 0-1' (7' BEB)

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 195950 - AH-6 1'-1.5' (7' BEB)

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 195951 - AH-7 0-1' (3' BEB)

Param	Flag	Result	Units	RL
Chloride		322	mg/Kg	4.00

Sample: 195952 - AH-7 1'-1.5' (3' BEB)

Param	Flag	Result	Units	RL
Chloride		787	mg/Kg	4.00

Summary Report

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

Report Date: May 28, 2009

Work Order: 9052128

Project Location: Eddy Co., NM
Project Name: Navajo/Folk Fed. TB
Project Number: 114-6400192

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
196617	T-1 (AH-1) 0-1' Bottom	soil	2009-05-20	00:00	2009-05-21
196618	T-1 (AH-1) 2.0' BEB	soil	2009-05-20	00:00	2009-05-21
196619	T-1 (AH-1) 4.0' BEB	soil	2009-05-20	00:00	2009-05-21
196620	T-1 (AH-1) 6.0' BEB	soil	2009-05-20	00:00	2009-05-21
196621	T-1 (AH-1) 8.0' BEB	soil	2009-05-20	00:00	2009-05-21
196622	T-2 (AH-3) 0-1 Bottom	soil	2009-05-20	00:00	2009-05-21
196623	T-2 (AH-3) 2.0' BEB	soil	2009-05-20	00:00	2009-05-21
196624	T-2 (AH-3) 5.0' BEB	soil	2009-05-20	00:00	2009-05-21
196625	T-2 (AH-3) 7.0' BEB	soil	2009-05-20	00:00	2009-05-21
196626	T-3 (AH-7) 0-1 Bottom	soil	2009-05-20	00:00	2009-05-21
196627	T-3 (AH-7) 2.0' BEB	soil	2009-05-20	00:00	2009-05-21

Sample: 196617 - T-1 (AH-1) 0-1' Bottom

Param	Flag	Result	Units	RL
Chloride		1500	mg/Kg	4.00

Sample: 196618 - T-1 (AH-1) 2.0' BEB

Param	Flag	Result	Units	RL
Chloride		1020	mg/Kg	4.00

Sample: 196619 - T-1 (AH-1) 4.0' BEB

Param	Flag	Result	Units	RL
Chloride		2620	mg/Kg	4.00

Sample: 196620 - T-1 (AH-1) 6.0' BEB

Param	Flag	Result	Units	RL
Chloride		3400	mg/Kg	4.00

Sample: 196621 - T-1 (AH-1) 8.0' BEB

Param	Flag	Result	Units	RL
Chloride		2310	mg/Kg	4.00

Sample: 196622 - T-2 (AH-3) 0-1 Bottom

Param	Flag	Result	Units	RL
Chloride		931	mg/Kg	4.00

Sample: 196623 - T-2 (AH-3) 2.0' BEB

Param	Flag	Result	Units	RL
Chloride		1290	mg/Kg	4.00

Sample: 196624 - T-2 (AH-3) 5.0' BEB

Param	Flag	Result	Units	RL
Chloride		896	mg/Kg	4.00

Sample: 196625 - T-2 (AH-3) 7.0' BEB

Param	Flag	Result	Units	RL
Chloride		531	mg/Kg	4.00

Sample: 196626 - T-3 (AH-7) 0-1 Bottom

Param	Flag	Result	Units	RL
Chloride		939	mg/Kg	4.00

Sample: 196627 - T-3 (AH-7) 2.0' BEB

Param	Flag	Result	Units	RL
Chloride		552	mg/Kg	4.00

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
207672	BH-5 12-13'	soil	2009-08-19	00:00	2009-08-25
207673	BH-5 15-16'	soil	2009-08-19	00:00	2009-08-25

Sample: 207642 - BH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**304**	mg/Kg	4.00

Sample: 207643 - BH-1 3-4'

Param	Flag	Result	Units	RL
Chloride		**419**	mg/Kg	4.00

Sample: 207644 - BH-1 6-7'

Param	Flag	Result	Units	RL
Chloride		**833**	mg/Kg	4.00

Sample: 207645 - BH-1 9-10'

Param	Flag	Result	Units	RL
Chloride		**791**	mg/Kg	4.00

Sample: 207646 - BH-1 12-13'

Param	Flag	Result	Units	RL
Chloride		**1510**	mg/Kg	4.00

Sample: 207647 - BH-1 15-16'

Param	Flag	Result	Units	RL
Chloride		**1160**	mg/Kg	4.00

Sample: 207648 - BH-1 20-21'

continued ...

sample 207648 continued ...

Param	Flag	Result	Units	RL

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 207649 - BH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 207650 - BH-2 3-4'

Param	Flag	Result	Units	RL
Chloride		**283**	mg/Kg	4.00

Sample: 207651 - BH-2 6-7'

Param	Flag	Result	Units	RL
Chloride		**1980**	mg/Kg	4.00

Sample: 207652 - BH-2 9-10'

Param	Flag	Result	Units	RL
Chloride		**1770**	mg/Kg	4.00

Sample: 207653 - BH-2 12-13'

Param	Flag	Result	Units	RL
Chloride		**1580**	mg/Kg	4.00

Sample: 207654 - BH-2 15-16'

Param	Flag	Result	Units	RL
Chloride		**927**	mg/Kg	4.00

Sample: 207655 - BH-2 20-21'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 207656 - BH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 207657 - BH-3 3-4'

Param	Flag	Result	Units	RL
Chloride		**944**	mg/Kg	4.00

Sample: 207658 - BH-3 6-7'

Param	Flag	Result	Units	RL
Chloride		**791**	mg/Kg	4.00

Sample: 207659 - BH-3 9-10'

Param	Flag	Result	Units	RL
Chloride		**486**	mg/Kg	4.00

Sample: 207660 - BH-3 12-13'

Param	Flag	Result	Units	RL
Chloride		**502**	mg/Kg	4.00

Sample: 207661 - BH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**5560**	mg/Kg	4.00

Sample: 207662 - BH-4 3-4'

Param	Flag	Result	Units	RL
Chloride		**2410**	mg/Kg	4.00

Sample: 207663 - BH-4 6-7'

Param	Flag	Result	Units	RL
Chloride		**686**	mg/Kg	4.00

Sample: 207664 - BH-4 9-10'

Param	Flag	Result	Units	RL
Chloride		**3290**	mg/Kg	4.00

Sample: 207665 - BH-4 12-13'

Param	Flag	Result	Units	RL
Chloride		**2320**	mg/Kg	4.00

Sample: 207666 - BH-4 15-16'

Param	Flag	Result	Units	RL
Chloride		**2170**	mg/Kg	4.00

Sample: 207667 - BH-4 20-21'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 207668 - BH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		**686**	mg/Kg	4.00

Sample: 207669 - BH-5 3-4'

Param	Flag	Result	Units	RL
Chloride		**845**	mg/Kg	4.00

Sample: 207670 - BH-5 6-7'

Param	Flag	Result	Units	RL
Chloride		**1680**	mg/Kg	4.00

Sample: 207671 - BH-5 9-10'

Param	Flag	Result	Units	RL
Chloride		**2800**	mg/Kg	4.00

Sample: 207672 - BH-5 12-13'

Param	Flag	Result	Units	RL
Chloride		**963**	mg/Kg	4.00

Sample: 207673 - BH-5 15-16'

Param	Flag	Result	Units	RL
Chloride		**287**	mg/Kg	4.00

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

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

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: 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