SITE INFORMATION

Report Type: Revised Work Plan

General Site Information:		
Site:	Dogwood Federal Tank Battery	
Company:	COG Operating LLC	
Section, Township and Range	Unit F - Section 25 - Township 17 South - Range 27 East	
Lease Number:	30-015-32927	
County:	Eddy County	
GPS:	32 48.352	104 14.115
Surface Owner:	Federal	
Mineral Owner:		
Directions:	From the intersection of Hwy 82 and Hwy 360, travel west on 82 4.3 miles, turn left on CR-225 and travel 0.3 miles, turn left and travel 0.1 miles to location.	

Release Data:	Spill #1	Spill #2
Date Released:	3/1/2011	1/3/2012
Type Release:	Produced Water	Produced Water
Source of Contamination:	Water tank ran over	Water tank ran over
Fluid Released:	10 bbls	105 bbls
Fluids Recovered:	8 bbls	100 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		432-682-4559
Fax:	(432) 684-7137		
Email:	pellis@conchoresources.com		ike.tavarez@tetratech.com

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Ranking Criteria		
Depth to Groundwater:	***Ranking Score***	***Site Data***
<50 ft	20	
50-99 ft	10	
>100 ft.	0	**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:	**0**	

Acceptable Soil RRAL (mg/kg)		
Benzene	***Total BTEX***	***TPH***
10	50	5,000

TETRA TECH

April 4, 2012

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

Re: *Revised* Work Plan for the COG Operating LLC., Dogwood Federal Tank Battery, Unit F, Section 25, Township 17 South, Range 27 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess two spills from the Dogwood Federal Tank Battery, Unit F, Section 25, Township 17 South, Range 27 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32° 48.352, W 104° 14.115. The site location is shown on Figures 1 and 2.

Background

Spill #1

According to the State of New Mexico C-141 Initial Report, the leak was discovered on March 1, 2011, and approximately 10 barrels of produced fluids were released when a transporter failed to make a water pickup, allowing a water tank to overflow. Eight (8) barrels of standing fluids were recovered. The spill impacted an area north and east of the facility and measured approximately 8' x 60' and 8' x 20'. The entire spill was contained within the facility firewalls. The initial C-141 form is enclosed in Appendix A.

Spill #2

On January 3, 2012, a second spill occurred at the facility and released 105 barrels of produced water due to a water tank over flow. The second spill overlapped and encompassed the first spill footprint. Approximately 100 barrels of standing fluids were recovered. The entire spill was contained within the facility firewalls impacting an area of approximately 95' x 30'. The initial C-141 form is enclosed in Appendix A.

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

Groundwater

No water wells were listed within Section 25. According to the NMOCD groundwater map, the average depth to groundwater in this area is 125' to 150' below surface. The groundwater well report data is included in Appendix B.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 5,000 mg/kg.

Soil Assessment and Analytical Results

Spill #1

On March 25, 2011, Tetra Tech personnel inspected and sampled the spill areas. Three auger holes (AH-1, AH-2, and AH-3) 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 C. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, auger hole (AH-1) samples were below the RRAL for TPH and BTEX. AH-2 and AH-3 exceeded the RRAL at 0-1' for total BTEX, with concentrations of 172 mg/kg and 158 mg/kg, respectively. AH-3 was defined at 1-1.5' below surface.

The chloride impact areas at AH-2 and AH-3 were not vertically defined. Auger hole (AH-2) showed a chloride concentration of 9,780 mg/kg at 0-1', which declined to 252 mg/kg at 3.0' below surface. However, chloride increased to 2,330 mg/kg 5.0' below surface. The area of AH-3 also showed chloride concentrations of 7,720 mg/kg at 0-1', which declined to 2,140 mg/kg at 4.0' below surface.

In order to define the extents of impact in the areas of AH-2 and AH-3, deeper samples were collected utilizing an air rotary drilling rig. On June 27, 2011, Tetra Tech personnel supervised the installation of two soil bores (SB-1 and SB-2). Due to the limited access of the site, the facility berm was removed to gain access for the drilling rig. Samples were collected to a depth of 20' and submitted for

laboratory analysis. The sampling results are summarized in Table 1. The soil bore locations are shown on Figure 3. Referring to Table 1, SB-1 showed a shallow chloride impact 0-1' to the soils and SB-2 showed no impact the soils.

Spill #2

On January 19, 2012, Tetra Tech personnel inspected and sampled the spill areas. Four auger holes (AH-1 through AH-4) 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 C. The sampling results are summarized in Table 2. The spill area and auger hole locations are shown on Figure 4.

Referring to Table 2, all the submitted samples were below the RRAL for TPH and BTEX. Auger holes (AH-1, AH-2 and AH-3) showed a shallow chloride impact to the soils and the areas were vertically defined. The area of AH-4 was not vertically defined and showed a chloride concentration of 4,050 mg/kg at 0-1'. Deeper samples could not be collected due to the dense caliche formation.

Work Plan

The second spill encompassed the first spill footprint and a shallow chloride impact was detected in the subsurface soils. In order to remediate the site, COG proposes to remove impacted soils as highlighted (green) in Table 1 and shown on Figure 5. Based on the spill #2 data, the areas of AH-1 will be excavated to a depth of approximately 2.0' below surface and the areas of AH-2, AH-3 and AH-4 to a depth of approximately 1.0 to 2.0'. Based on the results, the area of AH-4 will be trenched with a backhoe to define the chloride extents, if accessible.

Based on the spill #1 data, a confirmation sample will be collected in the area of AH-2 to confirm the removal of the Total BTEX exceeding the RRAL. Once excavated to the appropriate depths, the excavation will be backfill with clean material. All of the excavated soil will be transported to proper disposal.

Due to the limited access issues within the facility, the proposed excavation depths (Spill #1 and Spill #2) 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 deeper impact is encountered, the bottom of the excavation will be capped with clay material (6" thick) and backfilled with clean soil to grade.

TETRA TECH

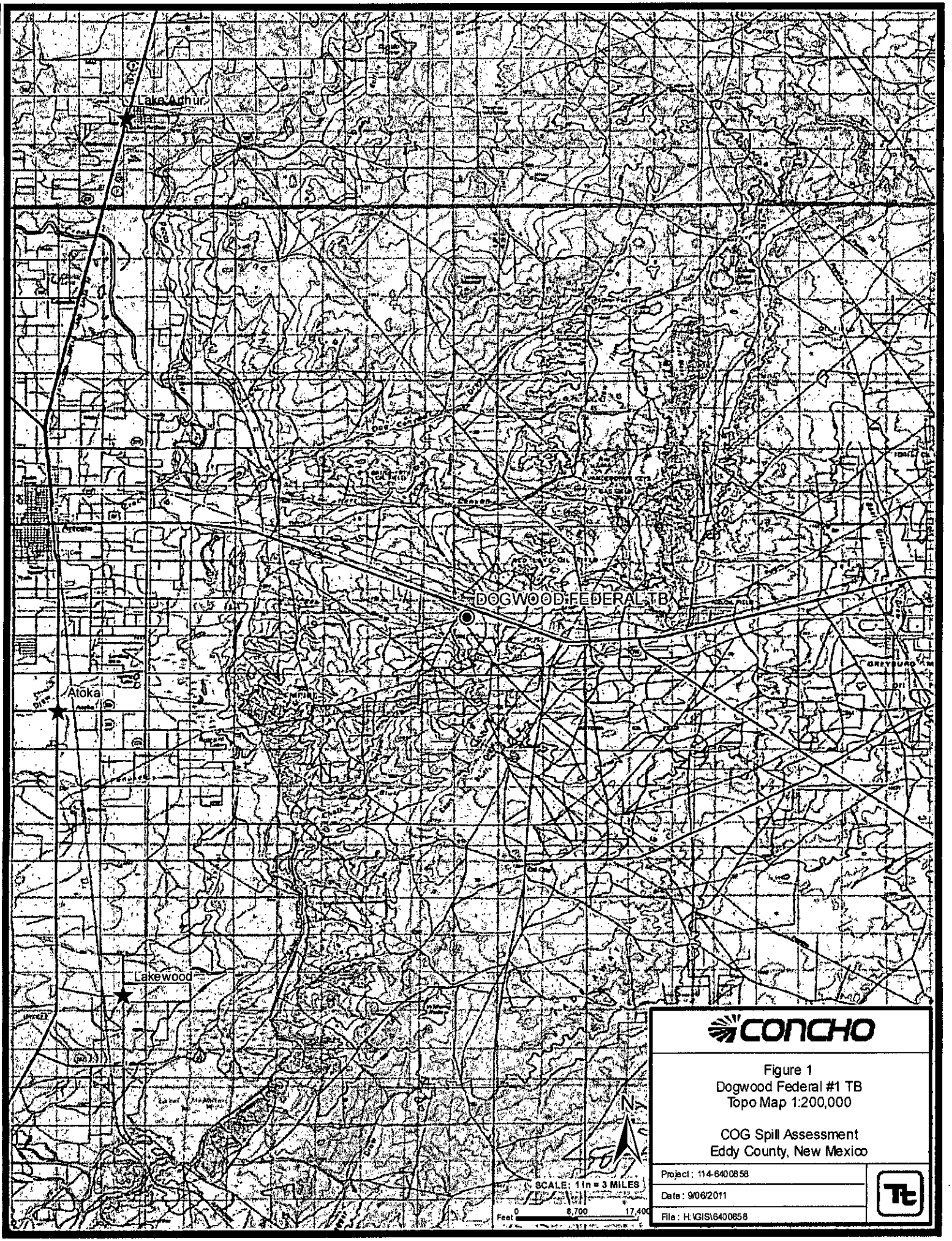
Upon completion a final report will be submitted to the NMOCD and BLM. If you have any questions or comments concerning the assessment or the proposed remediation activities for this site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Ike Tavarez, PG
Project Manager

cc: Pat Ellis – COG
Terry Gregston - BLM

Figures



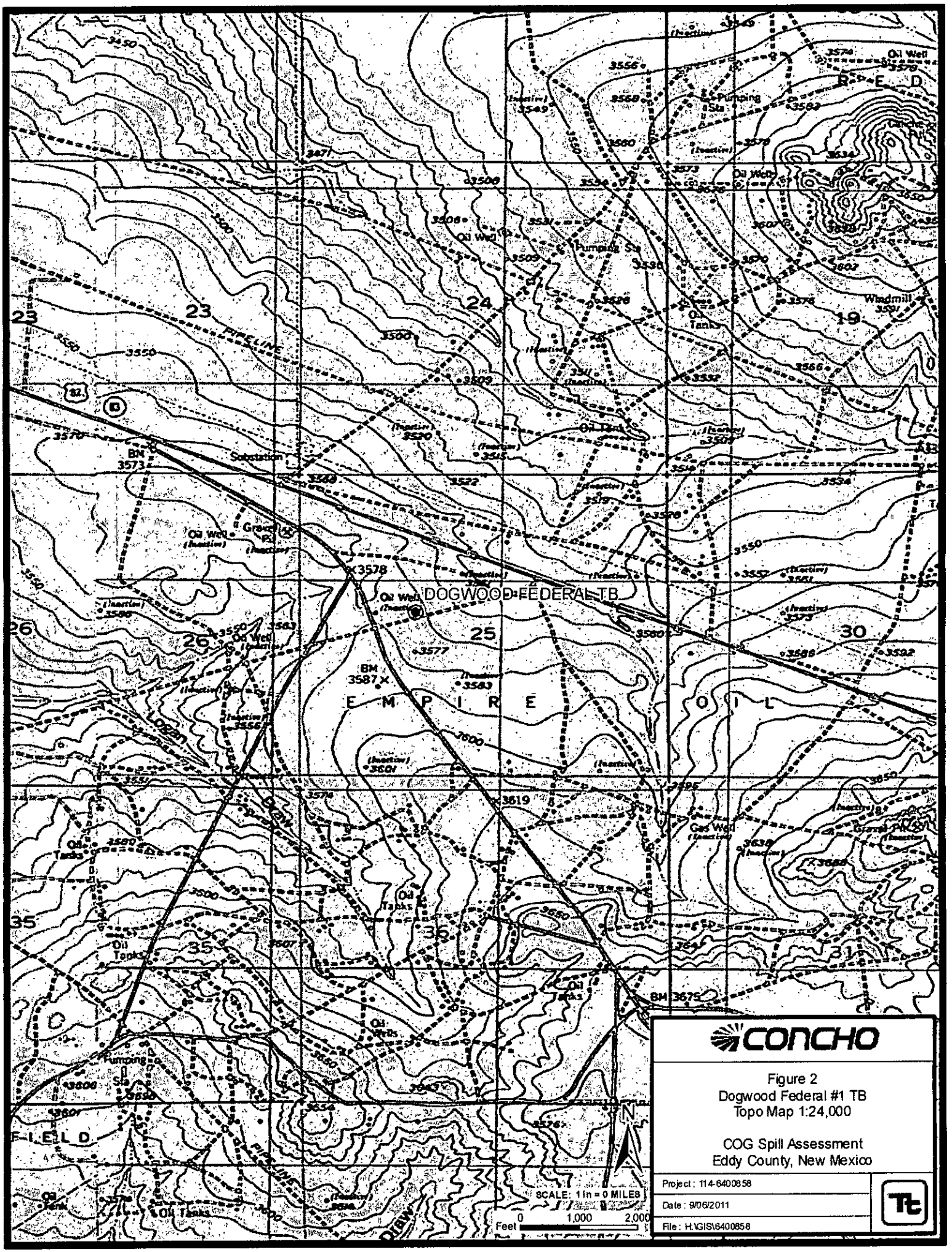
CONCHO

Figure 1
Dogwood Federal #1 TB
Topo Map 1:200,000

COG Spill Assessment
Eddy County, New Mexico

Project : 114-6400858
Date : 9/06/2011
File : H:\GIS\6400858

Dawn By: Isabel Marmolejo



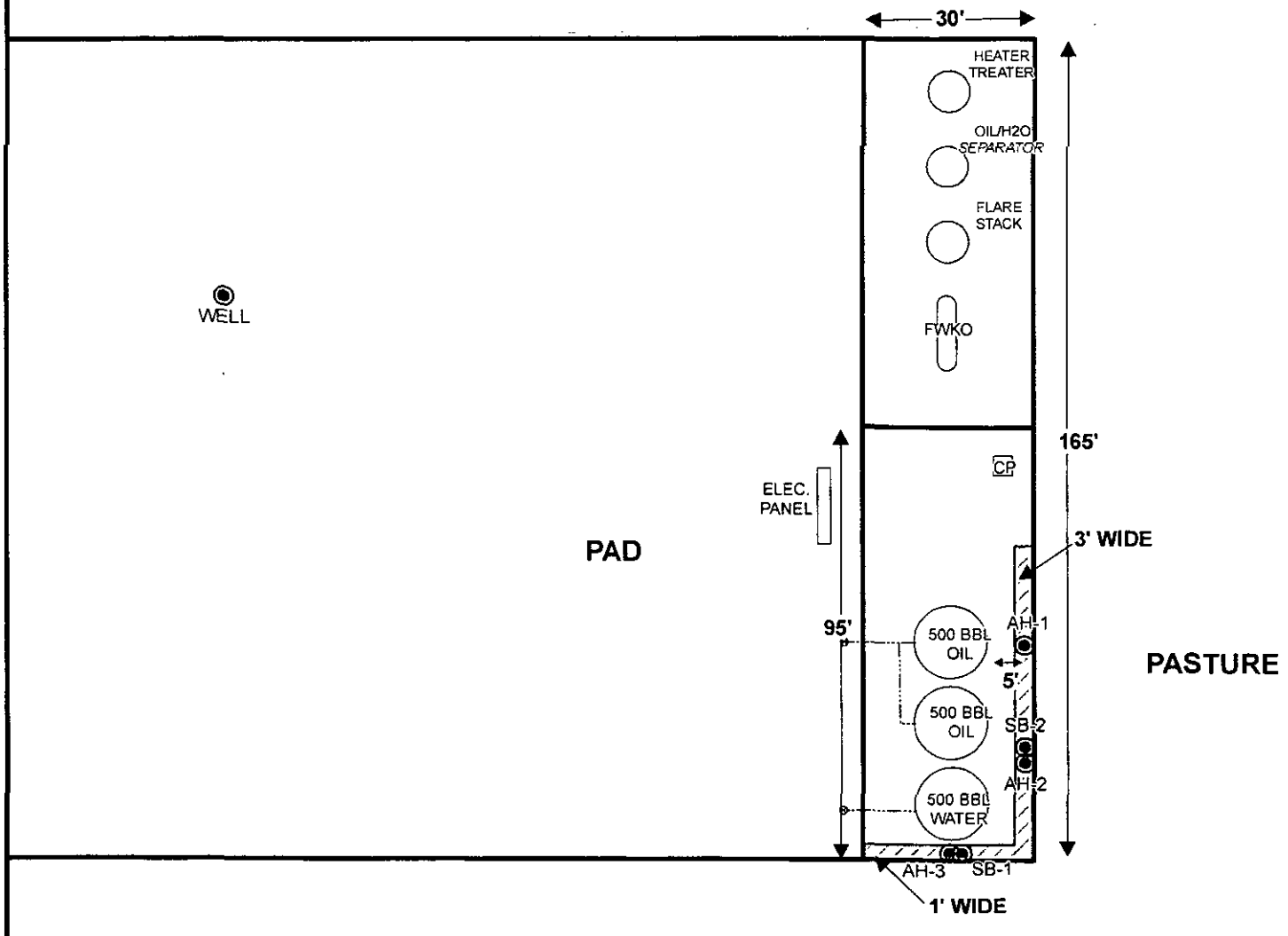
CONCHO

Figure 2
Dogwood Federal #1 TB
Topo Map 1:24,000

COG Spill Assessment
Eddy County, New Mexico

Project : 114-6400858	
Date : 9/06/2011	
File : H:\GIS\6400858	

Drawn By: Isabel Marmolejo



EXPLANATION

- AUGER HOLE SAMPLE LOCATION
- SOIL BORES SAMPLE LOCATION
- WELL
- SPILL AREA

N

SCALE: 1 IN = 37 FEET

Feet 0 20 40

CONCHO

Figure 3

Dogwood Federal #1 TB
Spill Assessment Map

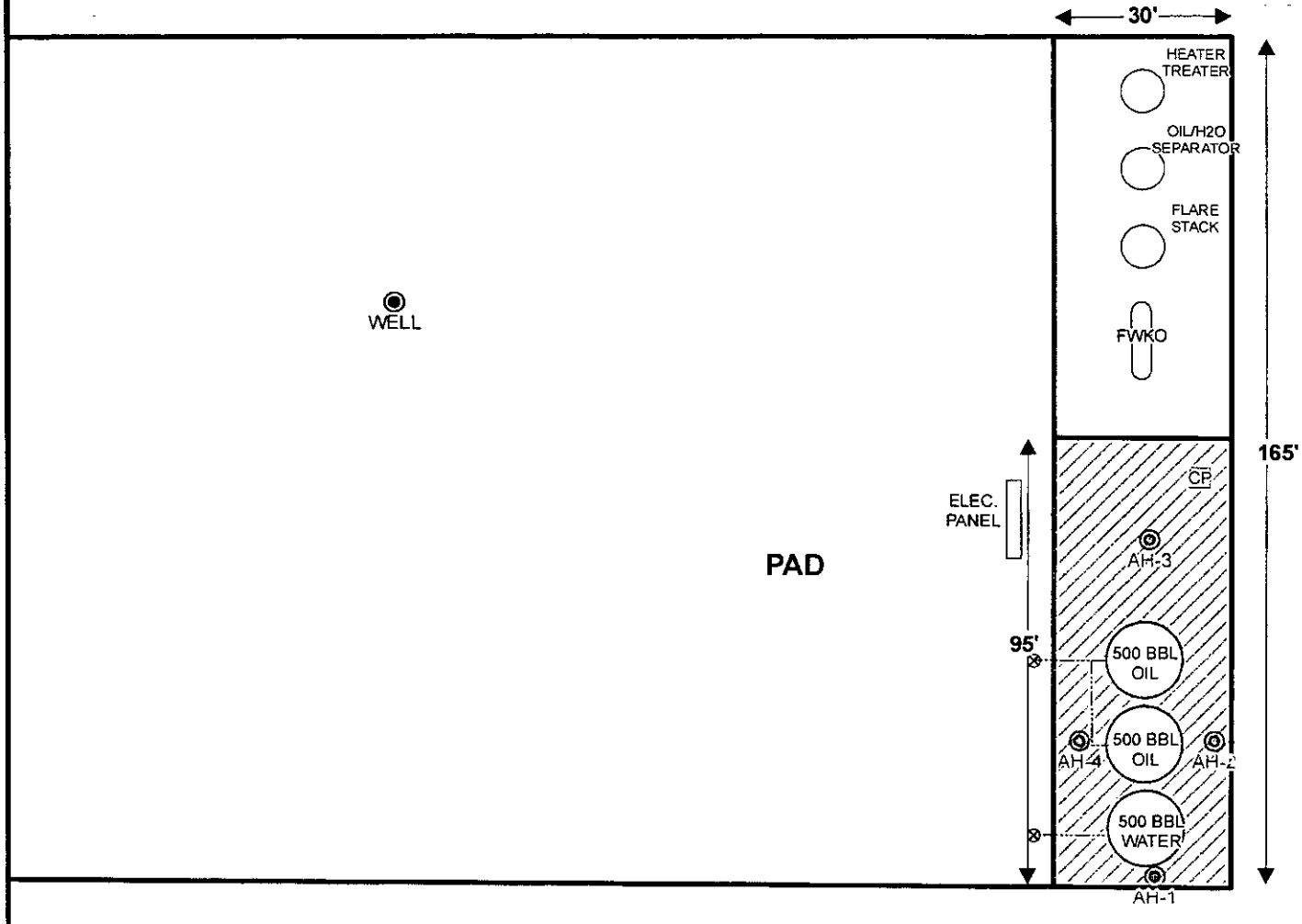
COG Spill Assessment
Eddy County, New Mexico

Project : 114-6400858

Date : 9/2/2011

File : H:\GIS\6400858

Drawn By: Isabel Marmolejo



EXPLANATION

- AUGER HOLE SAMPLE LOCATION(2nd Spill)
- WELL
- SPILL AREA (2nd Spill)

N

SCALE: 1 IN = 37 FEET

Feet 0 20 40

CONCHO

Figure 4

Dogwood Federal #1 TB(2nd Spill)
Spill Assessment Map

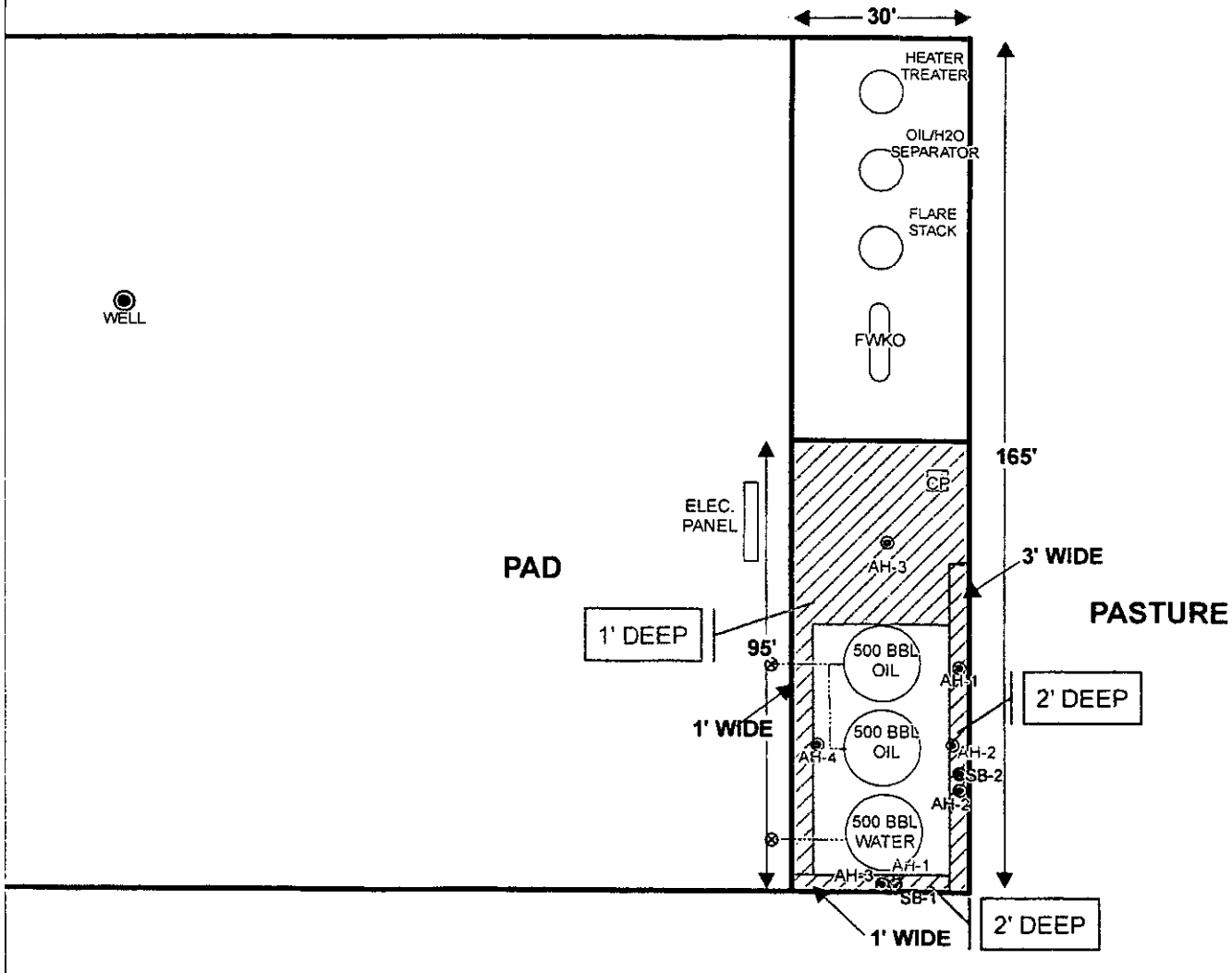
COG Spill Assessment
Eddy County, New Mexico

Project : 114-6400858

Date : 3/12/2012

File : H:\GIS\6400858

Drawn By: Isabel Marmolejo



EXPLANATION

- AUGER HOLE SAMPLE LOCATION(1st Spill)
- BORE HOLE SAMPLE LOCATIONS(1st Spill)
- AUGER HOLE SAMPLE LOCATION(2nd Spill)
- PROPOSED EXCAVATION AREA

N

SCALE: 1 IN = 37 FEET

Feet 0 10 20

CONCHO

Figure 5

Dogwood Federal #1 TB
Proposed Excavation Area & Depths Map
Spill #1 & Spill #2

COG Spill Assessment
Eddy County, New Mexico

Project : 114-6400858

Date : 3/12/2012

File : H:\GIS\6400858

Drawn By: Isabel Mermolejo

Tables

Table 1
COG Operating LLC.
DOGWOOD FEDERAL #1 TANK BATTERY - SPILL #1
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-1	3/25/2011	0-0.5'		X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<200
	"	1'		X		-	-	-	-	-	-	-	-	<200
	"	2'		X		-	-	-	-	-	-	-	-	<200
	"	3'		X		-	-	-	-	-	-	-	-	205
	"	4'		X		-	-	-	-	-	-	-	-	214
	"	5'		X		-	-	-	-	-	-	-	-	<200
AH-2	3/25/2011	0-0.5'		X		1,590	672	2,262	3.54	45.5	40.6	82.1	172	9,780
	"	1'		X		-	-	-	-	-	-	-	-	3,430
	"	2'		X		-	-	-	-	-	-	-	-	1,750
	"	3'		X		-	-	-	-	-	-	-	-	252
	"	4'		X		-	-	-	-	-	-	-	-	370
	"	5'		X		-	-	-	-	-	-	-	-	2,330
SB-2	6/27/2011	0-1'	4'	X		-	-	-	-	-	-	-	-	255
		3'	4'	X		-	-	-	-	-	-	-	-	320
		5'	4'	X		-	-	-	-	-	-	-	-	390
		7'	4'	X		-	-	-	-	-	-	-	-	<200
		10'	4'	X		-	-	-	-	-	-	-	-	<200
		15'	4'	X		-	-	-	-	-	-	-	-	343
		20'	4'	X		-	-	-	-	-	-	-	-	218

Table 1
COG Operating LLC.
DOGWOOD FEDERAL #1 TANK BATTERY - SPILL #1
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-3	3/24/2011	0-0.5'		X		1,820	1,160	2,980	6.09	45.2	36.5	69.9	158	7,720
	"	1'		X		15.6	<50.0	15.6	<0.0200	0.166	<0.0200	0.443	0.609	3,780
	"	2'		X		-	-	-	-	-	-	-	-	2,490
	"	3'		X		-	-	-	-	-	-	-	-	5,060
	"	4'		X		-	-	-	-	-	-	-	-	2,140
SB-1	6/27/2011	0-1'	3'	X		-	-	-	-	-	-	-	-	3,700
		3'	3'	X		-	-	-	-	-	-	-	-	325
		5'	3'	X		-	-	-	-	-	-	-	-	<200
		7'	3'	X		-	-	-	-	-	-	-	-	<200
		10'	3'	X		-	-	-	-	-	-	-	-	<200
		15'	3'	X		-	-	-	-	-	-	-	-	<200
		20'	3'	X		-	-	-	-	-	-	-	-	<200

(--) Not Analyzed

BEB Below Excavated Bottom

▭ Proposed Excavation Depth

Table 2
COG Operating LLC.
DOGWOOD FEDERAL #1 TANK BATTERY -Spill #2
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
AH-1	1/19/2012	0-1	X		974	1,010	1,984	<0.100	1.02	4.49	21.5	27.01	1,400
	"	1-1.5	X		-	-	-	-	-	-	-	-	1,200
	"	2-2.5	X		-	-	-	-	-	-	-	-	1,240
	"	3-3.5	X		-	-	-	-	-	-	-	-	314
	"	3.5-4	X		-	-	-	-	-	-	-	-	380
AH-2	1/19/2012	0-1	X		3.77	<50.0	3.77	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	4,190
	"	1-1.5	X		-	-	-	-	-	-	-	-	435
	"	2-2.5	X		-	-	-	-	-	-	-	-	<200
	"	3-3.5	X		-	-	-	-	-	-	-	-	<200
	"	3.5-4	X		-	-	-	-	-	-	-	-	<200
AH-3	1/19/2012	0-1	X		5.65	<50.0	5.65	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	7,220
	"	1-1.5	X		-	-	-	-	-	-	-	-	410
	"	2-2.5	X		-	-	-	-	-	-	-	-	<200
	"	3-3.5	X		-	-	-	-	-	-	-	-	<200
	"	4-4.5	X		-	-	-	-	-	-	-	-	<200
	"	5-5.5	X		-	-	-	-	-	-	-	-	<200
AH-4	1/19/2012	0-1	X		4.47	<50.0	4.47	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	4,050

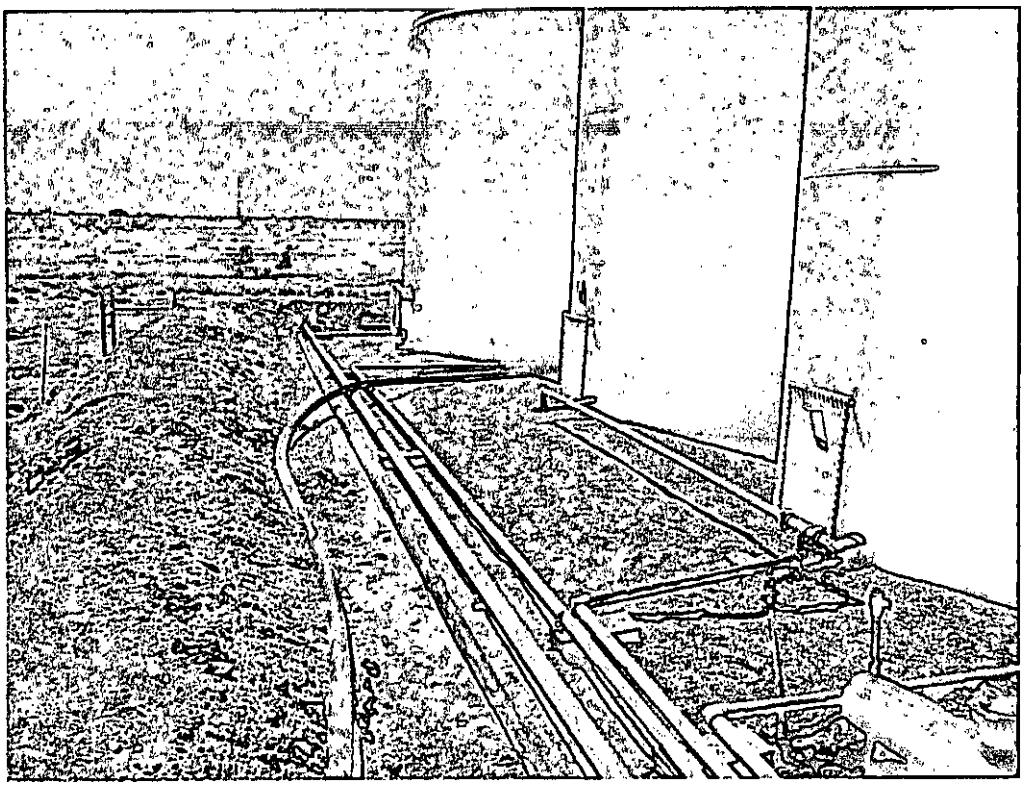
(--) Not Analyzed

Proposed Excavation Depth

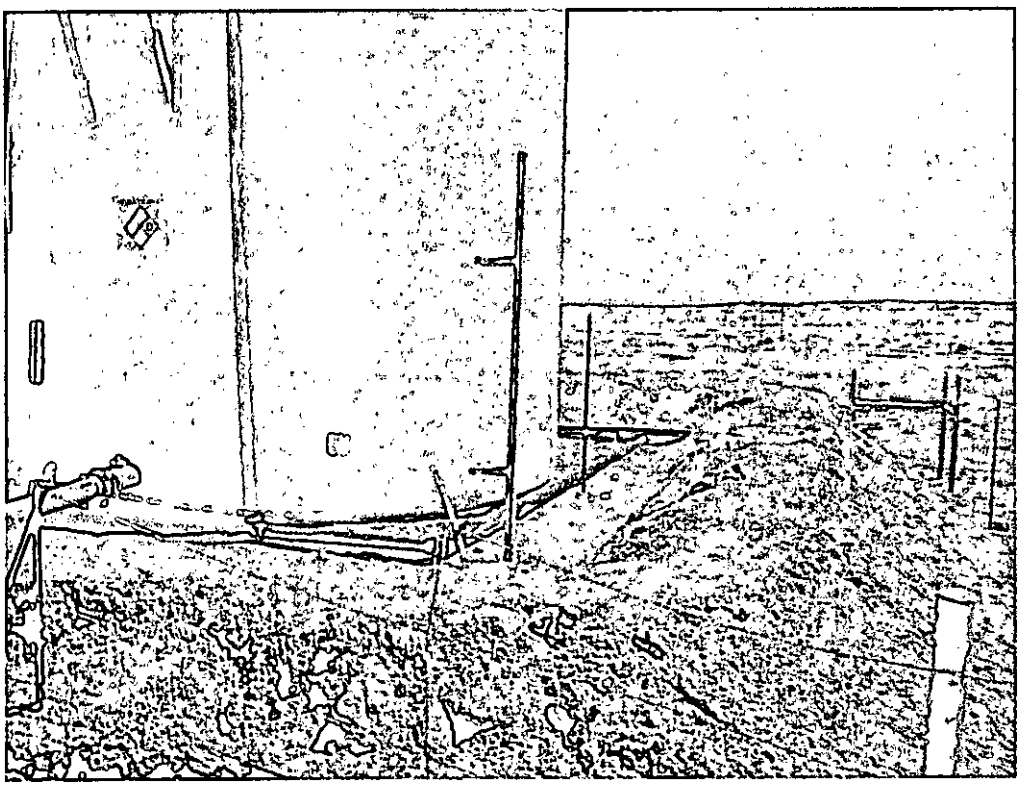
Photos

COG Operating LLC
Dogwood Federal (Spill #1)
Eddy County, New Mexico
Assessment Date: March 24, 2011

TETRA TECH

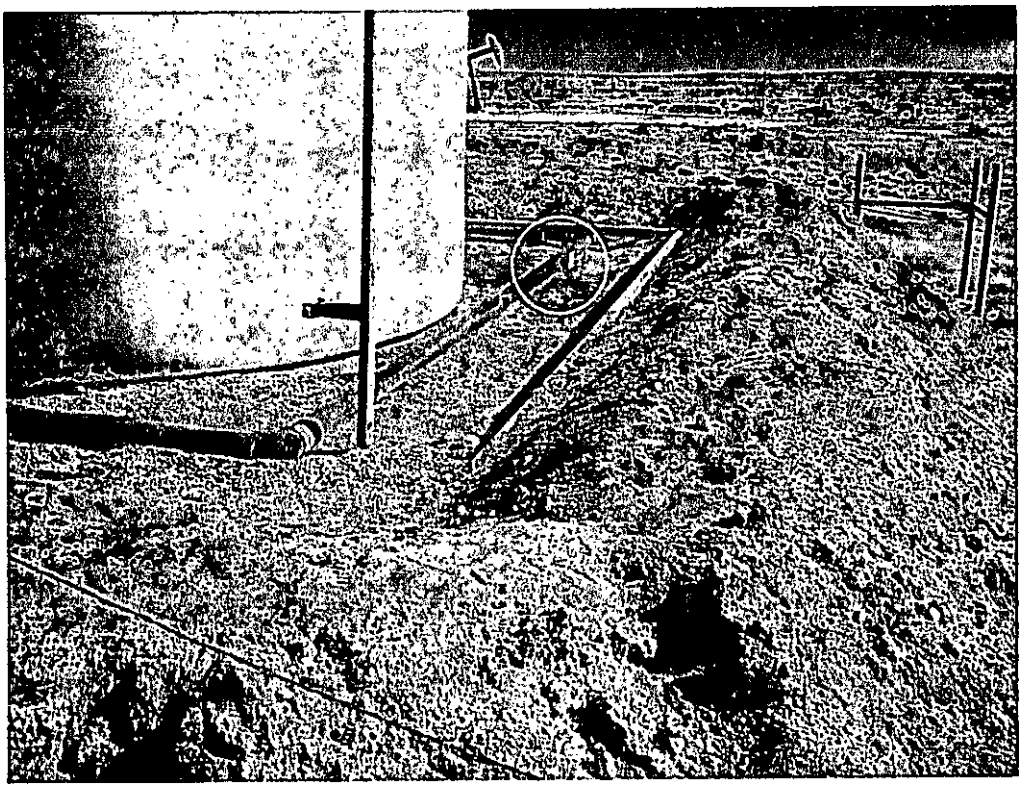


View south along backside of facility near AH-1 and AH-2

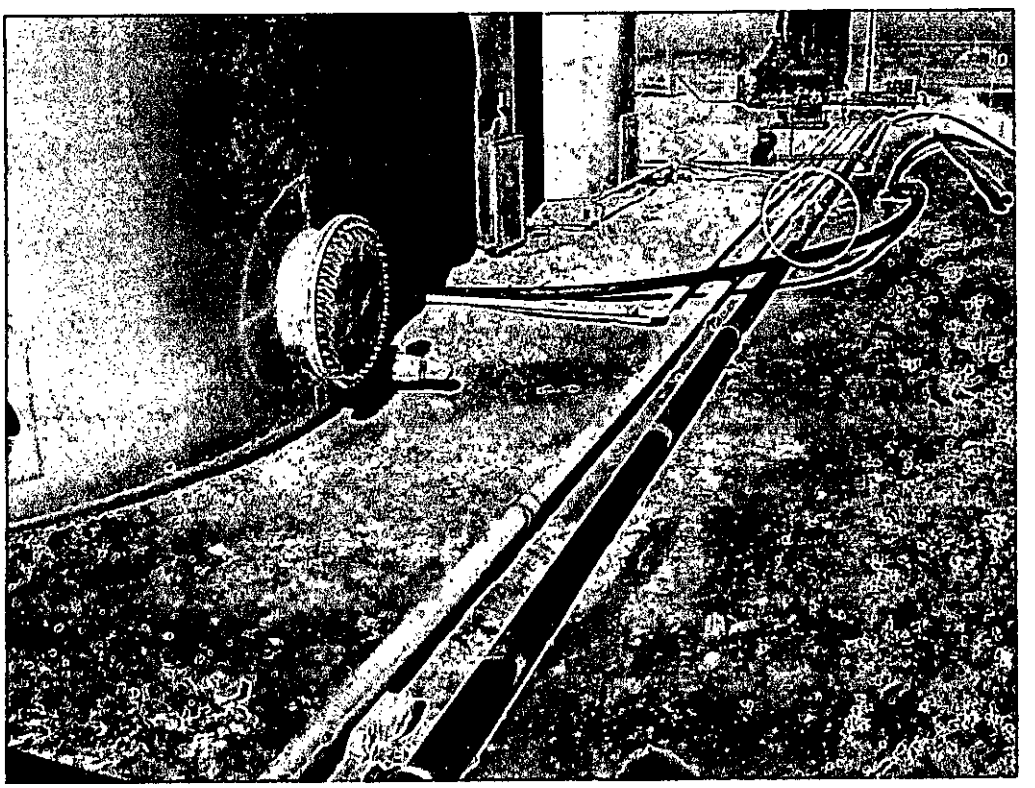


View east along southern edge of facility near AH-3

COG Operating LLC
Dogwood Federal (2nd Spill)
Eddy County, New Mexico
Assessment Date: January 19, 2012



Southern edge of facility near AH-1

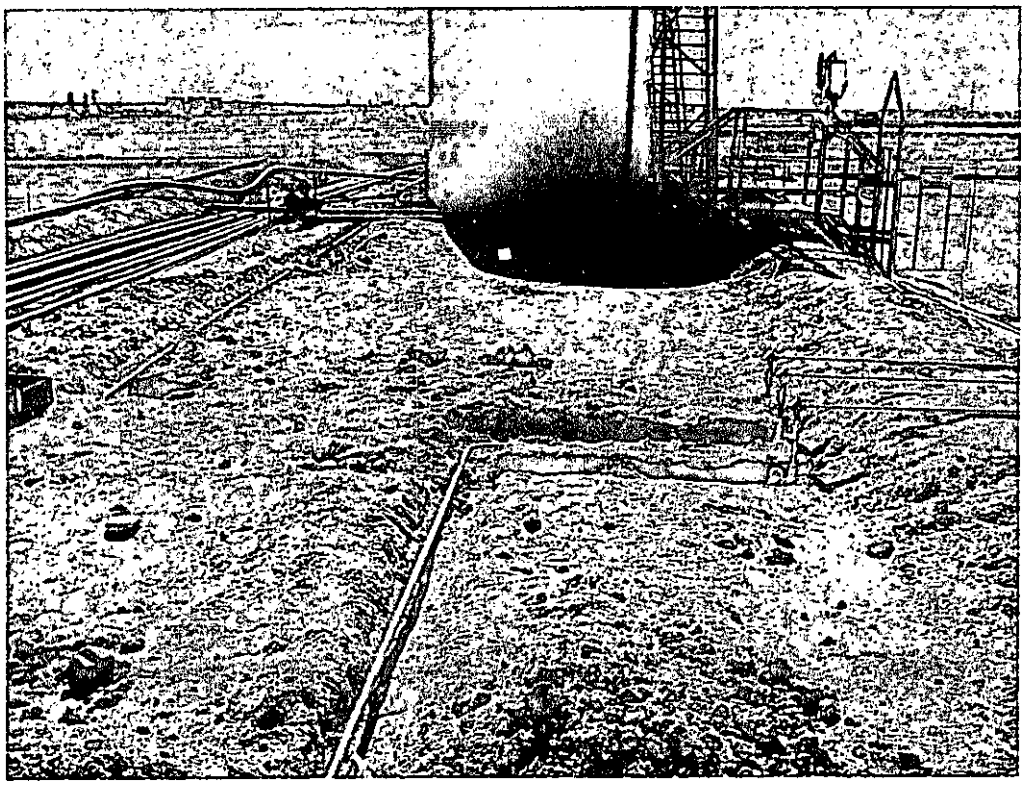


Backside of facility along eastern edge near AH-2

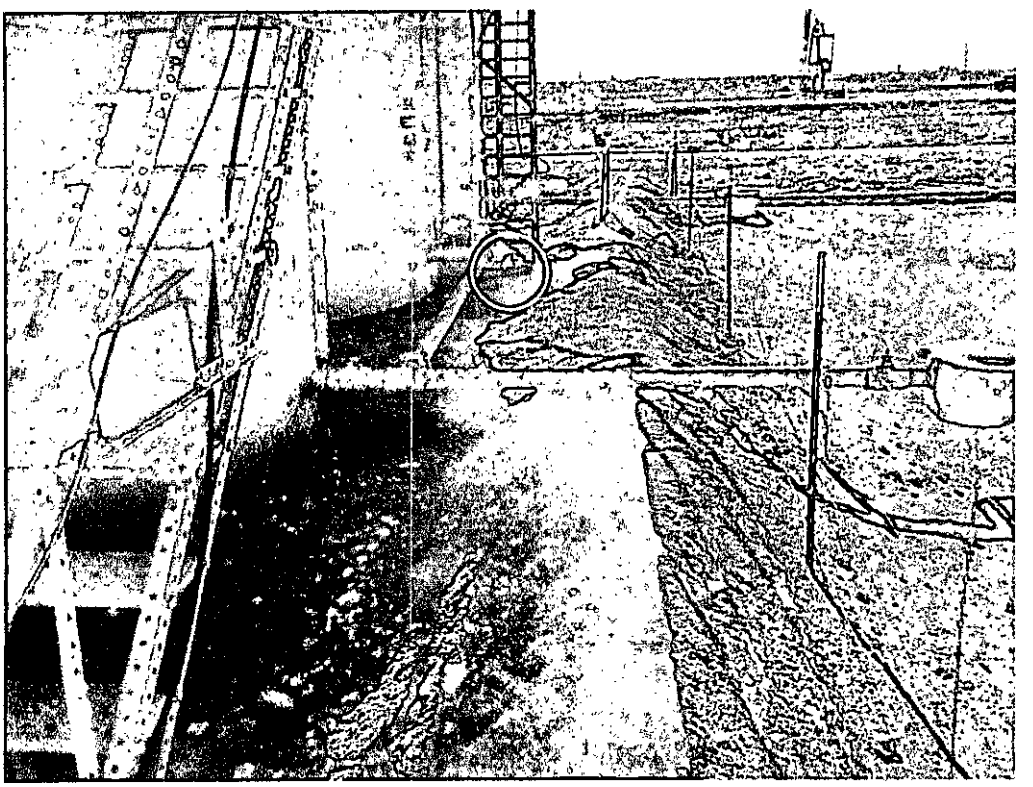
TETRA TECH

COG Operating LLC
Dogwood Federal (2nd Spill)
Eddy County, New Mexico
Assessment Date: January 19, 2012

TETRA TECH



View south near AH-3 north of tanks



Front side of facility along western edge near AH-4

Appendix A

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MAY 21 2012
NMOCD ARTESIA

Spill #1

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	Dogwood Federal	Facility Type	Tank Battery

Surface Owner Federal	Mineral Owner	Lease No. (API#) 30-015-32927 NMNM-94594

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	25	17S	27E					Eddy

Latitude 32 48.351 **Longitude** 104 14.115

NATURE OF RELEASE

Type of Release Produced water	Volume of Release 10bbls	Volume Recovered 8bbls
Source of Release Water tank	Date and Hour of Occurrence 03/01/2011	Date and Hour of Discovery 03/01/2011 3:30 p.m.
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

Water haulers failed to pick up water after the well was turned back on.

Describe Area Affected and Cleanup Action Taken.*

Initially 10bbls was released from the water tank and we were able to recover 8bbls with a vacuum truck. The entire release was contained inside the facility berm walls and it measure and area of 3' x 50'. All standing fluid has been removed and contamination has been dug out. Tetra Tech will sample the spill site area 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: 03/10/2011 Phone: 432-212-2399	

Attach Additional Sheets If Necessary

Spill #2

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

RECEIVED
MAY 21 2012
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 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Dogwood Federal	Facility Type	Tank Battery

Surface Owner	Mineral Owner	Lease No.
Federal		(API)# 30-015-32927 NMNM-94594

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	25	17S	27E					Eddy

Latitude 32 48.245 **Longitude** 104 14.115

NATURE OF RELEASE

Type of Release Produced water	Volume of Release 105bbls	Volume Recovered 100bbls
Source of Release Water tank	Date and Hour of Occurrence 01/03/2012	Date and Hour of Discovery 01/03/2012 8:00 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher-OCD Jim Amos-BLM Terry Gregston-BLM	
By Whom? Josh Russo	Date and Hour 01/04/2012 10:54 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.*

Wells were turned off due to problems with water haulers and when the wells were turned back on the water haulers were not notified in time.

Describe Area Affected and Cleanup Action Taken.*

Initially 105bbls were released and we were able to recover 100bbls with a vacuum truck. All of the fluid was contained inside the walls of the facility. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present the NMOCD/BLM with a work plan 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: 01/16/2012 Phone: 432-212-2399		

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - Dogwood Federal #1
Eddy County, New Mexico

16 South 26 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 27 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 **70**	26	25
31	32	33	34	35	36

16 South 28 East

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

17 South 26 East

6	5	4	3	2	1
7 Artesia	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 27 East

6	5 **30**	4	3	2	1
7 **14**	8	9	10	11 **54** **50**	12
18 **86**	17 **283**	16 **194**	15	14	13
19	20	21	22	23 **40**	24
30	29	28	27	26	25 **SITE**
31	32 **120**	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 **63**	35	36

18 South 26 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 27 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 **85**	36

New Mexico State Engineers Well Reports
USGS Well Reports
Field water level
New Mexico Water and Infrastructure Data System
SITE - Dogwood Federal

Appendix C

Summary Report

Victoria Inman
Tetra Tech
1910 N. Big Spring Street
Midland, TX 79705

Report Date: April 4, 2011

Work Order: 11032820

Project Location: Eddy Co., NM
Project Name: COG/Dogwood Fed. #1 TB
Project Number: 114-6400858

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
261891	AH-1 0-0.5'	soil	2011-03-25	00:00	2011-03-28
261892	AH-1 1'	soil	2011-03-25	00:00	2011-03-28
261893	AH-1 2'	soil	2011-03-25	00:00	2011-03-28
261894	AH-1 3'	soil	2011-03-25	00:00	2011-03-28
261895	AH-1 4'	soil	2011-03-25	00:00	2011-03-28
261896	AH-1 5'	soil	2011-03-25	00:00	2011-03-28
261897	AH-2 0-0.5'	soil	2011-03-25	00:00	2011-03-28
261898	AH-2 1'	soil	2011-03-25	00:00	2011-03-28
261899	AH-2 2'	soil	2011-03-25	00:00	2011-03-28
261900	AH-2 3'	soil	2011-03-25	00:00	2011-03-28
261901	AH-2 4'	soil	2011-03-25	00:00	2011-03-28
261902	AH-2 5'	soil	2011-03-25	00:00	2011-03-28
261903	AH-3 0-0.5'	soil	2011-03-25	00:00	2011-03-28
261904	AH-3 1'	soil	2011-03-25	00:00	2011-03-28
261905	AH-3 2'	soil	2011-03-25	00:00	2011-03-28
261906	AH-3 3'	soil	2011-03-25	00:00	2011-03-28
261907	AH-3 4'	soil	2011-03-25	00:00	2011-03-28

	BTEX				TPH DRO - NEW	TPH GRO
Sample - Field Code	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
261891 - AH-1 0-0.5'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
261897 - AH-2 0-0.5'	**3.54**	**45.5**	**40.6**	**82.1**	**672**	**1590**
261903 - AH-3 0-0.5'	**6.09**	**45.2**	**36.5**	**69.9**	**1160**	**1820**
261904 - AH-3 1'	<0.0200	**0.166**	<0.0200	**0.443**	<50.0	**15.6**

Sample: 261891 - AH-1 0-0.5'

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

Sample: 261892 - AH-1 1'

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

Sample: 261893 - AH-1 2'

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

Sample: 261894 - AH-1 3'

Param	Flag	Result	Units	RL
Chloride		**205**	mg/Kg	4.00

Sample: 261895 - AH-1 4'

Param	Flag	Result	Units	RL
Chloride		**214**	mg/Kg	4.00

Sample: 261896 - AH-1 5'

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

Sample: 261897 - AH-2 0-0.5'

Param	Flag	Result	Units	RL
Chloride		**9780**	mg/Kg	4.00

Sample: 261898 - AH-2 1'

Param	Flag	Result	Units	RL
Chloride		**3430**	mg/Kg	4.00

Sample: 261899 - AH-2 2'

Param	Flag	Result	Units	RL
Chloride		**1750**	mg/Kg	4.00

Sample: 261900 - AH-2 3'

Param	Flag	Result	Units	RL
Chloride		**252**	mg/Kg	4.00

Sample: 261901 - AH-2 4'

Param	Flag	Result	Units	RL
Chloride		**370**	mg/Kg	4.00

Sample: 261902 - AH-2 5'

Param	Flag	Result	Units	RL
Chloride		**2330**	mg/Kg	4.00

Sample: 261903 - AH-3 0-0.5'

Param	Flag	Result	Units	RL
Chloride		**7720**	mg/Kg	4.00

Sample: 261904 - AH-3 1'

Param	Flag	Result	Units	RL
Chloride		**3780**	mg/Kg	4.00

Sample: 261905 - AH-3 2'

Param	Flag	Result	Units	RL
Chloride		**2490**	mg/Kg	4.00

Sample: 261906 - AH-3 3'

Param	Flag	Result	Units	RL
Chloride		**5060**	mg/Kg	4.00

Sample: 261907 - AH-3 4'

Param	Flag	Result	Units	RL
Chloride		**2140**	mg/Kg	4.00

Summary Report

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

Report Date: July 12, 2011

Work Order: 11070111

Project Location: Eddy Co., NM
Project Name: COG/Dogwood Fed. #1 TB
Project Number: 114-6400858

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
270978	SB-1 0-1 (3' BEB)	soil	2011-06-27	00:00	2011-06-30
270979	SB-1 3' (3' BEB)	soil	2011-06-27	00:00	2011-06-30
270980	SB-1 5' (3' BEB)	soil	2011-06-27	00:00	2011-06-30
270981	SB-1 7' (3' BEB)	soil	2011-06-27	00:00	2011-06-30
270982	SB-1 10' (3' BEB)	soil	2011-06-27	00:00	2011-06-30
270983	SB-1 15' (3' BEB)	soil	2011-06-27	00:00	2011-06-30
270984	SB-1 20' (3' BEB)	soil	2011-06-27	00:00	2011-06-30
270987	SB-2 0-1' (4' BEB)	soil	2011-06-27	00:00	2011-06-30
270988	SB-2 3' (4' BEB)	soil	2011-06-27	00:00	2011-06-30
270989	SB-2 5' (4' BEB)	soil	2011-06-27	00:00	2011-06-30
270990	SB-2 7' (4' BEB)	soil	2011-06-27	00:00	2011-06-30
270991	SB-2 10' (4' BEB)	soil	2011-06-27	00:00	2011-06-30
270992	SB-2 15' (4' BEB)	soil	2011-06-27	00:00	2011-06-30
270993	SB-2 20' (4' BEB)	soil	2011-06-27	00:00	2011-06-30

Sample: 270978 - SB-1 0-1 (3' BEB)

Param	Flag	Result	Units	RL
Chloride		**3700**	mg/Kg	4

Sample: 270979 - SB-1 3' (3' BEB)

Param	Flag	Result	Units	RL
Chloride		**325**	mg/Kg	4

Sample: 270980 - SB-1 5' (3' BEB)

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

Sample: 270981 - SB-1 7' (3' BEB)

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

Sample: 270982 - SB-1 10' (3' BEB)

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

Sample: 270983 - SB-1 15' (3' BEB)

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

Sample: 270984 - SB-1 20' (3' BEB)

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

Sample: 270987 - SB-2 0-1' (4' BEB)

Param	Flag	Result	Units	RL
Chloride		**255**	mg/Kg	4

Sample: 270988 - SB-2 3' (4' BEB)

Param	Flag	Result	Units	RL
Chloride		**320**	mg/Kg	4

Sample: 270989 - SB-2 5' (4' BEB)

Param	Flag	Result	Units	RL
Chloride		**390**	mg/Kg	4

Sample: 270990 - SB-2 7' (4' BEB)

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

Sample: 270991 - SB-2 10' (4' BEB)

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

Sample: 270992 - SB-2 15' (4' BEB)

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

Sample: 270993 - SB-2 20' (4' BEB)

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

Summary Report

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

Report Date: January 26, 2012

Work Order: 12012001

Project Location: Eddy Co., NM
Project Name: COG/Dogwood Fed. #1 TB
Project Number: 114-6400858

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
286929	AH-1 0-1'	soil	2012-01-19	00:00	2012-01-19
286930	AH-1 1-1.5'	soil	2012-01-19	00:00	2012-01-19
286931	AH-1 2-2.5'	soil	2012-01-19	00:00	2012-01-19
286932	AH-1 3-3.5'	soil	2012-01-19	00:00	2012-01-19
286933	AH-1 3.5-4'	soil	2012-01-19	00:00	2012-01-19
286934	AH-2 0-1'	soil	2012-01-19	00:00	2012-01-19
286935	AH-2 1-1.5'	soil	2012-01-19	00:00	2012-01-19
286936	AH-2 2-2.5'	soil	2012-01-19	00:00	2012-01-19
286937	AH-2 3-3.5'	soil	2012-01-19	00:00	2012-01-19
286938	AH-2 3.5-4'	soil	2012-01-19	00:00	2012-01-19
286939	AH-3 0-1'	soil	2012-01-19	00:00	2012-01-19
286940	AH-3 1-1.5'	soil	2012-01-19	00:00	2012-01-19
286941	AH-3 2-2.5'	soil	2012-01-19	00:00	2012-01-19
286942	AH-3 3-3.5'	soil	2012-01-19	00:00	2012-01-19
286943	AH-3 4-4.5'	soil	2012-01-19	00:00	2012-01-19
286944	AH-3 5-5.5'	soil	2012-01-19	00:00	2012-01-19
286945	AH-4 0-1'	soil	2012-01-19	00:00	2012-01-19

	BTEX				TPH DRO - NEW	TPH GRO
Sample - Field Code	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
286929 - AH-1 0-1'	<0.100	**1.02**	**4.49**	**21.5**	**1010**	**974**
286934 - AH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	**3.77**
286939 - AH-3 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	**5.65**
286945 - AH-4 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	**4.47**

Sample: 286929 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		1400	mg/Kg	4

Sample: 286930 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		1200	mg/Kg	4

Sample: 286931 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		1240	mg/Kg	4

Sample: 286932 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		314	mg/Kg	4

Sample: 286933 - AH-1 3.5-4'

Param	Flag	Result	Units	RL
Chloride		380	mg/Kg	4

Sample: 286934 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		4190	mg/Kg	4

Sample: 286935 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		435	mg/Kg	4

Sample: 286936 - AH-2 2-2.5'

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

Sample: 286937 - AH-2 3-3.5'

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

Sample: 286938 - AH-2 3.5-4'

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

Sample: 286939 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**7220**	mg/Kg	4

Sample: 286940 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**410**	mg/Kg	4

Sample: 286941 - AH-3 2-2.5'

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

Sample: 286942 - AH-3 3-3.5'

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

Sample: 286943 - AH-3 4-4.5'

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

Sample: 286944 - AH-3 5-5.5'

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

Sample: 286945 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**4050**	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: January 26, 2012

Work Order: 12012001

Project Location: Eddy Co., NM
Project Name: COG/Dogwood Fed. #1 TB
Project Number: 114-6400858

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
286929	AH-1 0-1'	soil	2012-01-19	00:00	2012-01-19
286930	AH-1 1-1.5'	soil	2012-01-19	00:00	2012-01-19
286931	AH-1 2-2.5'	soil	2012-01-19	00:00	2012-01-19
286932	AH-1 3-3.5'	soil	2012-01-19	00:00	2012-01-19
286933	AH-1 3.5-4'	soil	2012-01-19	00:00	2012-01-19
286934	AH-2 0-1'	soil	2012-01-19	00:00	2012-01-19
286935	AH-2 1-1.5'	soil	2012-01-19	00:00	2012-01-19
286936	AH-2 2-2.5'	soil	2012-01-19	00:00	2012-01-19
286937	AH-2 3-3.5'	soil	2012-01-19	00:00	2012-01-19
286938	AH-2 3.5-4'	soil	2012-01-19	00:00	2012-01-19
286939	AH-3 0-1'	soil	2012-01-19	00:00	2012-01-19
286940	AH-3 1-1.5'	soil	2012-01-19	00:00	2012-01-19
286941	AH-3 2-2.5'	soil	2012-01-19	00:00	2012-01-19
286942	AH-3 3-3.5'	soil	2012-01-19	00:00	2012-01-19
286943	AH-3 4-4.5'	soil	2012-01-19	00:00	2012-01-19
286944	AH-3 5-5.5'	soil	2012-01-19	00:00	2012-01-19
286945	AH-4 0-1'	soil	2012-01-19	00:00	2012-01-19

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 28 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/Dogwood Fed. #1 TB were received by TraceAnalysis, Inc. on 2012-01-19 and assigned to work order 12012001. Samples for work order 12012001 were received intact at a temperature of 4.1 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	74695	2012-01-20 at 09:00	87963	2012-01-23 at 10:00
Chloride (Titration)	SM 4500-Cl B	74739	2012-01-24 at 08:56	88068	2012-01-25 at 15:12
Chloride (Titration)	SM 4500-Cl B	74739	2012-01-24 at 08:56	88082	2012-01-25 at 16:02
Chloride (Titration)	SM 4500-Cl B	74739	2012-01-24 at 08:56	88083	2012-01-25 at 16:03
TPH DRO - NEW	S 8015 D	74693	2012-01-20 at 09:00	87961	2012-01-21 at 01:08
TPH GRO	S 8015 D	74695	2012-01-20 at 09:00	87964	2012-01-23 at 10:00

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 12012001 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: 286929 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87963	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74695	Sample Preparation:	2012-01-20	Prepared By:	DA

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	1	<0.100	mg/Kg	5	0.0200
Toluene		1	**1.02**	mg/Kg	5	0.0200
Ethylbenzene		1	**4.49**	mg/Kg	5	0.0200
Xylene		1	**21.5**	mg/Kg	5	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.67	mg/Kg	5	5.00	93	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	10.0	mg/Kg	5	5.00	200	70.6 - 179

Sample: 286929 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88068	Date Analyzed:	2012-01-25	Analyzed By:	AR
Prep Batch:	74739	Sample Preparation:	2012-01-24	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**1400**	mg/Kg	100	4.00

Sample: 286929 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	87961	Date Analyzed:	2012-01-21	Analyzed By:	tc
Prep Batch:	74693	Sample Preparation:	2012-01-20	Prepared By:	tc

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
DRO		1	**1010**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			116	mg/Kg	1	100	116	53.5 - 147.1

Sample: 286929 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87964	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74695	Sample Preparation:	2012-01-20	Prepared By:	DA

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**974**	mg/Kg	5	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.84	mg/Kg	5	5.00	97	30 - 134.6
4-Bromofluorobenzene (4-BFB)	Qar	Qar	8.82	mg/Kg	5	5.00	176	22.4 - 149

Sample: 286930 - AH-1 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88068	Date Analyzed:	2012-01-25	Analyzed By:	AR
Prep Batch:	74739	Sample Preparation:	2012-01-24	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1200**	mg/Kg	100	4.00

Sample: 286931 - AH-1 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88082	Date Analyzed:	2012-01-25	Analyzed By:	AR
Prep Batch:	74739	Sample Preparation:	2012-01-24	Prepared By:	AR

continued ...

sample 286931 continued . . .

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1240**	mg/Kg	50	4.00

Sample: 286932 - AH-1 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88082	Date Analyzed:	2012-01-25	Analyzed By:	AR
Prep Batch:	74739	Sample Preparation:	2012-01-24	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**314**	mg/Kg	50	4.00

Sample: 286933 - AH-1 3.5-4'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88082	Date Analyzed:	2012-01-25	Analyzed By:	AR
Prep Batch:	74739	Sample Preparation:	2012-01-24	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**380**	mg/Kg	50	4.00

Sample: 286934 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87963	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74695	Sample Preparation:	2012-01-20	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.08	mg/Kg	1	2.00	104	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			1.91	mg/Kg	1	2.00	96	70.6 - 179

Sample: 286934 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88082	Date Analyzed:	2012-01-25	Analyzed By:	AR
Prep Batch:	74739	Sample Preparation:	2012-01-24	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**4190**	mg/Kg	100	4.00

Sample: 286934 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	87961	Date Analyzed:	2012-01-21	Analyzed By:	tc
Prep Batch:	74693	Sample Preparation:	2012-01-20	Prepared By:	tc

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			83.5	mg/Kg	1	100	84	53.5 - 147.1

Sample: 286934 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87964	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74695	Sample Preparation:	2012-01-20	Prepared By:	DA

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**3.77**	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.16	mg/Kg	1	2.00	108	30 - 134.6
4-Bromofluorobenzene (4-BFB)			1.86	mg/Kg	1	2.00	93	22.4 - 149

Sample: 286935 - AH-2 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88082	Date Analyzed:	2012-01-25	Analyzed By:	AR
Prep Batch:	74739	Sample Preparation:	2012-01-24	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**435**	mg/Kg	50	4.00

Sample: 286936 - AH-2 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88082	Date Analyzed:	2012-01-25	Analyzed By:	AR
Prep Batch:	74739	Sample Preparation:	2012-01-24	Prepared By:	AR

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

Sample: 286937 - AH-2 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88082	Date Analyzed:	2012-01-25	Analyzed By:	AR
Prep Batch:	74739	Sample Preparation:	2012-01-24	Prepared By:	AR

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

Sample: 286938 - AH-2 3.5-4'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88082	Date Analyzed:	2012-01-25	Analyzed By:	AR
Prep Batch:	74739	Sample Preparation:	2012-01-24	Prepared By:	AR

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

Sample: 286939 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87963	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74695	Sample Preparation:	2012-01-20	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.93	mg/Kg	1	2.00	96	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			1.77	mg/Kg	1	2.00	88	70.6 - 179

Sample: 286939 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88082	Date Analyzed:	2012-01-25	Analyzed By:	AR
Prep Batch:	74739	Sample Preparation:	2012-01-24	Prepared By:	AR

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Chloride			**7220**		mg/Kg	100	4.00

Sample: 286939 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	87961	Date Analyzed:	2012-01-21	Analyzed By:	tc
Prep Batch:	74693	Sample Preparation:	2012-01-20	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			81.0	mg/Kg	1	100	81	53.5 - 147.1

Sample: 286939 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87964	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74695	Sample Preparation:	2012-01-20	Prepared By:	DA

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
GRO		1	***5.65***		mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.01	mg/Kg	1	2.00	100	30 - 134.6
4-Bromofluorobenzene (4-BFB)			1.74	mg/Kg	1	2.00	87	22.4 - 149

Sample: 286940 - AH-3 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88082	Date Analyzed:	2012-01-25	Analyzed By:	AR
Prep Batch:	74739	Sample Preparation:	2012-01-24	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**410**	mg/Kg	50	4.00

Sample: 286941 - AH-3 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88083	Date Analyzed:	2012-01-25	Analyzed By:	AR
Prep Batch:	74739	Sample Preparation:	2012-01-24	Prepared By:	AR

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

Sample: 286942 - AH-3 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88083	Date Analyzed:	2012-01-25	Analyzed By:	AR
Prep Batch:	74739	Sample Preparation:	2012-01-24	Prepared By:	AR

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

Sample: 286943 - AH-3 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88083	Date Analyzed:	2012-01-25	Analyzed By:	AR
Prep Batch:	74739	Sample Preparation:	2012-01-24	Prepared By:	AR

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

Sample: 286944 - AH-3 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88083	Date Analyzed:	2012-01-25	Analyzed By:	AR
Prep Batch:	74739	Sample Preparation:	2012-01-24	Prepared By:	AR

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

Sample: 286945 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87963	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74695	Sample Preparation:	2012-01-20	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.99	mg/Kg	1	2.00	100	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			1.84	mg/Kg	1	2.00	92	70.6 - 179

Sample: 286945 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88083	Date Analyzed:	2012-01-25	Analyzed By:	AR
Prep Batch:	74739	Sample Preparation:	2012-01-24	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**4050**	mg/Kg	100	4.00

Sample: 286945 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	87961	Date Analyzed:	2012-01-21	Analyzed By:	tc
Prep Batch:	74693	Sample Preparation:	2012-01-20	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			81.3	mg/Kg	1	100	81	53.5 - 147.1

Sample: 286945 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87964	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74695	Sample Preparation:	2012-01-20	Prepared By:	DA

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**4.47**	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.07	mg/Kg	1	2.00	104	30 - 134.6
4-Bromofluorobenzene (4-BFB)			1.84	mg/Kg	1	2.00	92	22.4 - 149

Method Blanks

Method Blank (1) QC Batch: 87961

QC Batch: 87961 | Date Analyzed: 2012-01-21 | Analyzed By: tc
Prep Batch: 74693 | QC Preparation: 2012-01-20 | Prepared By: tc

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	<14.5	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			82.0	mg/Kg	1	100	82	52.7 - 133.8

Method Blank (1) QC Batch: 87963

QC Batch: 87963 | Date Analyzed: 2012-01-23 | Analyzed By: DA
Prep Batch: 74695 | QC Preparation: 2012-01-20 | Prepared By: DA

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)			1.80	mg/Kg	1	2.00	90	65.9 - 111.8
4-Bromofluorobenzene (4-BFB)			1.37	mg/Kg	1	2.00	68	48.4 - 123.1

Method Blank (1) QC Batch: 87964

QC Batch: 87964 | Date Analyzed: 2012-01-23 | Analyzed By: DA
Prep Batch: 74695 | QC Preparation: 2012-01-20 | Prepared By: DA

Parameter	Flag	Cert	MDL Result	Units	RL
GRO			0.983	mg/Kg	2

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.87	mg/Kg	1	2.00	94	67.6 - 150
4-Bromofluorobenzene (4-BFB)			1.38	mg/Kg	1	2.00	69	52.4 - 130

Method Blank (1) QC Batch: 88068

QC Batch:	88068	Date Analyzed:	2012-01-25	Analyzed By:	AR
Prep Batch:	74739	QC Preparation:	2012-01-24	Prepared By:	AR

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

Method Blank (1) QC Batch: 88082

QC Batch:	88082	Date Analyzed:	2012-01-25	Analyzed By:	AR
Prep Batch:	74739	QC Preparation:	2012-01-24	Prepared By:	AR

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

Method Blank (1) QC Batch: 88083

QC Batch:	88083	Date Analyzed:	2012-01-25	Analyzed By:	AR
Prep Batch:	74739	QC Preparation:	2012-01-24	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: 87961 | Date Analyzed: 2012-01-21 | Analyzed By: tc
Prep Batch: 74693 | QC Preparation: 2012-01-20 | Prepared By: tc

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	196	mg/Kg	1	250	<14.5	78	64.5 - 146.9

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	204	mg/Kg	1	250	<14.5	82	64.5 - 146.9	4	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	86.5	92.6	mg/Kg	1	100	86	93	65.3 - 135.8

Laboratory Control Spike (LCS-1)

QC Batch: 87963 | Date Analyzed: 2012-01-23 | Analyzed By: DA
Prep Batch: 74695 | QC Preparation: 2012-01-20 | Prepared By: DA

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.91	mg/Kg	1	2.00	<0.0118	96	77.4 - 121.7
Toluene		1	1.84	mg/Kg	1	2.00	<0.00600	92	88.6 - 121.6
Ethylbenzene		1	1.71	mg/Kg	1	2.00	<0.00850	86	74.3 - 117.9
Xylene		1	5.14	mg/Kg	1	6.00	<0.00613	86	73.4 - 118.8

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	1.95	mg/Kg	1	2.00	<0.0118	98	77.4 - 121.7	2	20
Toluene		1	1.87	mg/Kg	1	2.00	<0.00600	94	88.6 - 121.6	2	20
Ethylbenzene		1	1.75	mg/Kg	1	2.00	<0.00850	88	74.3 - 117.9	2	20
Xylene		1	5.24	mg/Kg	1	6.00	<0.00613	87	73.4 - 118.8	2	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)	1.66	1.72	mg/Kg	1	2.00	83	86	65.5 - 116.7
4-Bromofluorobenzene (4-BFB)	1.56	1.57	mg/Kg	1	2.00	78	78	56.2 - 132.1

Laboratory Control Spike (LCS-1)

QC Batch: 87964 | Date Analyzed: 2012-01-23 | Analyzed By: DA
Prep Batch: 74695 | QC Preparation: 2012-01-20 | Prepared By: DA

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	15.6	mg/Kg	1	20.0	<0.753	78	60.9 - 105.4

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
GRO		1	15.1	mg/Kg	1	20.0	<0.753	76	60.9 - 105.4	3	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)	1.83	1.84	mg/Kg	1	2.00	92	92	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.40	1.45	mg/Kg	1	2.00	70	72	56.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 88068 | Date Analyzed: 2012-01-25 | Analyzed By: AR
Prep Batch: 74739 | QC Preparation: 2012-01-24 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			96.0	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			102	mg/Kg	1	100	<3.85	102	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: 88082 | Date Analyzed: 2012-01-25 | Analyzed By: AR
Prep Batch: 74739 | QC Preparation: 2012-01-24 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			96.9	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: 88083 | Date Analyzed: 2012-01-25 | Analyzed By: AR
Prep Batch: 74739 | QC Preparation: 2012-01-24 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			94.8	mg/Kg	1	100	<3.85	95	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	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: 286958

QC Batch: 87961 | Date Analyzed: 2012-01-21 | Analyzed By: tc
Prep Batch: 74693 | QC Preparation: 2012-01-20 | Prepared By: tc

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	285	mg/Kg	1	250	<14.5	114	38.8 - 153.3

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	281	mg/Kg	1	250	<14.5	112	38.8 - 153.3	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
n-Tricosane	86.5	90.1	mg/Kg	1	100	86	90	54.6 - 149.8

Matrix Spike (MS-1) Spiked Sample: 286864

QC Batch: 87963 | Date Analyzed: 2012-01-23 | Analyzed By: DA
Prep Batch: 74695 | QC Preparation: 2012-01-20 | Prepared By: DA

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.05	mg/Kg	1	2.00	<0.0118	102	69.4 - 123.6
Toluene		1	2.00	mg/Kg	1	2.00	<0.00600	100	75.4 - 134.3
Ethylbenzene		1	2.06	mg/Kg	1	2.00	<0.00850	103	58.8 - 133.7
Xylene		1	6.16	mg/Kg	1	6.00	<0.00613	103	57 - 134.2

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	2.04	mg/Kg	1	2.00	<0.0118	102	69.4 - 123.6	0	20
Toluene		1	1.99	mg/Kg	1	2.00	<0.00600	100	75.4 - 134.3	0	20
Ethylbenzene		1	2.05	mg/Kg	1	2.00	<0.00850	102	58.8 - 133.7	0	20
Xylene		1	6.12	mg/Kg	1	6.00	<0.00613	102	57 - 134.2	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)	2.06	2.02	mg/Kg	1	2	103	101	79.4 - 141.1
4-Bromofluorobenzene (4-BFB)	1.96	1.93	mg/Kg	1	2	98	96	71 - 167

Matrix Spike (MS-1) Spiked Sample: 286946

QC Batch: 87964 | Date Analyzed: 2012-01-23 | Analyzed By: DA
Prep Batch: 74695 | QC Preparation: 2012-01-20 | Prepared By: DA

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	18.1	mg/Kg	1	20.0	2.84	76	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	19.2	mg/Kg	1	20.0	2.84	82	61.8 - 114	6	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)	2.11	2.18	mg/Kg	1	2	106	109	29.4 - 161.7
4-Bromofluorobenzene (4-BFB)	1.96	1.94	mg/Kg	1	2	98	97	37.3 - 162

Matrix Spike (MS-1) Spiked Sample: 286930

QC Batch: 88068 | Date Analyzed: 2012-01-25 | Analyzed By: AR
Prep Batch: 74739 | QC Preparation: 2012-01-24 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			11700	mg/Kg	100	10000	1200	105	79.4 - 120.6

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			12300	mg/Kg	100	10000	1200	111	79.4 - 120.6	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: 286940

QC Batch: 88082 | Date Analyzed: 2012-01-25 | Analyzed By: AR
Prep Batch: 74739 | QC Preparation: 2012-01-24 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10700	mg/Kg	100	10000	410	103	79.4 - 120.6

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			11200	mg/Kg	100	10000	410	108	79.4 - 120.6	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: 286954

QC Batch: 88083 | Date Analyzed: 2012-01-25 | Analyzed By: AR
Prep Batch: 74739 | QC Preparation: 2012-01-24 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10300	mg/Kg	100	10000	<385	101	79.4 - 120.6

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			10700	mg/Kg	100	10000	<385	105	79.4 - 120.6	4	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: 87961 | Date Analyzed: 2012-01-21 | Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	208	83	80 - 120	2012-01-21

Standard (CCV-2)

QC Batch: 87961 | Date Analyzed: 2012-01-21 | Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	211	84	80 - 120	2012-01-21

Standard (CCV-2)

QC Batch: 87963 | Date Analyzed: 2012-01-23 | Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.102	102	80 - 120	2012-01-23
Toluene		1	mg/Kg	0.100	0.0977	98	80 - 120	2012-01-23
Ethylbenzene		1	mg/Kg	0.100	0.0893	89	80 - 120	2012-01-23
Xylene		1	mg/Kg	0.300	0.266	89	80 - 120	2012-01-23

Standard (CCV-3)

QC Batch: 87963 | Date Analyzed: 2012-01-23 | Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.102	102	80 - 120	2012-01-23
Toluene		1	mg/Kg	0.100	0.0972	97	80 - 120	2012-01-23
Ethylbenzene		1	mg/Kg	0.100	0.0921	92	80 - 120	2012-01-23
Xylene		1	mg/Kg	0.300	0.276	92	80 - 120	2012-01-23

Standard (CCV-2)

QC Batch: 87964 Date Analyzed: 2012-01-23 Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.924	92	80 - 120	2012-01-23

Standard (CCV-3)

QC Batch: 87964 Date Analyzed: 2012-01-23 Analyzed By: DA

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	2012-01-23

Standard (ICV-1)

QC Batch: 88068 Date Analyzed: 2012-01-25 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	100	100	85 - 115	2012-01-25

Standard (CCV-1)

QC Batch: 88068 Date Analyzed: 2012-01-25 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	99.7	100	85 - 115	2012-01-25

Standard (ICV-1)

QC Batch: 88082 Date Analyzed: 2012-01-25 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	100	100	85 - 115	2012-01-25

Standard (CCV-1)

QC Batch: 88082 Date Analyzed: 2012-01-25 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	99.6	100	85 - 115	2012-01-25

Standard (ICV-1)

QC Batch: 88083 Date Analyzed: 2012-01-25 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	99.1	99	85 - 115	2012-01-25

Standard (CCV-1)

QC Batch: 88083 Date Analyzed: 2012-01-25 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	2012-01-25

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	T104704392-11-3	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.

120120001

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.: 114-4100858

PROJECT NAME: COG / Dogwood Federal 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 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. 8270/825	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
286929	1/14		S		X	AH-1 0'-1'	1				X		X	X												X				
286930						AH-1 1'-1.5'																								
931						AH-1 2'-2.5'																								
932						AH-1 3'-3.5'																								
933						AH-1 3.5'-4'																								
934						AH-2 0.-1'								X	X															
935						AH-2 1'-1.5'																								
936						AH-2 2'-2.5'																								
937						AH-2 3'-3.5'																								
938						AH-2 3.5'-4'																								

RELINQUISHED BY: (Signature) — Date: 1/13/12 Time: 1655
RECEIVED BY: (Signature) — Date: 1/14/12 Time: 1655

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

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

SAMPLED BY: (Print & Initial) JT / JH — Date: 1/13/12 Time:

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

RECEIVING LABORATORY: Trait
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: 7.1 intact

REMARKS: If Total TPH exceeds 5,000 mg/kg run deeper samples / If BTEX exceeds 50 mg/kg or Benzene exceeds 10 mg/kg run deeper samples

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

All tests Midland

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:	SITE MANAGER:
COG	Ike Tavarez

PROJECT NO.:	PROJECT NAME:
119-6400858	COG / Dogwood Federal 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
939	1/19		S		X	AH-3 0'	1				X		X	X																
940						AH-3 1-1.5'																								
941						AH-3 2-2.5'																								
942						AH-3 3-3.5																								
943						AH-3 4-4.5																								
944						AH-3 5-5.5																								
948						AH-4 0-1'							X	X																

RELINQUISHED BY: (Signature)	Date: 1/19/12 Time: 1655	RECEIVED BY: (Signature)	Date: 1/19/12 Time: 1655
SAMPLED BY: (Print & Initial) ST BH	Date: 1/19/12 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	RECEIVED BY: (Signature)		
ADDRESS: CITY: Midland STATE: TX ZIP:	RUSH Charges Authorized: Yes No		
CONTACT: PHONE:	DATE: TIME:		
SAMPLE CONDITION WHEN RECEIVED: 4° 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.