District I
625 N. French Dr., Hobbs, NM 88240
District II
811 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 1300 Midland, Texas 79701**	Telephone No. **(432) 230-0077**
Facility Name **Dogwood Federal**	Facility Type **Tank Battery**

Surface Owner Federal	Mineral Owner	Lease No. 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	17-S	27-E					Eddy

Latitude N 32.80598° **Longitude** W 104.23523°

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release **10 bbls**	Volume Recovered **8 bbls**
Source of Release **Water Tank**	Date and Hour of Occurrence 3/1/2011	Date and Hour of Discovery **3/1/2011 3:30 pm**
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

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

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected and collected samples to define spills extent. Soil exceeding the RRAL and elevated chlorides were removed and hauled to Controlled Recovery, Inc., Hobbs, NM for disposal. Site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD for review.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Ike Tavarez (agent for COG)	Approved by District Supervisor: Accepted for record NMOCD
Title: Project Manager	Approval Date: Expiration Date:
E-mail Address: ike.tavarez@tetratech.com	Conditions of Approval: clean up deferred until site abandonment ☐ Attached
Date: 6-8-12 Phone: (432) 682-4559	

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
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State of New Mexico
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Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

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

Surface Owner Federal	Mineral Owner	Lease No. 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	17-S	27-E					Eddy

Latitude N 32.80598° **Longitude** W 104.23523°

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release **105 bbls**	Volume Recovered **100 bbls**
Source of Release **Water Tank**	Date and Hour of Occurrence 1/3/2012	Date and Hour of Discovery **1/3/2012 8:00 am**
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 1/4/2012 10:54 am	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

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.*

Tetra Tech inspected and collected samples to define spills extent. Soil exceeding the RRAL and elevated chlorides were removed and hauled to Controlled Recovery, Inc. for proper disposal. The site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD for review.

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

Signature:

Printed Name: Ike Tavarez (agent for COG)

Title: Project Manager

E-mail Address: ike.tavarez@tetratech.com

Date: 6-8-12 Phone: (432) 682-4559

OIL CONSERVATION DIVISION

Approved by District Supervisor: Accepted for record NMOCD

Approval Date: Expiration Date:

Conditions of Approval: Clean up deferred until site abandonment

Attached ☐

* Attach Additional Sheets If Necessary

SITE INFORMATION

Report Type: Closure Report

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

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

June 8, 2012

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

Re: Closure Report 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

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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

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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.

Remediation Activities

On April 2012, Tetra Tech personnel supervised the excavation of the spill as outlined in the approved work plan. The excavated areas and depths are shown on Figure 5. Approximately 170 yards^3 was removed and hauled to CRI for proper disposal. The excavations were backfilled with clean material.

During a site inspection, the BLM requested samples from an impacted area south of the tank battery, which measured 10' x 40'. The south area is shown on Figure 5. Due to a shallow dense caliche layer, a soil boring was installed to define the extents. On April 19, 2012, Tetra Tech personnel supervised the installation of one soil boring (SB-3) to a depth of 10.0' below surface.

Referring to Table 3, a shallow chloride impact was detected in the subsurface soils, with elevated chloride were detected at 0-1' of 11,300 mg/kg and 2-3' of 9,030 mg/kg. The deeper samples showed a significant decline at 4-5' below surface. Based on the results, the area was excavated to a depth of approximately 3.0' to 4.0' below surface.

As recommended in the work plan, a backhoe trench (Trench #1) was installed in the area of AH-4 (spill #2) to define the extents of the chloride impact. The sampling results are shown on Table 4. Referring to Table 4, the samples at 3.0' and 4.0' below surface showed chloride concentrations declining below reporting limit (<20.0 mg/kg).

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Once excavated, a total of eight (8) confirmation samples (CS-1 through CS-8) were collected from excavation bottoms and sidewalls. The confirmation sampling results are summarized on Table 4. Referring to Table 4, all confirmation samples showed chloride concentrations to be less than 250 mg/kg, with the exceptions of CS-2 (west wall), CS-3 (bottom, north wall and south wall), CS-4 (east wall and south wall), and CS-5 (east wall). The chloride impact soils were not removed due to facility tank, equipment or piping in the area and the remaining impact would be deferred until abandonment.

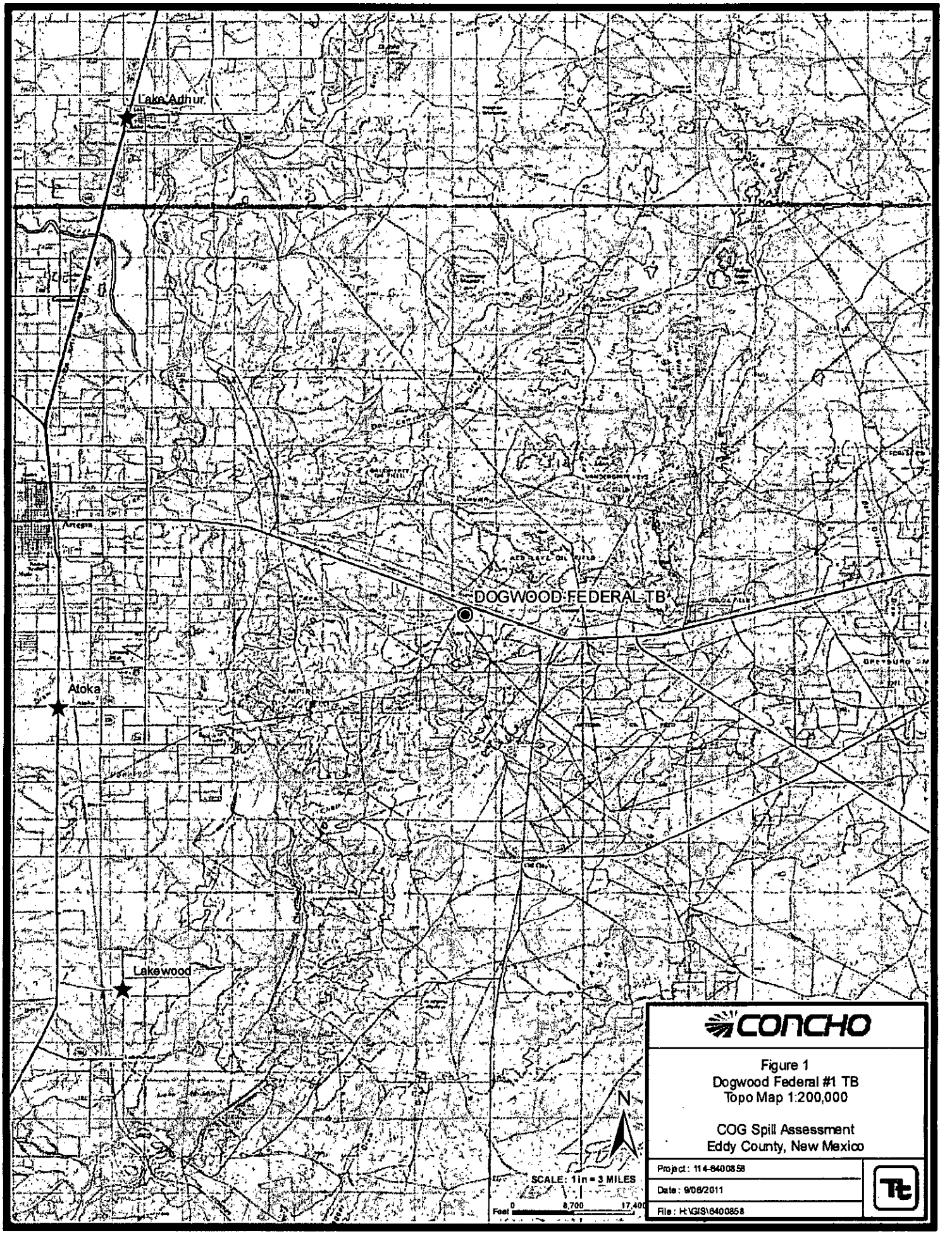
Based on the remediation activities performed at this location, COG request closure for site. The C-141's (Finals) are included in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities performed at the site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

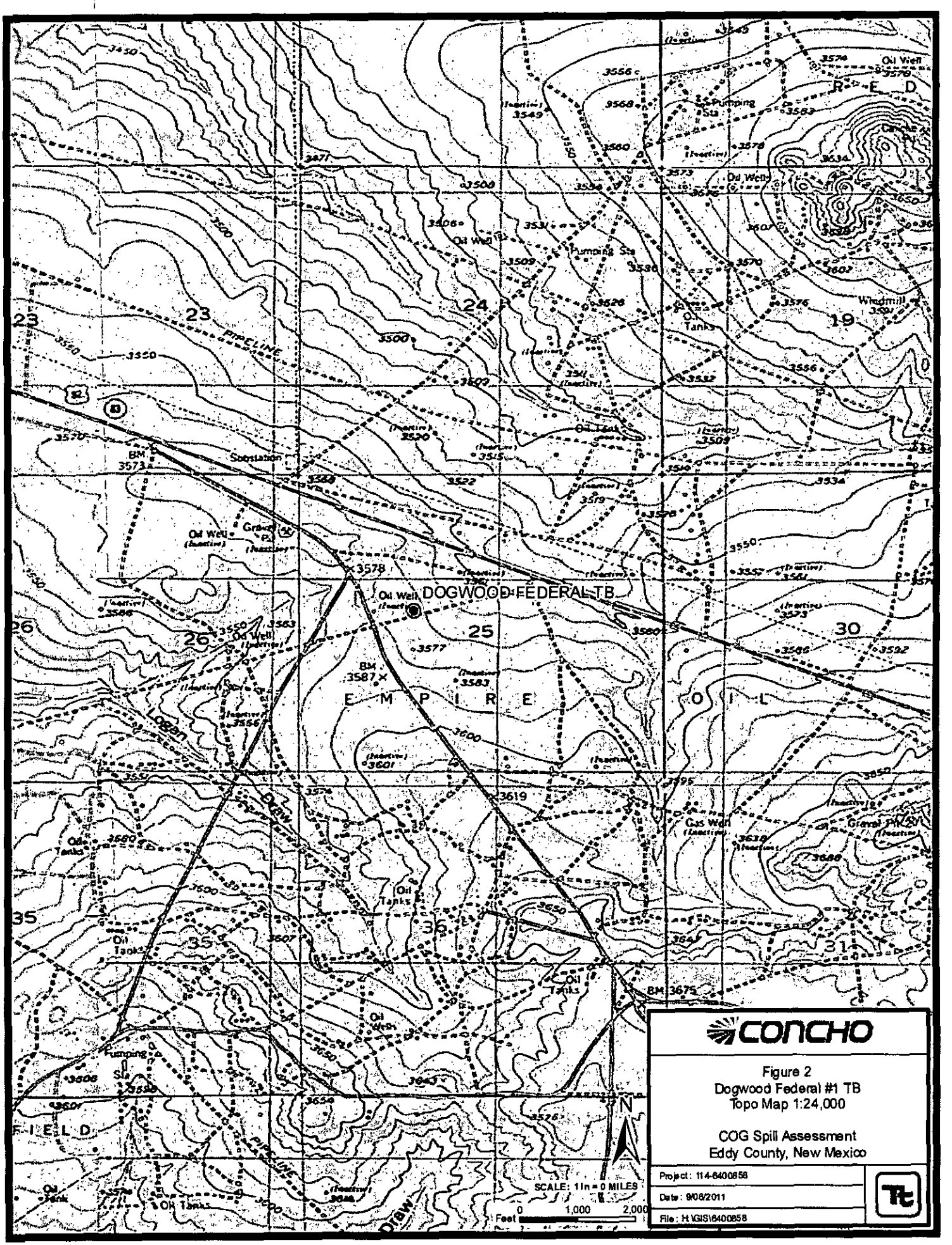
Ike Tavarez, PG
Project Manager

cc: Pat Ellis – COG
Terry Gregston - BLM

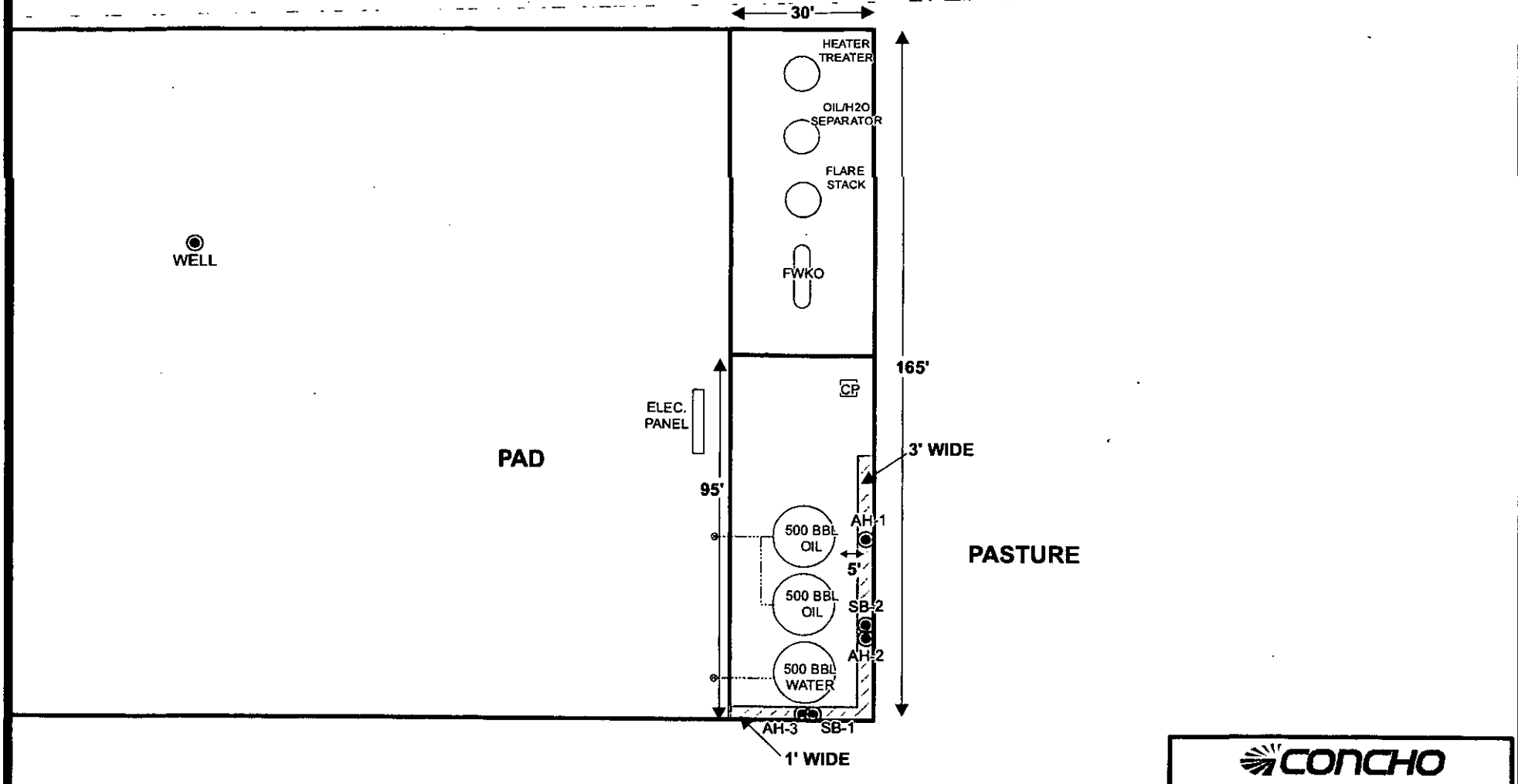
Figures



Drawn By: Isabel Marroquin



Drawn By: Isabel Marmolejo



EXPLANATION

- AUGER HOLE SAMPLE LOCATIONS
- SOIL BORE SAMPLE LOCATIONS
- WELL
- SPILL AREA(1st Spill)

N

SCALE: 1 IN = 37 FEET

Feet 0 20 40

CONCHO

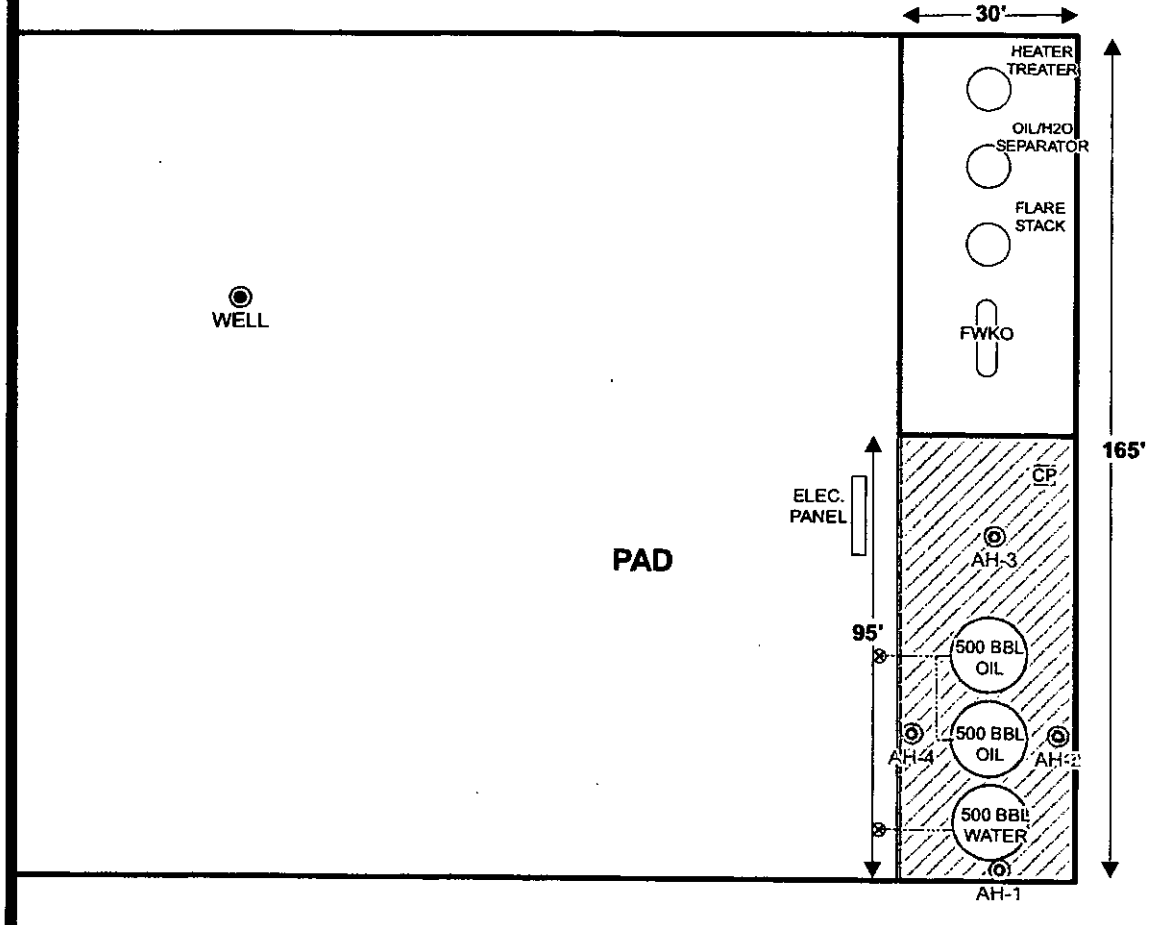
Figure 3

Dogwood Federal #1 TB
Spill Assessment Map(1st Spill)

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 LOCATIONS(2nd Spill)
- WELL
- SPILL AREA (2nd Spill)

N

SCALE: 1 IN = 39 FEET

Feet 0 20 40

CONCHO

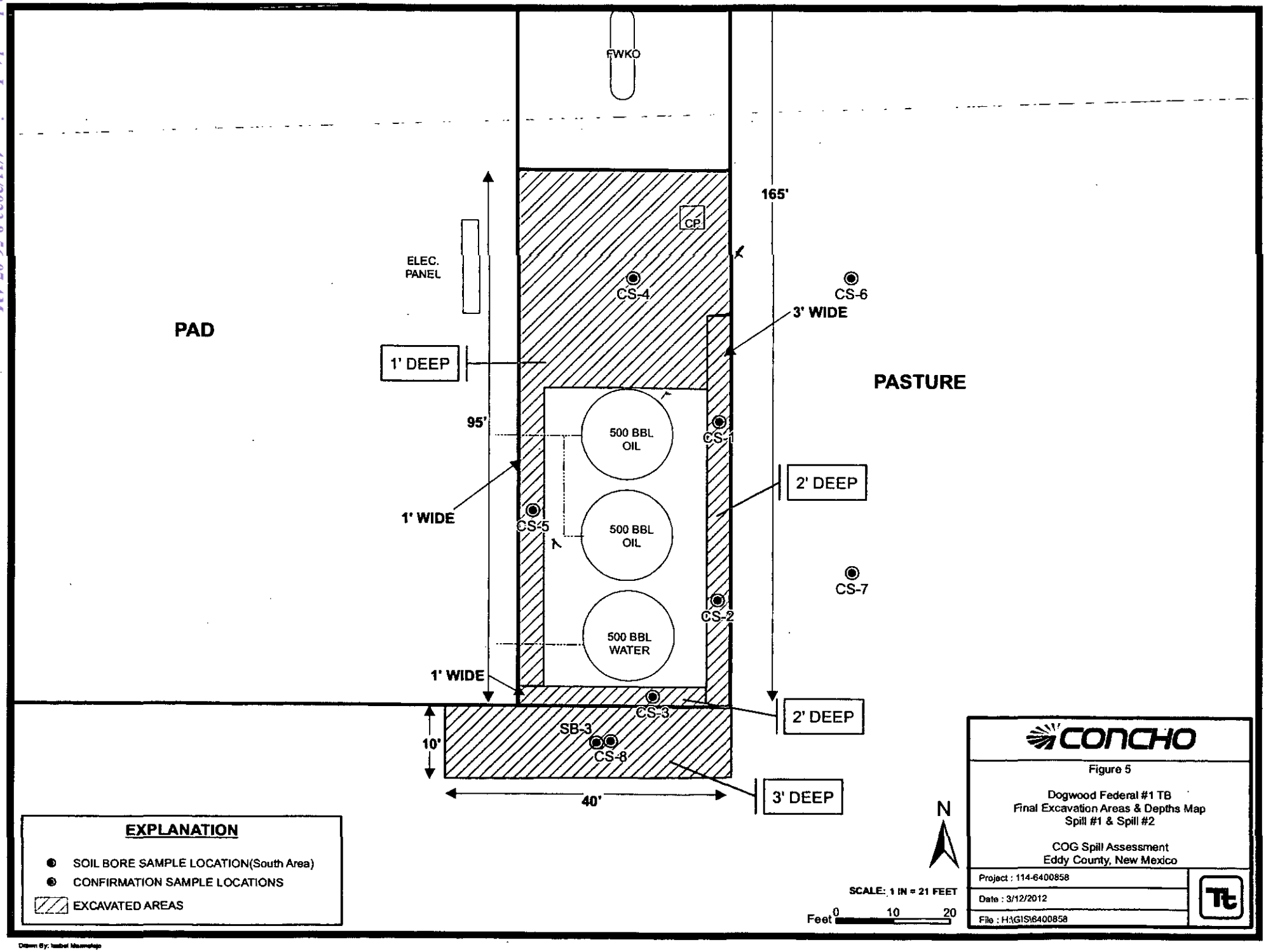
Figure 4

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

COG Spill Assessment
Eddy County, New Mexico

Project : 114-6400858
Date : 3/12/2012
File : H:\GIS\6400858

Drawn By: Isabel Mesmejo



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

☐ 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

Excavation Depth

Table 3
COG Operating LLC.
DOGWOOD FEDERAL #1 TANK BATTERY (Area South of 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)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
SB-3	4/19/2012	0-1'		X	-	-	-	-	-	-	-	-	11,300
		2-3'		X	-	-	-	-	-	-	-	-	9,030
		4-5'	X		-	-	-	-	-	-	-	-	199
		6-7'	X		-	-	-	-	-	-	-	-	125
		8'	X		-	-	-	-	-	-	-	-	134
		9'	X		-	-	-	-	-	-	-	-	218
		10'	X		-	-	-	-	-	-	-	-	59.4

(--) Not Analyzed

Excavation Depth

Table 4
COG Operating LLC.
DOGWOOD FEDERAL #1 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)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
CS-1 Bottom Hole	4/19/2012	2	X		-	-	-	-	-	-	-	-	<20.0
CS-1 East Sidewall	"	-	X		-	-	-	-	-	-	-	-	24.4
CS-1 West Sidewall	"	-	X		-	-	-	-	-	-	-	-	156
CS-2 Bottom Hole	4/19/2012	2	X		-	-	-	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	161
CS-2 East Sidewall	"	-	X		-	-	-	-	-	-	-	-	215
CS-2 West Sidewall	"	-	X		-	-	-	-	-	-	-	-	5,830
CS-3 Bottom Hole	4/19/2012	2	X		-	-	-	-	-	-	-	-	3,170
CS-3 North Sidewall	"	-	X		-	-	-	-	-	-	-	-	6,950
CS-3 South Sidewall	"	-	X		-	-	-	-	-	-	-	-	3,640
CS-4 Bottom Hole	4/19/2012	1	X		-	-	-	-	-	-	-	-	268
CS-4 North Sidewall	"	-	X		-	-	-	-	-	-	-	-	234
CS-4 East Sidewall	"	-	X		-	-	-	-	-	-	-	-	7,840
CS-4 South Sidewall	"	-	X		-	-	-	-	-	-	-	-	3,170
CS-4 West Sidewall	"	-	X		-	-	-	-	-	-	-	-	<20.0
CS-5 Bottom Hole	4/19/2012	2	X		-	-	-	-	-	-	-	-	<20.0
CS-5 East Sidewall	"	-	X		-	-	-	-	-	-	-	-	4,410
CS-5 West Sidewall	"	-	X		-	-	-	-	-	-	-	-	64.6
CS-6	4/19/2012	0-1	X		-	-	-	-	-	-	-	-	189
CS-7	4/19/2012	0-1	X		-	-	-	-	-	-	-	-	34.8

Table 4
COG Operating LLC.
DOGWOOD FEDERAL #1 TANK BATTERY
Eddy County, New Mexico

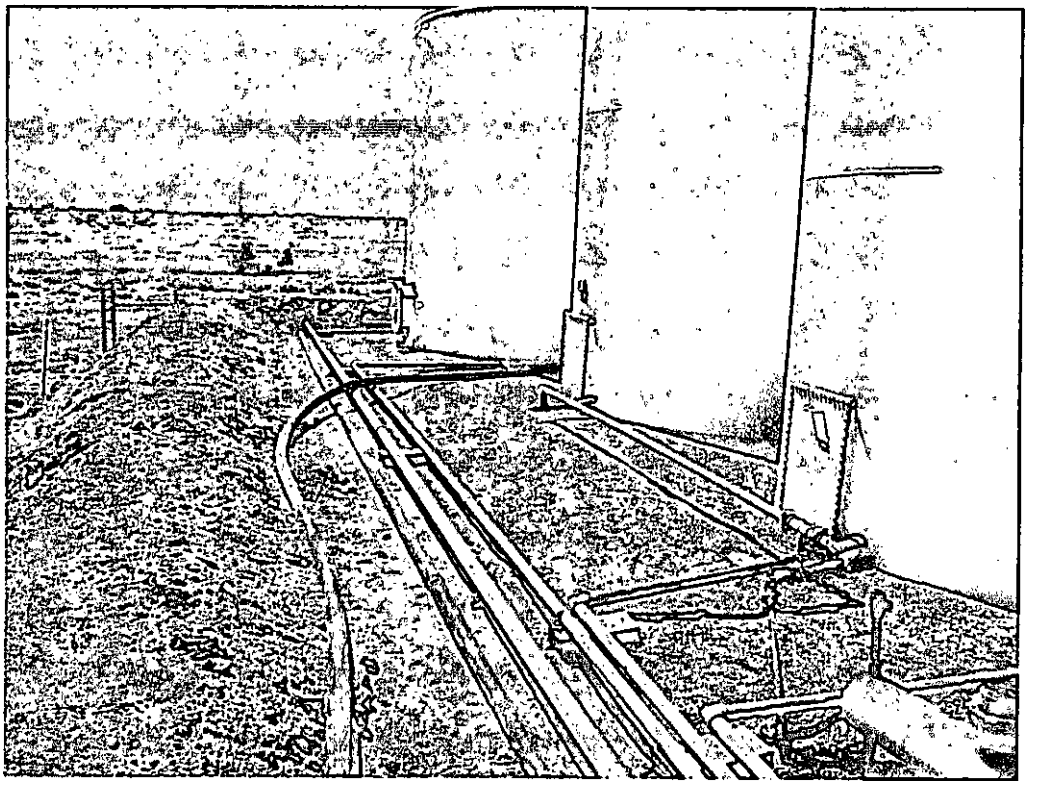
Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
CS-8 Bottom Hole	4/20/2012	3	X		-	-	-	-	-	-	-	-	<20.0
CS-8 North Sidewall	"	-	X		-	-	-	-	-	-	-	-	69.7
CS-8 East Sidewall	"	-	X		-	-	-	-	-	-	-	-	139
CS-8 South Sidewall	"	-	X		-	-	-	-	-	-	-	-	184
CS-8 West Sidewall	"	-	X		-	-	-	-	-	-	-	-	169
Trench #1	4/19/2012	3	X		-	-	-	-	-	-	-	-	<20.0
Trench #1	4/19/2012	4	X		-	-	-	-	-	-	-	-	<20.0

(--) Not Analyzed

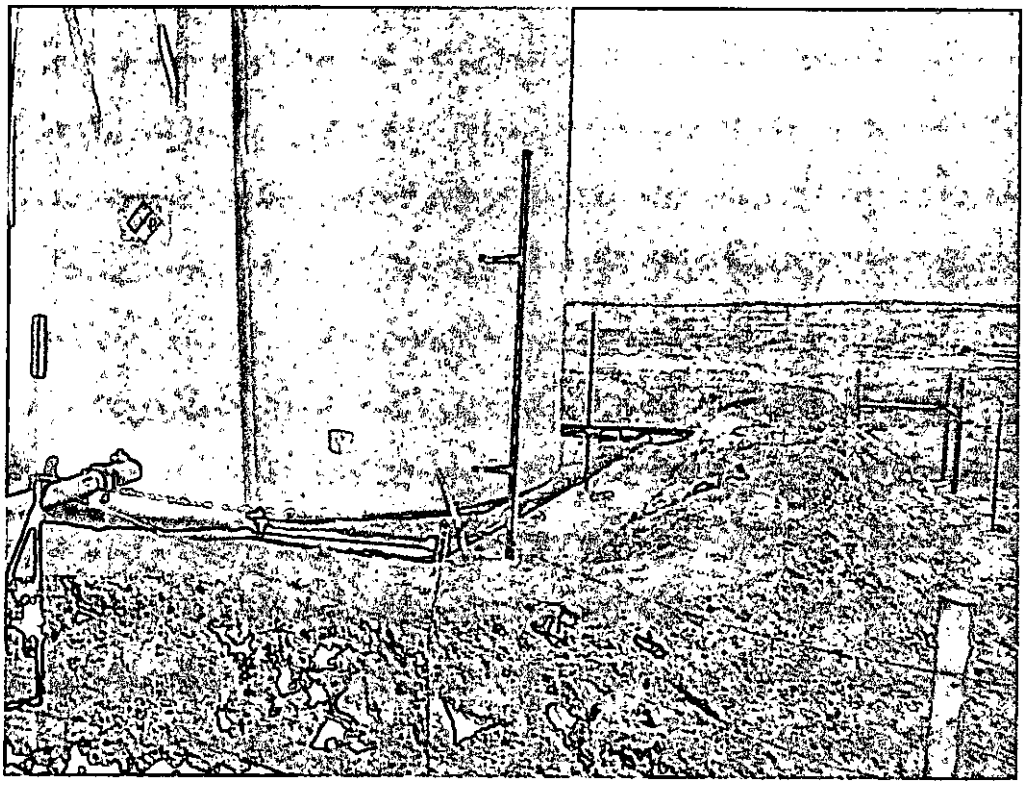
Photos

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

TETRA TECH



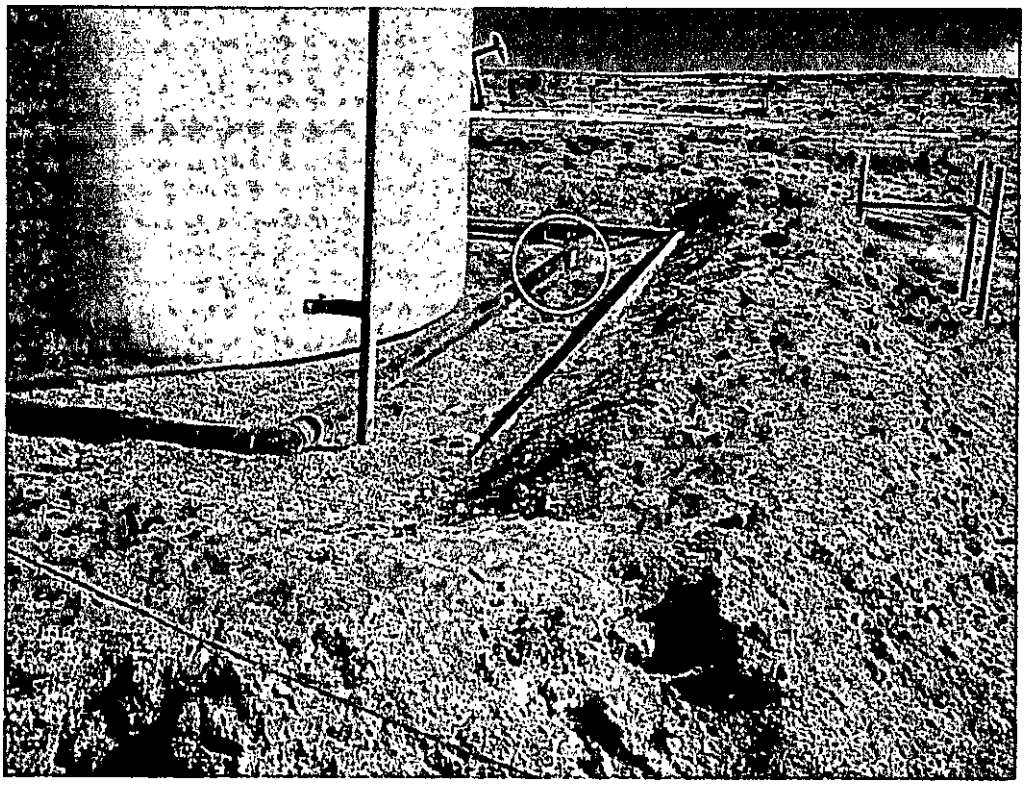
View south along backside of facility near AH-1 and AH-2



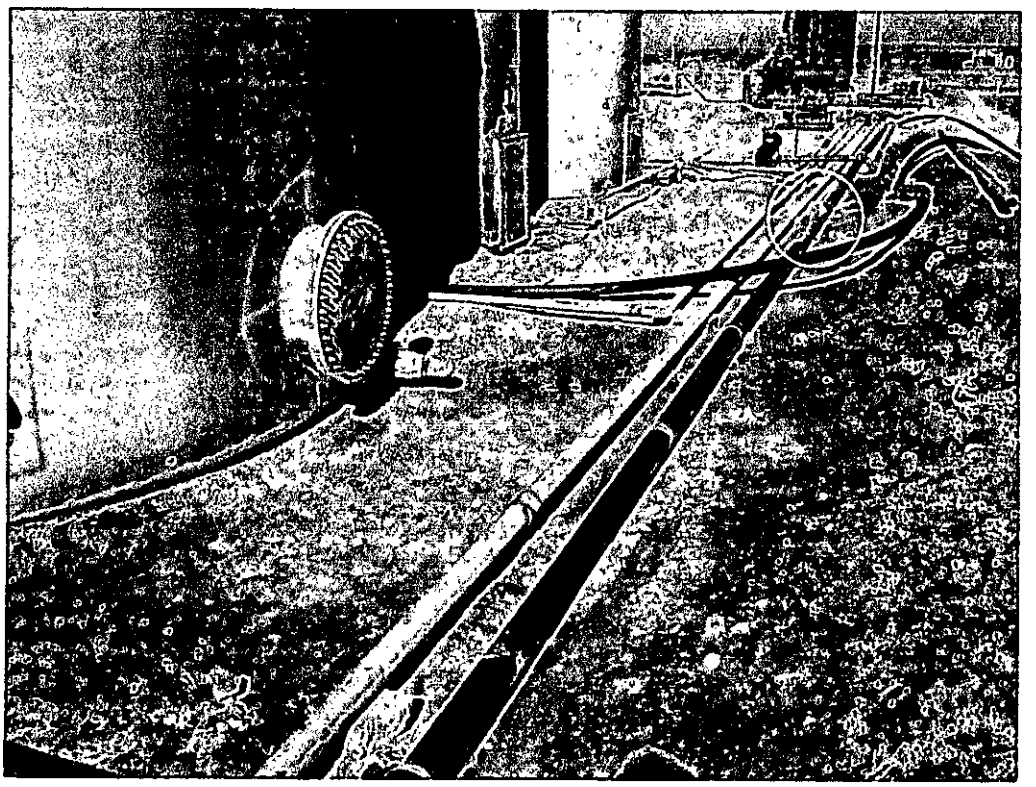
View east along southern edge of facility near AH-3

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

TETRA TECH



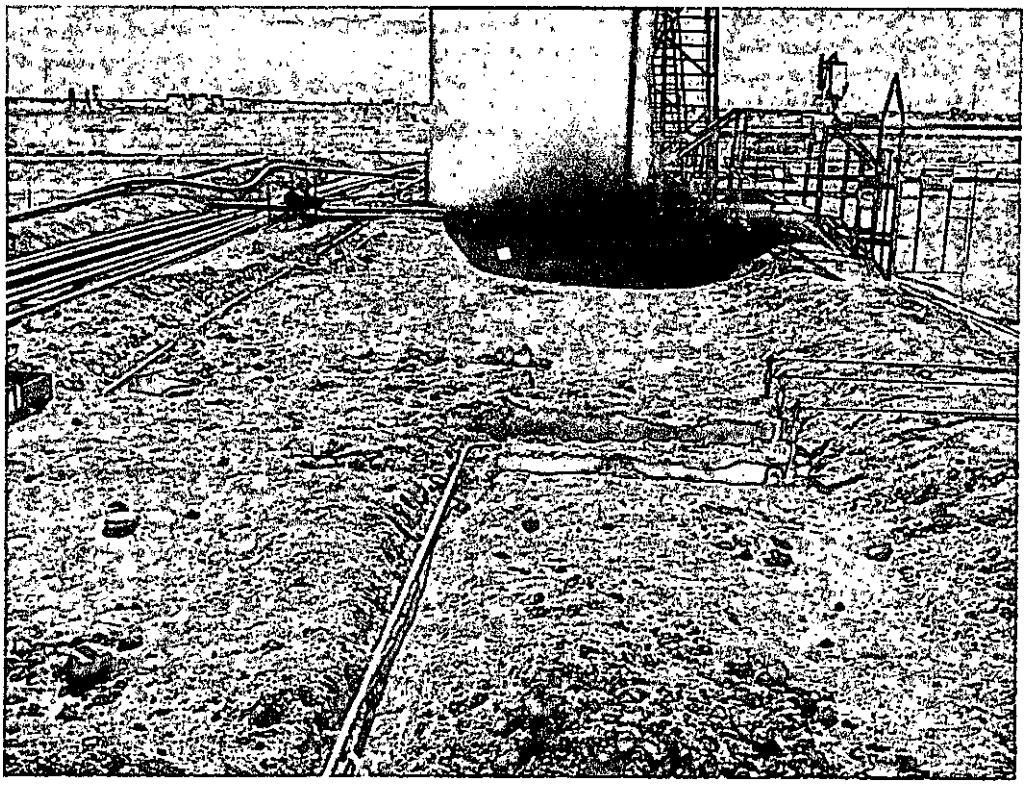
Southern edge of facility near AH-1



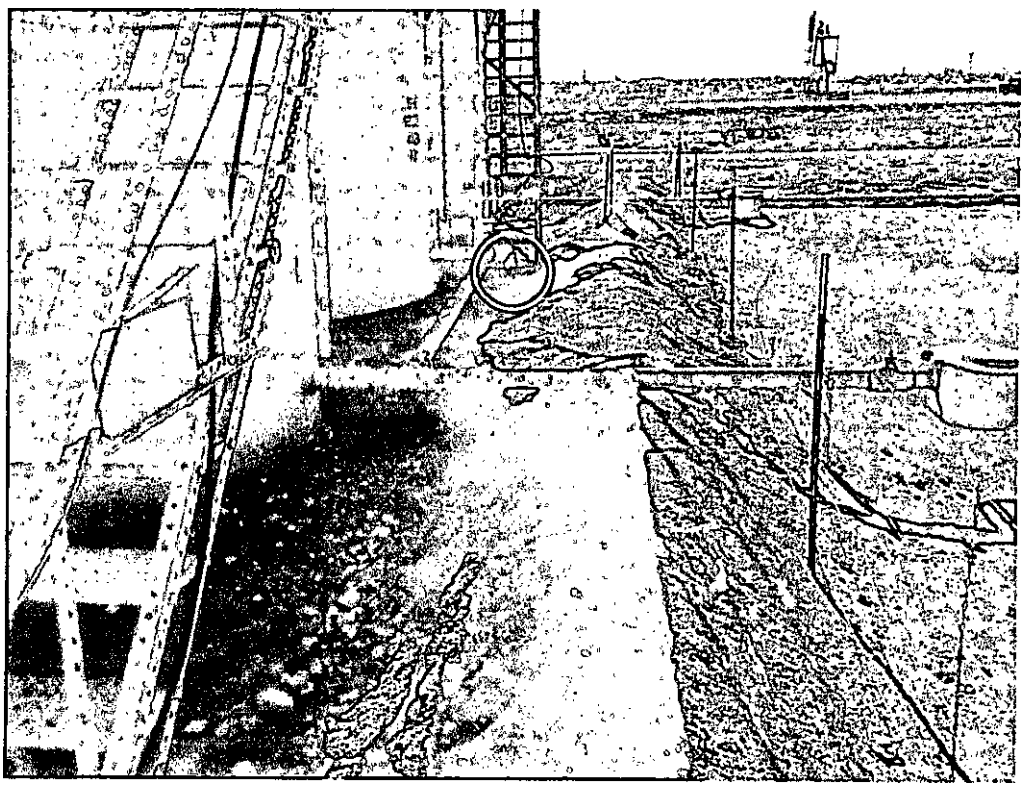
Backside of facility along eastern edge near AH-2

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

TETRA TECH



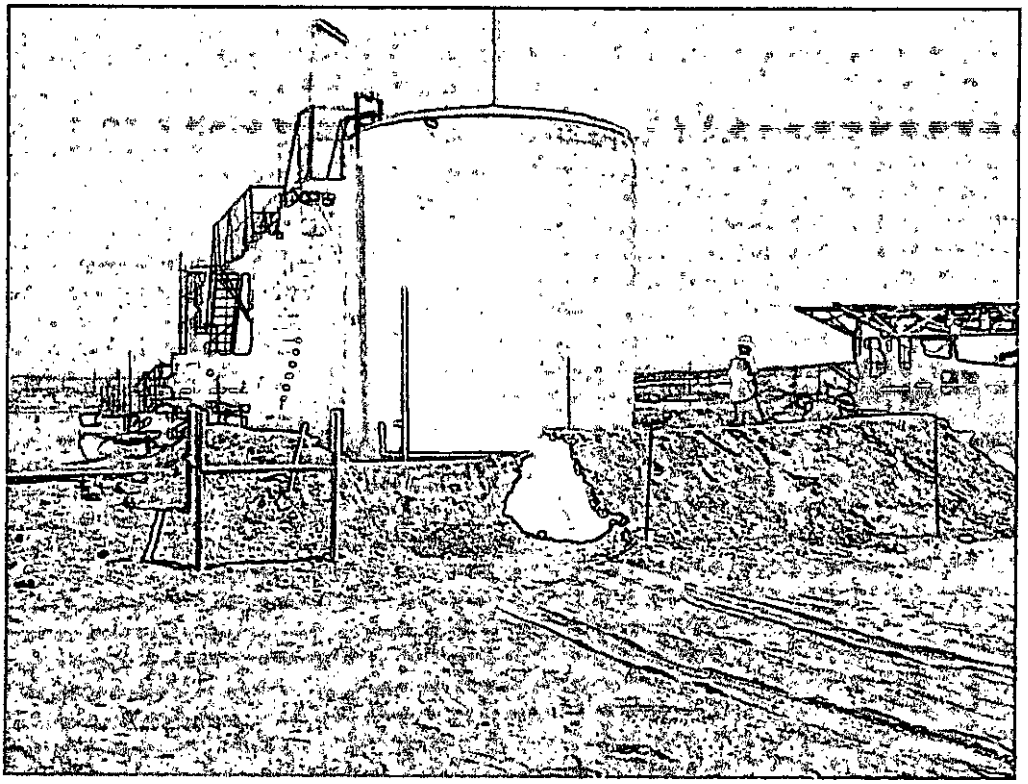
View south near AH-3 north of tanks



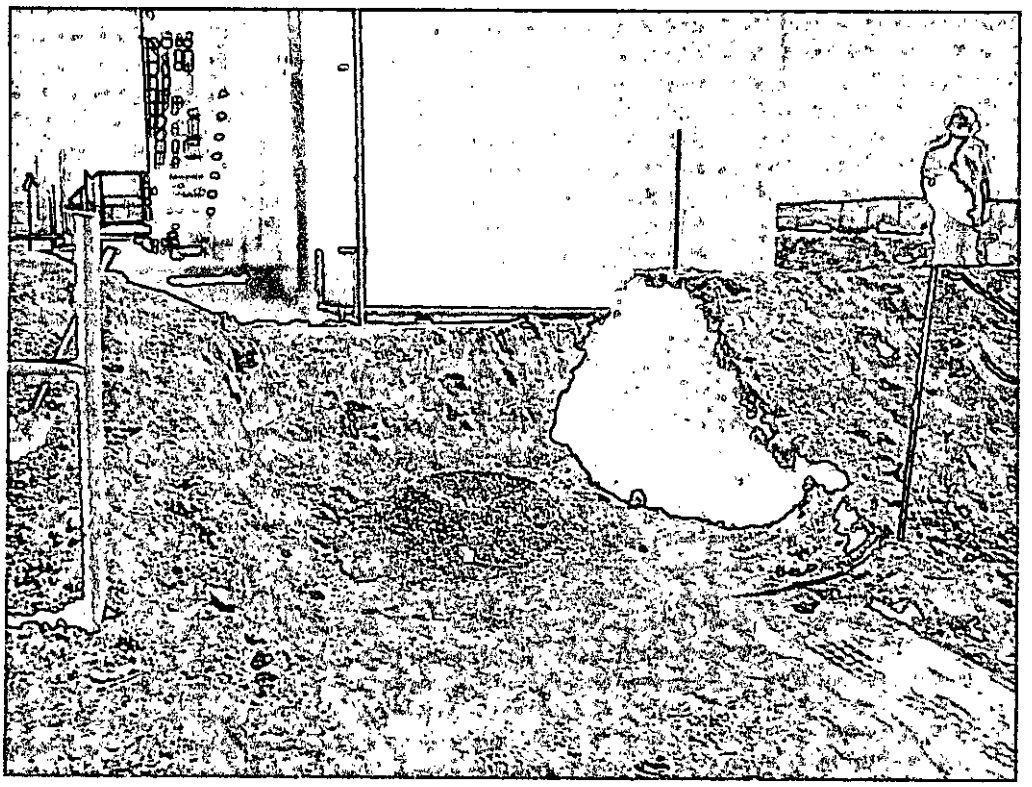
Front side of facility along western edge near AH-4

COG Operating LLC
Dogwood Federal (Spill #1)
Eddy County, New Mexico
Drilling Date: June 27, 2011

TETRA TECH



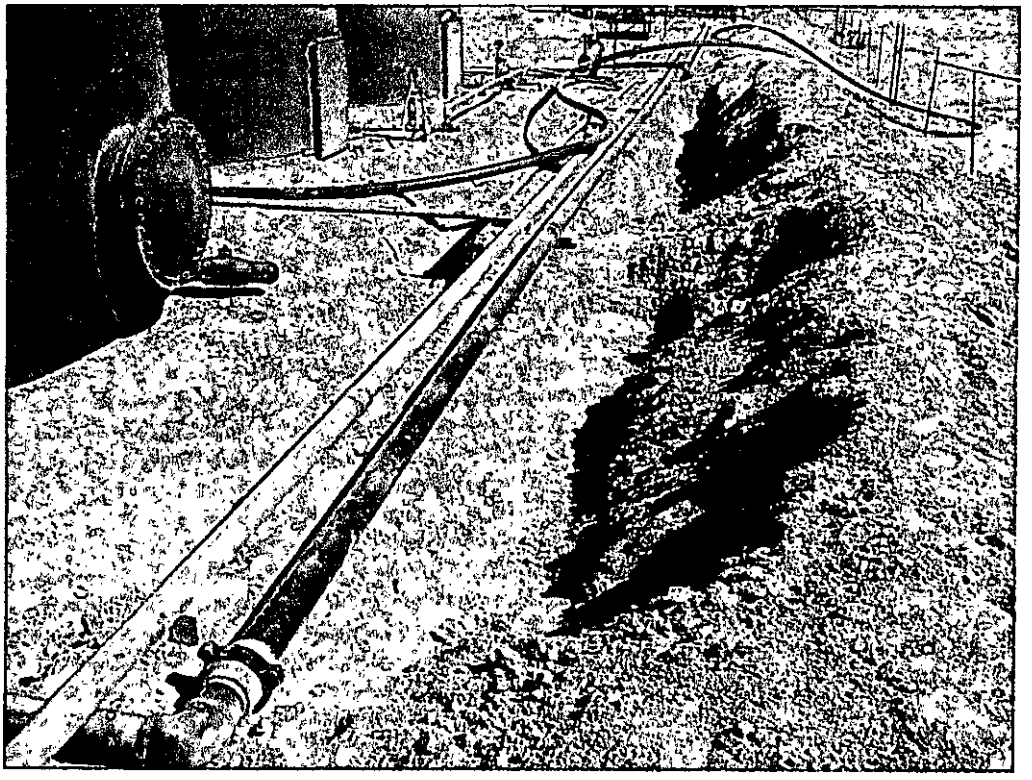
Removed berm to gain assess for drilling rig



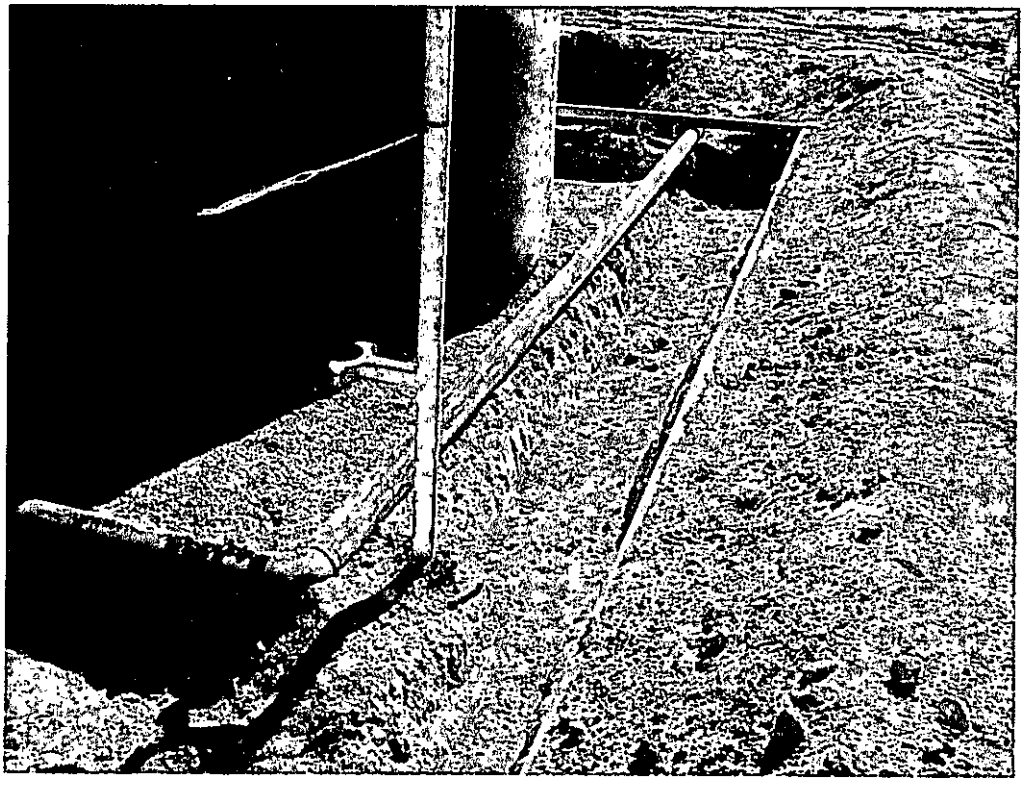
.SB-1 installed near AH-3

COG Operating LLC
Dogwood Federal (Spill #1)
Eddy County, New Mexico
Excavation Photos

TETRA TECH



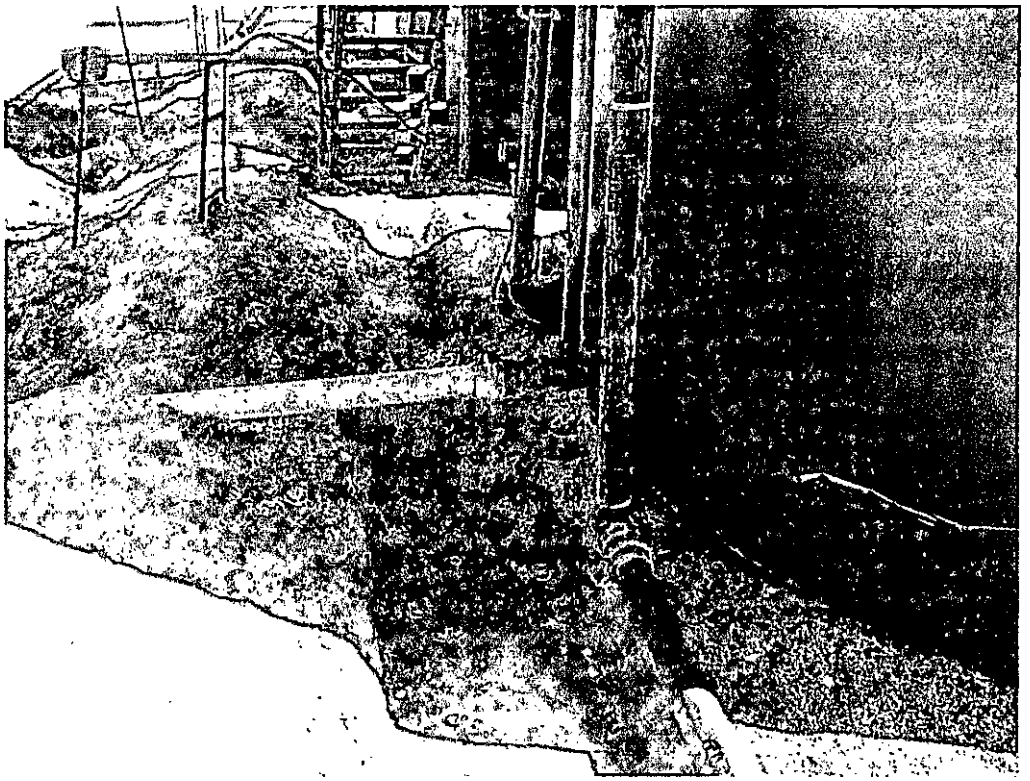
Backside of tank battery excavation depth approximately 1.0-2.0' bgs



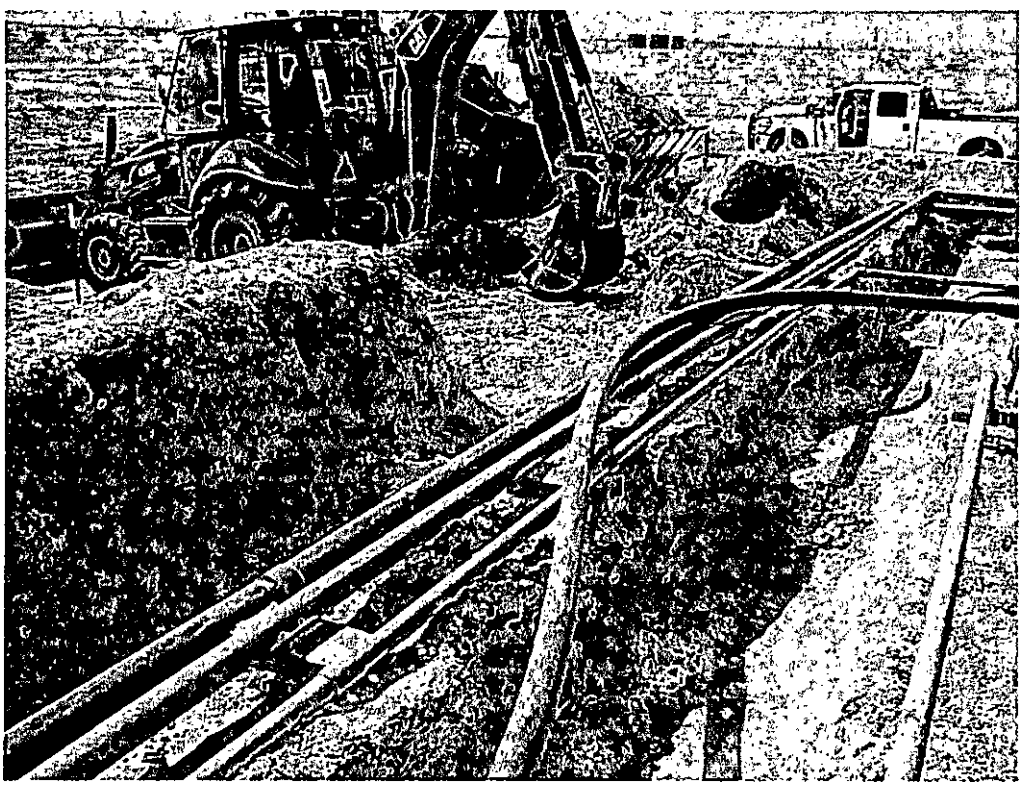
South end of tank battery excavation depth approximately 1.0' bgs

COG Operating LLC
Dogwood Federal (Spill #1)
Eddy County, New Mexico
Excavation Photos

TETRA TECH



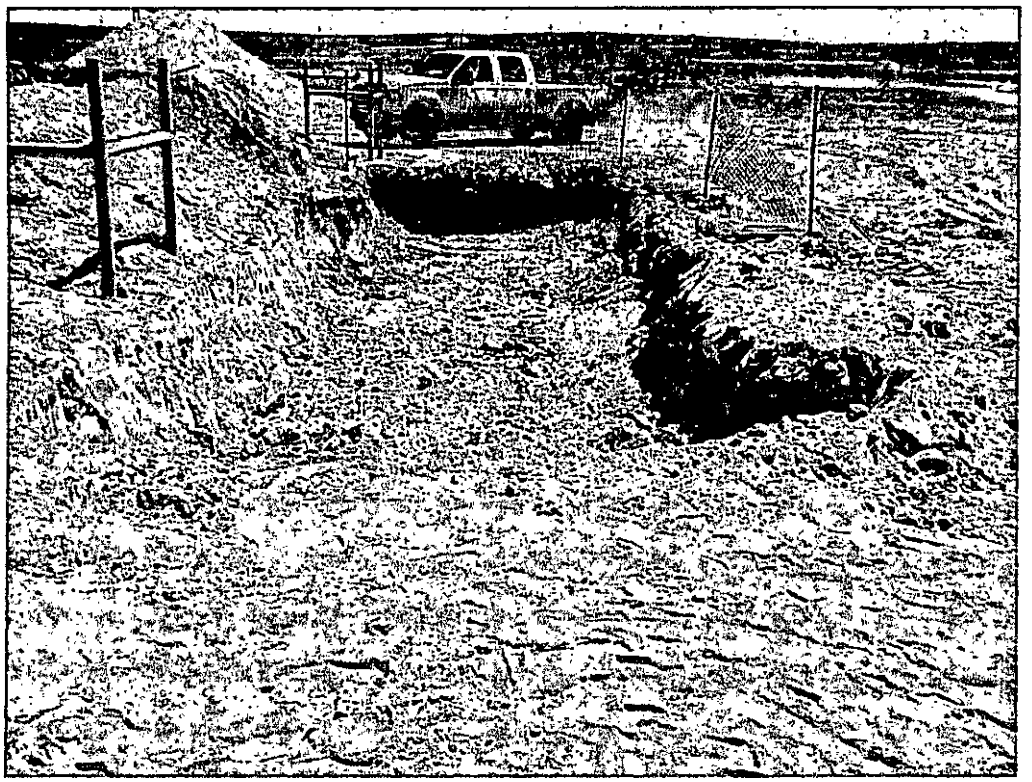
Backside of tank battery excavation depth approximately 1.0' bgs



South end of tank battery excavation depth approximately 1.0' bgs

COG Operating LLC
Dogwood Federal (Additional Area)
Eddy County, New Mexico
Excavation Photos

TETRA TECH



Additional area south of the tank battery excavated 2.0' bgs

Appendix A

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

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Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Dogwood Federal	Facility Type	Tank Battery

Surface Owner	Mineral Owner	Lease No. (API)#
Federal		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

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

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Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

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

Surface Owner Federal	Mineral Owner	Lease No. 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	17-S	27-E					Eddy

Latitude N 32.80598° **Longitude** W 104.23523°

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release **10 bbls**	Volume Recovered **8 bbls**
Source of Release **Water Tank**	Date and Hour of Occurrence 3/1/2011	Date and Hour of Discovery **3/1/2011 3:30 pm**
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

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

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected and collected samples to define spills extent. Soil exceeding the RRAL and elevated chlorides were removed and hauled to Controlled Recovery, Inc., Hobbs, NM for disposal. Site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD for review.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Ike Tavarez (agent for COG)	Approved by District Supervisor:	
Title: Project Manager	Approval Date:	Expiration Date:
E-mail Address: ike.tavarez@tetratech.com	Conditions of Approval:	Attached ☐
Date: 6-8-12 Phone: (432) 682-4559		

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
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Revised October 10, 2003

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Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

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

Surface Owner Federal	Mineral Owner	Lease No. 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	17-S	27-E					Eddy

Latitude N 32.80598° **Longitude** W 104.23523°

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release **105 bbls**	Volume Recovered **100 bbls**
Source of Release **Water Tank**	Date and Hour of Occurrence 1/3/2012	Date and Hour of Discovery **1/3/2012 8:00 am**
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 1/4/2012 10:54 am	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

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.*

Tetra Tech inspected and collected samples to define spills extent. Soil exceeding the RRAL and elevated chlorides were removed and hauled to Controlled Recovery, Inc. for proper disposal. The site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD for review.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Ike Tavarez (agent for COG)	Approved by District Supervisor:
Title: Project Manager	Approval Date: / Expiration Date:
E-mail Address: ike.tavarez@tetratech.com	Conditions of Approval: / Attached ☐
Date: 6-8-12 Phone: (432) 682-4559	

* 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 **14**	8 **Artesia**	9	10	11	12
18 **86**	17 **283**	16 **194**	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	8	9	10	11 **54** **50**	12
18	17	16	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 **53**	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 **65**	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

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

Report Date: April 6, 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**
261898 - AH-2 1'	<0.0200	<0.0200	<0.0200	**0.379**	<50.0	**9.87**
261899 - AH-2 2'	<0.0200	<0.0200	<0.0200	**0.441**	<50.0	**36.8**
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

TRACEANALYSIS, INC.

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Certifications

WBENC: 237019 **HUB:** 1752439743100-86536 **DBE:** VN 20657
NCTRCA WFWB38444Y0909

NELAP Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317 **El Paso:** T104704221-08-TX LELAP-02002 **Midland:** T104704392-08-TX

Analytical and Quality Control Report

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

Report Date: April 6, 2011

Work Order: 11032820

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
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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
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

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

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

Standard Flags

B - The sample contains less than ten times the concentration found in the method blank.

Case Narrative

Samples for project COG/Dogwood Fed. #1 TB were received by TraceAnalysis, Inc. on 2011-03-28 and assigned to work order 11032820. Samples for work order 11032820 were received intact at a temperature of 3.6 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	67886	2011-04-01 at 11:35	80015	2011-04-02 at 14:30
BTEX	S 8021B	67957	2011-04-05 at 07:54	80090	2011-04-05 at 07:54
Chloride (Titration)	SM 4500-Cl B	67767	2011-03-29 at 13:28	79935	2011-03-31 at 13:28
Chloride (Titration)	SM 4500-Cl B	67767	2011-03-29 at 13:28	79936	2011-03-31 at 13:29
TPH DRO - NEW	S 8015 D	67823	2011-03-30 at 10:06	79924	2011-03-30 at 10:06
TPH DRO - NEW	S 8015 D	67893	2011-04-01 at 09:28	80023	2011-04-01 at 09:28
TPH DRO - NEW	S 8015 D	67966	2011-04-05 at 09:23	80098	2011-04-05 at 09:23
TPH GRO	S 8015 D	67886	2011-04-01 at 11:35	80016	2011-04-02 at 14:30
TPH GRO	S 8015 D	67957	2011-04-05 at 07:54	80091	2011-04-05 at 07:54

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 11032820 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: 261891 - AH-1 0-0.5'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	80015	Date Analyzed:	2011-04-02	Analyzed By:	ME
Prep Batch:	67886	Sample Preparation:	2011-04-01	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.48	mg/Kg	1	2.00	124	52.8 - 137
4-Bromofluorobenzene (4-BFB)		2.32	mg/Kg	1	2.00	116	38.4 - 157

Sample: 261891 - AH-1 0-0.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79935	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

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

Sample: 261891 - AH-1 0-0.5'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	79924	Date Analyzed:	2011-03-30	Analyzed By:	kg
Prep Batch:	67823	Sample Preparation:	2011-03-30	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		118	mg/Kg	1	100	118	70 - 130

Sample: 261891 - AH-1 0-0.5'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	80016	Date Analyzed:	2011-04-02	Analyzed By:	ME
Prep Batch:	67886	Sample Preparation:	2011-04-01	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.61	mg/Kg	1	2.00	130	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.20	mg/Kg	1	2.00	110	42 - 159

Sample: 261892 - AH-1 1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79935	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

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

Sample: 261893 - AH-1 2'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79935	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

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

Sample: 261894 - AH-1 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79935	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**205**	mg/Kg	50	4.00

Sample: 261895 - AH-1 4'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79935	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**214**	mg/Kg	50	4.00

Sample: 261896 - AH-1 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79935	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

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

Sample: 261897 - AH-2 0-0.5'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	80015	Date Analyzed:	2011-04-02	Analyzed By:	ME
Prep Batch:	67886	Sample Preparation:	2011-04-01	Prepared By:	ME

Parameter	Flag	Result	RL Units	Dilution	RL
Benzene		**3.54**	mg/Kg	10	0.0200

continued ...

sample 261897 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Toluene	[1]	**45.5**	mg/Kg	10	0.0200
Ethylbenzene		**40.6**	mg/Kg	10	0.0200
Xylene		**82.1**	mg/Kg	10	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		10.8	mg/Kg	10	10.0	108	52.8 - 137
4-Bromofluorobenzene (4-BFB)	[2]	22.6	mg/Kg	10	10.0	226	38.4 - 157

Sample: '261897 - AH-2 0-0.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79935	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**9780**	mg/Kg	100	4.00

Sample: 261897 - AH-2 0-0.5'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	79924	Date Analyzed:	2011-03-30	Analyzed By:	kg
Prep Batch:	67823	Sample Preparation:	2011-03-30	Prepared By:	kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**672**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	[3]	174	mg/Kg	1	100	174	70 - 130

Sample: 261897 - AH-2 0-0.5'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	80016	Date Analyzed:	2011-04-02	Analyzed By:	ME
Prep Batch:	67886	Sample Preparation:	2011-04-01	Prepared By:	ME

[1]Estimated concentration value greater than standard range.
[2]High surrogate recovery due to peak interference.
[3]High surrogate recovery due to peak interference.

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**1590**	mg/Kg	10	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		11.6	mg/Kg	10	10.0	116	48.5 - 152
4-Bromofluorobenzene (4-BFB)	[4]	33.3	mg/Kg	10	10.0	333	42 - 159

Sample: 261898 - AH-2 1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	80090	Date Analyzed:	2011-04-05	Analyzed By:	ME
Prep Batch:	67957	Sample Preparation:	2011-04-05	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0200	mg/Kg	1	0.0200
Toluene		<0.0200	mg/Kg	1	0.0200
Ethylbenzene		<0.0200	mg/Kg	1	0.0200
Xylene		**0.379**	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	[5]	2.85	mg/Kg	1	2.00	142	52.8 - 137
4-Bromofluorobenzene (4-BFB)		3.12	mg/Kg	1	2.00	156	38.4 - 157

Sample: 261898 - AH-2 1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79935	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**3430**	mg/Kg	100	4.00

[4]High surrogate recovery due to peak interference.
[5]High surrogate recovery due to peak interference.

Sample: 261898 - AH-2 1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	80098	Date Analyzed:	2011-04-05	Analyzed By:	kg
Prep Batch:	67966	Sample Preparation:	2011-04-05	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		77.6	mg/Kg	1	100	78	70 - 130

Sample: 261898 - AH-2 1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	80091	Date Analyzed:	2011-04-05	Analyzed By:	ME
Prep Batch:	67957	Sample Preparation:	2011-04-05	Prepared By:	ME

Parameter	Flag	Result	RL	Units	Dilution	RL
GRO		**9.87**		mg/Kg	1	2.00

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

Sample: 261899 - AH-2 2'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	80090	Date Analyzed:	2011-04-05	Analyzed By:	ME
Prep Batch:	67957	Sample Preparation:	2011-04-05	Prepared By:	ME

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		<0.0200		mg/Kg	1	0.0200
Toluene		<0.0200		mg/Kg	1	0.0200
Ethylbenzene		<0.0200		mg/Kg	1	0.0200
Xylene		**0.441**		mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.73	mg/Kg	1	2.00	136	52.8 - 137
4-Bromofluorobenzene (4-BFB)		3.00	mg/Kg	1	2.00	150	38.4 - 157

Sample: 261899 - AH-2 2'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79935	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1750**	mg/Kg	100	4.00

Sample: 261899 - AH-2 2'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	80098	Date Analyzed:	2011-04-05	Analyzed By:	kg
Prep Batch:	67966	Sample Preparation:	2011-04-05	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		79.4	mg/Kg	1	100	79	70 - 130

Sample: 261899 - AH-2 2'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	80091	Date Analyzed:	2011-04-05	Analyzed By:	ME
Prep Batch:	67957	Sample Preparation:	2011-04-05	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**36.8**	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.61	mg/Kg	1	2.00	130	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.73	mg/Kg	1	2.00	136	42 - 159

Sample: 261900 - AH-2 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79935	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**252**	mg/Kg	50	4.00

Sample: 261901 - AH-2 4'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79936	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**370**	mg/Kg	50	4.00

Sample: 261902 - AH-2 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79936	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**2330**	mg/Kg	100	4.00

Sample: 261903 - AH-3 0-0.5'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	80015	Date Analyzed:	2011-04-02	Analyzed By:	ME
Prep Batch:	67886	Sample Preparation:	2011-04-01	Prepared By:	ME

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		**6.09**		mg/Kg	50	0.0200
Toluene		**45.2**		mg/Kg	50	0.0200
Ethylbenzene		**36.5**		mg/Kg	50	0.0200
Xylene		**69.9**		mg/Kg	50	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		51.9	mg/Kg	50	50.0	104	52.8 - 137
4-Bromofluorobenzene (4-BFB)		65.9	mg/Kg	50	50.0	132	38.4 - 157

Sample: 261903 - AH-3 0-0.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79936	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**7720**		mg/Kg	100	4.00

Sample: 261903 - AH-3 0-0.5'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	79924	Date Analyzed:	2011-03-30	Analyzed By:	kg
Prep Batch:	67823	Sample Preparation:	2011-03-30	Prepared By:	kg

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		**1160**		mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	[6]	194	mg/Kg	1	100	194	70 - 130

[6]High surrogate recovery due to peak interference.

Sample: 261903 - AH-3 0-0.5'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	80016	Date Analyzed:	2011-04-02	Analyzed By:	ME
Prep Batch:	67886	Sample Preparation:	2011-04-01	Prepared By:	ME

Parameter	Flag	Result	RL	Units	Dilution	RL
GRO		**1820**		mg/Kg	50	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		54.8	mg/Kg	50	50.0	110	48.5 - 152
4-Bromofluorobenzene (4-BFB)	[7]	89.8	mg/Kg	50	50.0	180	42 - 159

Sample: 261904 - AH-3 1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	80015	Date Analyzed:	2011-04-02	Analyzed By:	ME
Prep Batch:	67886	Sample Preparation:	2011-04-01	Prepared By:	ME

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		<0.0200		mg/Kg	1	0.0200
Toluene		**0.166**		mg/Kg	1	0.0200
Ethylbenzene		<0.0200		mg/Kg	1	0.0200
Xylene		**0.443**		mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.44	mg/Kg	1	2.00	122	52.8 - 137
4-Bromofluorobenzene (4-BFB)		2.49	mg/Kg	1	2.00	124	38.4 - 157

Sample: 261904 - AH-3 1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79936	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**3780**		mg/Kg	100	4.00

[7]High surrogate recovery due to peak interference.

Sample: 261904 - AH-3 1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	80023	Date Analyzed:	2011-04-01	Analyzed By:	kg
Prep Batch:	67893	Sample Preparation:	2011-04-01	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		109	mg/Kg	1	100	109	70 - 130

Sample: 261904 - AH-3 1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	80016	Date Analyzed:	2011-04-02	Analyzed By:	ME
Prep Batch:	67886	Sample Preparation:	2011-04-01	Prepared By:	ME

Parameter	Flag	Result	RL Result	Units	Dilution	RL
GRO			**15.6**	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.53	mg/Kg	1	2.00	126	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.66	mg/Kg	1	2.00	133	42 - 159

Sample: 261905 - AH-3 2'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79936	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

Parameter	Flag	Result	RL Result	Units	Dilution	RL
Chloride			**2490**	mg/Kg	100	4.00

Sample: 261906 - AH-3 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79936	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

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

Sample: 261907 - AH-3 4'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79936	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**2140**	mg/Kg	100	4.00

Method Blank (1) QC Batch: 79924

QC Batch:	79924	Date Analyzed:	2011-03-30	Analyzed By:	kg
Prep Batch:	67823	QC Preparation:	2011-03-30	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		121	mg/Kg	1	100	121	70 - 130

Method Blank (1) QC Batch: 79935

QC Batch:	79935	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	QC Preparation:	2011-03-29	Prepared By:	AR

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

Method Blank (1) QC Batch: 79936

QC Batch:	79936	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	QC Preparation:	2011-03-29	Prepared By:	AR

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

Method Blank (1) QC Batch: 80015

QC Batch:	80015	Date Analyzed:	2011-04-02	Analyzed By:	ME
Prep Batch:	67886	QC Preparation:	2011-04-01	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.78	mg/Kg	1	2.00	89	66.6 - 122
4-Bromofluorobenzene (4-BFB)		1.73	mg/Kg	1	2.00	86	55.4 - 124

Method Blank (1) QC Batch: 80016

QC Batch:	80016	Date Analyzed:	2011-04-02	Analyzed By:	ME
Prep Batch:	67886	QC Preparation:	2011-04-01	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.88	mg/Kg	1	2.00	94	67.6 - 150
4-Bromofluorobenzene (4-BFB)		1.66	mg/Kg	1	2.00	83	52.4 - 130

Method Blank (1) QC Batch: 80023

QC Batch:	80023	Date Analyzed:	2011-04-01	Analyzed By:	kg
Prep Batch:	67893	QC Preparation:	2011-04-01	Prepared By:	kg

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

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

Method Blank (1) QC Batch: 80090

QC Batch: 80090 Date Analyzed: 2011-04-05 Analyzed By: ME
Prep Batch: 67957 QC Preparation: 2011-04-05 Prepared By: ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.90	mg/Kg	1	2.00	95	66.6 - 122
4-Bromofluorobenzene (4-BFB)		2.04	mg/Kg	1	2.00	102	55.4 - 124

Method Blank (1) QC Batch: 80091

QC Batch: 80091 Date Analyzed: 2011-04-05 Analyzed By: ME
Prep Batch: 67957 QC Preparation: 2011-04-05 Prepared By: ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.85	mg/Kg	1	2.00	92	67.6 - 150
4-Bromofluorobenzene (4-BFB)		1.81	mg/Kg	1	2.00	90	52.4 - 130

Method Blank (1) QC Batch: 80098

QC Batch: 80098 Date Analyzed: 2011-04-05 Analyzed By: kg
Prep Batch: 67966 QC Preparation: 2011-04-05 Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		85.3	mg/Kg	1	100	85	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 79924 | Date Analyzed: 2011-03-30 | Analyzed By: kg
Prep Batch: 67823 | QC Preparation: 2011-03-30 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	256	mg/Kg	1	250	<15.7	102	47.5 - 144.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	261	mg/Kg	1	250	<15.7	104	47.5 - 144.1	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
n-Tricosane	126	122	mg/Kg	1	100	126	122	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 79935 | Date Analyzed: 2011-03-31 | Analyzed By: AR
Prep Batch: 67767 | QC Preparation: 2011-03-29 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.1	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	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: 79936 | Date Analyzed: 2011-03-31 | Analyzed By: AR
Prep Batch: 67767 | QC Preparation: 2011-03-29 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.8	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	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	104	mg/Kg	1	100	<3.85	104	85 - 115	7	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 80015 | Date Analyzed: 2011-04-02 | Analyzed By: ME
Prep Batch: 67886 | QC Preparation: 2011-04-01 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.70	mg/Kg	1	2.00	<0.0118	85	81.9 - 108
Toluene	1.76	mg/Kg	1	2.00	<0.00600	88	81.9 - 107
Ethylbenzene	1.91	mg/Kg	1	2.00	<0.00850	96	78.4 - 107
Xylene	5.75	mg/Kg	1	6.00	<0.00613	96	79.1 - 107

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.76	mg/Kg	1	2.00	<0.0118	88	81.9 - 108	4	20
Toluene	1.81	mg/Kg	1	2.00	<0.00600	90	81.9 - 107	3	20
Ethylbenzene	1.96	mg/Kg	1	2.00	<0.00850	98	78.4 - 107	3	20
Xylene	5.89	mg/Kg	1	6.00	<0.00613	98	79.1 - 107	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)	1.74	1.51	mg/Kg	1	2.00	87	76	70.2 - 114
4-Bromofluorobenzene (4-BFB)	1.84	1.59	mg/Kg	1	2.00	92	80	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 80016 | Date Analyzed: 2011-04-02 | Analyzed By: ME
Prep Batch: 67886 | QC Preparation: 2011-04-01 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	17.7	mg/Kg	1	20.0	<0.753	88	60.9 - 95.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	16.8	mg/Kg	1	20.0	<0.753	84	60.9 - 95.4	5	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.03	1.68	mg/Kg	1	2.00	102	84	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.93	1.60	mg/Kg	1	2.00	96	80	68.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 80023 | Date Analyzed: 2011-04-01 | Analyzed By: kg
Prep Batch: 67893 | QC Preparation: 2011-04-01 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	282	mg/Kg	1	250	<15.7	113	47.5 - 144.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	278	mg/Kg	1	250	<15.7	111	47.5 - 144.1	1	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	126	124	mg/Kg	1	100	126	124	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 80090 | Date Analyzed: 2011-04-05 | Analyzed By: ME
Prep Batch: 67957 | QC Preparation: 2011-04-05 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.13	mg/Kg	1	2.00	<0.0118	106	81.9 - 108
Toluene	2.14	mg/Kg	1	2.00	<0.00600	107	81.9 - 107
Ethylbenzene	2.12	mg/Kg	1	2.00	<0.00850	106	78.4 - 107

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Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Xylene	6.40	mg/Kg	1	6.00	<0.00613	107	79.1 - 107

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.09	mg/Kg	1	2.00	<0.0118	104	81.9 - 108	2	20
Toluene	2.13	mg/Kg	1	2.00	<0.00600	106	81.9 - 107	0	20
Ethylbenzene	2.02	mg/Kg	1	2.00	<0.00850	101	78.4 - 107	5	20
Xylene	6.38	mg/Kg	1	6.00	<0.00613	106	79.1 - 107	0	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.12	2.03	mg/Kg	1	2.00	106	102	70.2 - 114
4-Bromofluorobenzene (4-BFB)	2.41	2.29	mg/Kg	1	2.00	120	114	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 80091 | Date Analyzed: 2011-04-05 | Analyzed By: ME
Prep Batch: 67957 | QC Preparation: 2011-04-05 | Prepared By: ME

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	17.2	mg/Kg	1	20.0	<0.753	86	60.9 - 95.4	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)	1.99	2.03	mg/Kg	1	2.00	100	102	61.9 - 142
4-Bromofluorobenzene (4-BFB)	2.05	2.11	mg/Kg	1	2.00	102	106	68.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 80098 | Date Analyzed: 2011-04-05 | Analyzed By: kg
Prep Batch: 67966 | QC Preparation: 2011-04-05 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	244	mg/Kg	1	250	<15.7	98	47.5 - 144.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	250	mg/Kg	1	250	<15.7	100	47.5 - 144.1	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
n-Tricosane	87.2	85.9	mg/Kg	1	100	87	86	70 - 130

Matrix Spike (MS-1) Spiked Sample: 261939

QC Batch: 79924 | Date Analyzed: 2011-03-30 | Analyzed By: kg
Prep Batch: 67823 | QC Preparation: 2011-03-30 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	242	mg/Kg	1	250	<15.7	97	11.7 - 152.3

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	233	mg/Kg	1	250	<15.7	93	11.7 - 152.3	4	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	121	126	mg/Kg	1	100	121	126	70 - 130

Matrix Spike (MS-1) Spiked Sample: 261900

QC Batch: 79935 | Date Analyzed: 2011-03-31 | Analyzed By: AR
Prep Batch: 67767 | QC Preparation: 2011-03-29 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10300	mg/Kg	100	10000	<385	100	80 - 120

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10600	mg/Kg	100	10000	<385	103	80 - 120	3	20

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

Matrix Spike (MS-1) Spiked Sample: 261910

QC Batch: 79936 | Date Analyzed: 2011-03-31 | Analyzed By: AR
Prep Batch: 67767 | QC Preparation: 2011-03-29 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	9960	mg/Kg	100	10000	<385	100	80 - 120

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10200	mg/Kg	100	10000	<385	102	80 - 120	2	20

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

Matrix Spike (MS-1) Spiked Sample: 261925

QC Batch: 80015 | Date Analyzed: 2011-04-02 | Analyzed By: ME
Prep Batch: 67886 | QC Preparation: 2011-04-01 | Prepared By: ME

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	[8]	1.61	mg/Kg	1	2.00	<0.0118	80	80.5 - 112
Toluene	[9]	1.70	mg/Kg	1	2.00	0.1724	76	82.4 - 113
Ethylbenzene		1.72	mg/Kg	1	2.00	<0.00850	86	83.9 - 114
Xylene	[10]	5.25	mg/Kg	1	6.00	0.552	78	84 - 114

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.74	mg/Kg	1	2.00	<0.0118	87	80.5 - 112	8	20
Toluene	1.88	mg/Kg	1	2.00	0.1724	85	82.4 - 113	10	20
Ethylbenzene	1.96	mg/Kg	1	2.00	<0.00850	98	83.9 - 114	13	20
Xylene	5.97	mg/Kg	1	6.00	0.552	90	84 - 114	13	20

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

[8]Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
[9]Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
[10]Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.87	2.28	mg/Kg	1	2	94	114	41.3 - 117
4-Bromofluorobenzene (4-BFB)	2.12	2.41	mg/Kg	1	2	106	120	35.5 - 129

Matrix Spike (MS-1) Spiked Sample: 261891

QC Batch: 80016 | Date Analyzed: 2011-04-02 | Analyzed By: ME
Prep Batch: 67886 | QC Preparation: 2011-04-01 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	19.5	mg/Kg	1	20.0	<0.753	98	61.8 - 114

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	21.1	mg/Kg	1	20.0	<0.753	106	61.8 - 114	8	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.44	2.49	mg/Kg	1	2	122	124	50 - 162
4-Bromofluorobenzene (4-BFB)	2.29	2.35	mg/Kg	1	2	114	118	50 - 162

Matrix Spike (MS-1) Spiked Sample: 261916

QC Batch: 80023 | Date Analyzed: 2011-04-01 | Analyzed By: kg
Prep Batch: 67893 | QC Preparation: 2011-04-01 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	285	mg/Kg	1	250	<15.7	114	11.7 - 152.3

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	275	mg/Kg	1	250	<15.7	110	11.7 - 152.3	4	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	117	119	mg/Kg	1	100	117	119	70 - 130

Matrix Spike (MS-1) Spiked Sample: 261899

QC Batch: 80090 | Date Analyzed: 2011-04-05 | Analyzed By: ME
Prep Batch: 67957 | QC Preparation: 2011-04-05 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.14	mg/Kg	1	2.00	<0.0118	107	80.5 - 112
Toluene	2.19	mg/Kg	1	2.00	<0.00600	110	82.4 - 113
Ethylbenzene	2.22	mg/Kg	1	2.00	<0.00850	111	83.9 - 114
Xylene	6.98	mg/Kg	1	6.00	0.4411	109	84 - 114

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.15	mg/Kg	1	2.00	<0.0118	108	80.5 - 112	0	20
Toluene	2.21	mg/Kg	1	2.00	<0.00600	110	82.4 - 113	1	20
Ethylbenzene	2.28	mg/Kg	1	2.00	<0.00850	114	83.9 - 114	3	20
Xylene	7.16	mg/Kg	1	6.00	0.4411	112	84 - 114	2	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)	[11]	2.16	2.58	mg/Kg	1	2	108	129	41.3 - 117
4-Bromofluorobenzene (4-BFB)	[12]	2.58	3.18	mg/Kg	1	2	129	159	35.5 - 129

Matrix Spike (MS-1) Spiked Sample: 262521

QC Batch: 80091 | Date Analyzed: 2011-04-05 | Analyzed By: ME
Prep Batch: 67957 | QC Preparation: 2011-04-05 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	18.1	mg/Kg	1	20.0	<0.753	90	61.8 - 114

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	19.8	mg/Kg	1	20.0	<0.753	99	61.8 - 114	9	20

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

[11] High surrogate recovery due to peak interference.
[12] High surrogate recovery due to peak interference.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.50	2.45	mg/Kg	1	2	125	122	50 - 162
4-Bromofluorobenzene (4-BFB)	2.45	2.38	mg/Kg	1	2	122	119	50 - 162

Matrix Spike (MS-1) Spiked Sample: 262521

QC Batch: 80098 | Date Analyzed: 2011-04-05 | Analyzed By: kg
Prep Batch: 67966 | QC Preparation: 2011-04-05 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	330	mg/Kg	1	250	<15.7	132	11.7 - 152.3

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	355	mg/Kg	1	250	<15.7	142	11.7 - 152.3	7	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	90.7	95.3	mg/Kg	1	100	91	95	70 - 130

Standard (CCV-1)

QC Batch: 79924 | Date Analyzed: 2011-03-30 | Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	258	103	80 - 120	2011-03-30

Standard (CCV-2)

QC Batch: 79924 | Date Analyzed: 2011-03-30 | Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	258	103	80 - 120	2011-03-30

Standard (ICV-1)

QC Batch: 79935 | Date Analyzed: 2011-03-31 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.3	98	85 - 115	2011-03-31

Standard (CCV-1)

QC Batch: 79935 Date Analyzed: 2011-03-31 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	102	102	85 - 115	2011-03-31

Standard (ICV-1)

QC Batch: 79936 Date Analyzed: 2011-03-31 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	102	102	85 - 115	2011-03-31

Standard (CCV-1)

QC Batch: 79936 Date Analyzed: 2011-03-31 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.9	98	85 - 115	2011-03-31

Standard (CCV-1)

QC Batch: 80015 Date Analyzed: 2011-04-02 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0871	87	80 - 120	2011-04-02
Toluene		mg/Kg	0.100	0.0894	89	80 - 120	2011-04-02
Ethylbenzene		mg/Kg	0.100	0.0981	98	80 - 120	2011-04-02
Xylene		mg/Kg	0.300	0.294	98	80 - 120	2011-04-02

Standard (CCV-2)

QC Batch: 80015 Date Analyzed: 2011-04-02 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0885	88	80 - 120	2011-04-02
Toluene		mg/Kg	0.100	0.0908	91	80 - 120	2011-04-02
Ethylbenzene		mg/Kg	0.100	0.0974	97	80 - 120	2011-04-02
Xylene		mg/Kg	0.300	0.294	98	80 - 120	2011-04-02

Standard (CCV-3)

QC Batch: 80015 Date Analyzed: 2011-04-02 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0872	87	80 - 120	2011-04-02
Toluene		mg/Kg	0.100	0.0887	89	80 - 120	2011-04-02
Ethylbenzene		mg/Kg	0.100	0.0935	94	80 - 120	2011-04-02
Xylene		mg/Kg	0.300	0.282	94	80 - 120	2011-04-02

Standard (CCV-1)

QC Batch: 80016 Date Analyzed: 2011-04-02 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.05	105	80 - 120	2011-04-02

Standard (CCV-2)

QC Batch: 80016 Date Analyzed: 2011-04-02 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.20	120	80 - 120	2011-04-02

Standard (CCV-3)

QC Batch: 80016 Date Analyzed: 2011-04-02 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.15	115	80 - 120	2011-04-02

Standard (CCV-2)

QC Batch: 80023 Date Analyzed: 2011-04-01 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	262	105	80 - 120	2011-04-01

Standard (CCV-3)

QC Batch: 80023 Date Analyzed: 2011-04-01 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	298	119	80 - 120	2011-04-01

Standard (CCV-1)

QC Batch: 80090 Date Analyzed: 2011-04-05 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.115	115	80 - 120	2011-04-05
Toluene		mg/Kg	0.100	0.115	115	80 - 120	2011-04-05
Ethylbenzene		mg/Kg	0.100	0.115	115	80 - 120	2011-04-05
Xylene		mg/Kg	0.300	0.347	116	80 - 120	2011-04-05

Standard (CCV-2)

QC Batch: 80090 Date Analyzed: 2011-04-05 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.102	102	80 - 120	2011-04-05
Toluene		mg/Kg	0.100	0.103	103	80 - 120	2011-04-05
Ethylbenzene		mg/Kg	0.100	0.102	102	80 - 120	2011-04-05

continued ...

standard continued ...

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Xylene		mg/Kg	0.300	0.308	103	80 - 120	2011-04-05

Standard (CCV-1)

QC Batch: 80091 Date Analyzed: 2011-04-05 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.05	105	80 - 120	2011-04-05

Standard (CCV-2)

QC Batch: 80091 Date Analyzed: 2011-04-05 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.07	107	80 - 120	2011-04-05

Standard (CCV-1)

QC Batch: 80098 Date Analyzed: 2011-04-05 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	251	100	80 - 120	2011-04-05

Standard (CCV-2)

QC Batch: 80098 Date Analyzed: 2011-04-05 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	290	116	80 - 120	2011-04-05

& Work Order #: 11032820

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

CLIENT NAME: COG Operating
SITE MANAGER: Ike Tavarez
PROJECT NO.: 114-6400858
PROJECT NAME: COG - Dogwood Fed #1 TB Eddy Co. NM.

ANALYSIS REQUEST (Circle or Specify Method No.): BTEX 8021B (circled), TPH 8015 MOD. (circled) 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 (circled), Gamma Spec., Alpha Beta (Air), PLM (Asbestos), Major Anions/Cations, pH, TDS

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD.	Chloride
261891	3/25/11		S		/	AH-1 0-0.5'	1				/		X	X	X
892	↓		S		/	AH-1 1'	1				/				X
893	↓		S			AH-1 2'					/				X
894	↓		S		/	AH-1 3'	1				/				X
895	↓		S		/	AH-1 4'	1				/				X
896	↓		S		/	AH-1 5'	1				/				X
897	↓		S		/	AH-2 0-0.5'	1				/		X	X	X
898	↓		S		/	AH-2 1'	1				/				X
899	↓		S		/	AH-2 2'	1				/				X
900	↓		S		/	AH-2 3'	1				/				X

RELINQUISHED BY: (Signature) [signature] Date: 3-28-11 Time: 12:20
RECEIVED BY: (Signature) Date: Time:
SAMPLED BY: (Print & Initial) Date: Time:

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

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

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature) [signature]
DATE: 3-28-11 TIME: 12:20
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 3.6°C intact

REMARKS: Run deeper sample if TPH exceeds 1000mg/kg or Benzene exceeds 10 mg/kg or Total BTEX exceed 50 mg/kg

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

XWO #: 1032820

Analysis Request of Chain of Custody Record

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

CLIENT NAME: COG Operating | SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-640 0858 | PROJECT NAME: COG / Dogwood Fed #1 TB Eddy Co. NM.

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 608/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
261901	3/25/11		S		-	AH-2 4'																		X				
902			S		-	AH-2 5'																		X				
903			S		-	AH-3 0-0.5'							X	X										X				
904			S		-	AH-3 1'																		X				
905			S		-	AH-3 2'																		X				
906			S		-	AH-3 3'																		X				
907			S		-	AH-3 4'																		X				

RELINQUISHED BY: (Signature)	Date: 3-28-11 Time: 12:20	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RECEIVING LABORATORY: Trace	RECEIVED BY: (Signature)		
ADDRESS: CITY: STATE: ZIP: CONTACT: PHONE:	DATE: 3-28-11 TIME: 12:20		

SAMPLED BY: (Print & Initial) Jeff Dean — Date: Time:

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

TETRA TECH CONTACT PERSON: Ike Tavarez — Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 3.6° C Intact

REMARKS:

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

Summary Report

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

Report Date: 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

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
7200 East Sunset Road, Suite E El Paso, Texas 79822 888•588•3443 915•585•3443 FAX 915•585•4944
5802 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: July 12, 2011

Work Order: 11070111

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
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

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 14 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 2011-06-30 and assigned to work order 11070111. Samples for work order 11070111 were received intact at a temperature of 8.0 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	70311	2011-07-06 at 08:36	82929	2011-07-11 at 14:06
Chloride (Titration)	SM 4500-Cl B	70311	2011-07-06 at 08:36	82930	2011-07-11 at 14:07

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 11070111 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: 270978 - SB-1 0-1 (3' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**3700**	mg/Kg	100	4.00

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**325**	mg/Kg	50	4.00

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

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

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

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

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

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

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

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

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

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

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**255**	mg/Kg	50	4.00

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**320**	mg/Kg	50	4.00

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**390**	mg/Kg	50	4.00

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82930	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

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

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82930	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

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

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82930	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

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

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82930	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

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

Method Blanks

Method Blank (1) QC Batch: 82929

QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	QC Preparation:	2011-07-06	Prepared By:	AR

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

Method Blank (1) QC Batch: 82930

QC Batch:	82930	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	QC Preparation:	2011-07-06	Prepared By:	AR

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

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 82929 | Date Analyzed: 2011-07-11 | Analyzed By: AR
Prep Batch: 70311 | QC Preparation: 2011-07-06 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			95.8	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: 82930 | Date Analyzed: 2011-07-11 | Analyzed By: AR
Prep Batch: 70311 | QC Preparation: 2011-07-06 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			95.3	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			106	mg/Kg	1	100	<3.85	106	85 - 115	11	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: 270989

QC Batch: 82929 | Date Analyzed: 2011-07-11 | Analyzed By: AR
Prep Batch: 70311 | QC Preparation: 2011-07-06 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10300	mg/Kg	100	10000	390	99	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			10700	mg/Kg	100	10000	390	103	80 - 120	4	20

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

Matrix Spike (MS-1) Spiked Sample: 271199

QC Batch: 82930 | Date Analyzed: 2011-07-11 | Analyzed By: AR
Prep Batch: 70311 | QC Preparation: 2011-07-06 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			11400	mg/Kg	100	10000	963	104	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			11700	mg/Kg	100	10000	963	107	80 - 120	3	20

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

Calibration Standards

Standard (ICV-1)

QC Batch: 82929 | Date Analyzed: 2011-07-11 | Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.5	100	85 - 115	2011-07-11

Standard (CCV-1)

QC Batch: 82929 | Date Analyzed: 2011-07-11 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2011-07-11

Standard (ICV-1)

QC Batch: 82930 | Date Analyzed: 2011-07-11 | Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	96.5	96	85 - 115	2011-07-11

Standard (CCV-1)

QC Batch: 82930 | Date Analyzed: 2011-07-11 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	104	104	85 - 115	2011-07-11

Appendix

Laboratory Certifications

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

Standard Flags

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

Attachments

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

X-WO #: 1107011

Analysis Request of Chain of Custody Record

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6100858

PROJECT NAME: COG / Dogwood Federal TB Eddy Co. NM

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
170978	6/27		S		X	SB-1 0-1' (3' BEB)	1				X	
979						3' (3' BEB)	1				X	
980						5' (3' BEB)	1				X	
981						7' (3' BEB)	1				X	
982						10' (3' BEB)	1				X	
983						15' (3' BEB)	1				X	
984						20' (3' BEB)	1				X	
985						25' (3' BEB)	1				X	
986						30' (3' BEB)	1				X	
987						SB-2 0-1 (4' BEB)	1				X	

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
												X				
												X				
												X				
												X				
												X				
												X				
												X				
												X				
												X				
												X				

RELINQUISHED BY: (Signature) Date: 6/30/11 Time: 1605 — RECEIVED BY: (Signature) Date: 6/30/11 Time: 16:45

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

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

SAMPLED BY: (Print & Initial) Kim Date: 6/27/11 Time:

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

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

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

SAMPLE CONDITION WHEN RECEIVED: 5.0°C intact

REMARKS: All tests Midland

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

Xto #: 1107011

Analysis Request of Chain of Custody Record

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-640 0858

PROJECT NAME: COG / Dogwood Federal TB
Eddy Co, NM

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
270988	6/27		S		X	SB-2 3' (4' BEB)	1				X													X				
989						5' (4' BEB)	1				X													X				
990						7' (4' BEB)	1				X													X				
991						10' (4' BEB)	1				X													X				
992						15' (4' BEB)	1				X													X				
993						20' (4' BEB)	1				X													X				
994						25' (4' BEB)	1				X																	
995						30' (4' BEB)	1				X																	

ANALYSIS REQUEST
(Circle or Specify Method No.)

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

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

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

SAMPLED BY: (Print & Initial) Kim Date: 6/27/11 Time:

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

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

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

SAMPLE CONDITION WHEN RECEIVED: 8.0° c intact

REMARKS:

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

Summary Report

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

Report Date: 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: July 12, 2011

Work Order: 11070111

Project Location: Eddy Co., NM
Project Name: COG/Dogwood Fed. #1 TB
Project Number: 114-G400858

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
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

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 14 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 2011-06-30 and assigned to work order 11070111. Samples for work order 11070111 were received intact at a temperature of 8.0 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	70311	2011-07-06 at 08:36	82929	2011-07-11 at 14:06
Chloride (Titration)	SM 4500-Cl B	70311	2011-07-06 at 08:36	82930	2011-07-11 at 14:07

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 11070111 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: 270978 - SB-1 0-1 (3' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**3700**	mg/Kg	100	4.00

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**325**	mg/Kg	50	4.00

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

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

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

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

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

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

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

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

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

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

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**255**	mg/Kg	50	4.00

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**320**	mg/Kg	50	4.00

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**390**	mg/Kg	50	4.00

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82930	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

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

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82930	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

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

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82930	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

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

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

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82930	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample Preparation:	2011-07-06	Prepared By:	AR

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

Method Blanks

Method Blank (1) QC Batch: 82929

QC Batch:	82929	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	QC Preparation:	2011-07-06	Prepared By:	AR

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

Method Blank (1) QC Batch: 82930

QC Batch:	82930	Date Analyzed:	2011-07-11	Analyzed By:	AR
Prep Batch:	70311	QC Preparation:	2011-07-06	Prepared By:	AR

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

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 82929 | Date Analyzed: 2011-07-11 | Analyzed By: AR
Prep Batch: 70311 | QC Preparation: 2011-07-06 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			95.8	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: 82930 | Date Analyzed: 2011-07-11 | Analyzed By: AR
Prep Batch: 70311 | QC Preparation: 2011-07-06 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			95.3	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			106	mg/Kg	1	100	<3.85	106	85 - 115	11	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: 270989

QC Batch: 82929 | Date Analyzed: 2011-07-11 | Analyzed By: AR
Prep Batch: 70311 | QC Preparation: 2011-07-06 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10300	mg/Kg	100	10000	390	99	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			10700	mg/Kg	100	10000	390	103	80 - 120	4	20

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

Matrix Spike (MS-1) Spiked Sample: 271199

QC Batch: 82930 Date Analyzed: 2011-07-11 Analyzed By: AR
Prep Batch: 70311 QC Preparation: 2011-07-06 Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			11400	mg/Kg	100	10000	963	104	80 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			11700	mg/Kg	100	10000	963	107	80 - 120	3	20

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

Calibration Standards

Standard (ICV-1)

QC Batch: 82929 | Date Analyzed: 2011-07-11 | Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.5	100	85 - 115	2011-07-11

Standard (CCV-1)

QC Batch: 82929 | Date Analyzed: 2011-07-11 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2011-07-11

Standard (ICV-1)

QC Batch: 82930 | Date Analyzed: 2011-07-11 | Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	96.5	96	85 - 115	2011-07-11

Standard (CCV-1)

QC Batch: 82930 | Date Analyzed: 2011-07-11 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	104	104	85 - 115	2011-07-11

Appendix

Laboratory Certifications

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

Standard Flags

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

Attachments

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

XWO #: 1107011

Analysis Request of Chain of Custody Record

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

PAGE: 1 OF: 2

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6100858

PROJECT NAME: COG / Dogwood Federal TB Eddy Co. NM

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
170978	6/27		S		X	SB-1 0-1' (3' BEB)	1				X	
979						3' (3' BEB)	1				X	
980						5' (3' BEB)	1				X	
981						7' (3' BEB)	1				X	
982						10' (3' BEB)	1				X	
983						15' (3' BEB)	1				X	
984						20' (3' BEB)	1				X	
985						25' (3' BEB)	1				X	
986						30' (3' BEB)	1				X	
987						SB-2 0-1 (4' BEB)	1				X	

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
												X				
												X				
												X				
												X				
												X				
												X				
												X				
												X				
												X				
												X				

RELINQUISHED BY: (Signature) Date: 6/30/11 Time: 1645 — RECEIVED BY: (Signature) Date: 6/30/11 Time: 16:45

SAMPLED BY: (Print & Initial) Kim Date: 6/27/11 Time:

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

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

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

TETRA TECH CONTACT PERSON: Ike Tavarez — Results by:

RECEIVING LABORATORY: TRACE — RECEIVED BY: (Signature)

ADDRESS: CITY: MIDLAND STATE: TX ZIP:

CONTACT: PHONE: DATE: TIME:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 5.0°C intact

REMARKS: All tests Midland

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

AFE #: 11070111

Analysis Request of Chain of Custody Record

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

CLIENT NAME: COG
SITE MANAGER: Ike Tavarez
PROJECT NO.: 114-640 0858
PROJECT NAME: COG / Dogwood Federal TB
Eddy Co, NM

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
270988	6/27		S		X	SB-2 3' (4' BEB)	1				X													X				
989						5' (4' BEB)	1				X													X				
990						7' (4' BEB)	1				X													X				
991						10' (4' BEB)	1				X													X				
992						15' (4' BEB)	1				X													X				
993						20' (4' BEB)	1				X													X				
994						25' (4' BEB)	1				X																	
995						30' (4' BEB)	1				X																	

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature) Date: 6/30/11 Time: 1645
RECEIVED BY: (Signature) Date: 6/30/11 Time: 16:45
SAMPLED BY: (Print & Initial) Kim Date: 6/27/11 Time:

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

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

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

SAMPLE CONDITION WHEN RECEIVED: 8.0° C intact
REMARKS:

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

Summary Report

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

Report Date: May 4, 2012

Work Order: 12042419

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
295104	SB-3 0-1'	soil	2012-04-19	00:00	2012-04-24
295105	SB-3 2-3'	soil	2012-04-19	00:00	2012-04-24
295106	SB-3 4-5'	soil	2012-04-19	00:00	2012-04-24
295107	SB-3 6-7'	soil	2012-04-19	00:00	2012-04-24
295108	SB-3 8'	soil	2012-04-19	00:00	2012-04-24
295109	SB-3 9'	soil	2012-04-19	00:00	2012-04-24
295110	SB-3 10'	soil	2012-04-19	00:00	2012-04-24

Sample: 295104 - SB-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**11300**	mg/Kg	4

Sample: 295105 - SB-3 2-3'

Param	Flag	Result	Units	RL
Chloride		**9030**	mg/Kg	4

Sample: 295106 - SB-3 4-5'

Param	Flag	Result	Units	RL
Chloride		**199**	mg/Kg	4

Sample: 295107 - SB-3 6-7'

Param	Flag	Result	Units	RL
Chloride		**125**	mg/Kg	4

Sample: 295108 - SB-3 8'

Param	Flag	Result	Units	RL
Chloride		**134**	mg/Kg	4

Sample: 295109 - SB-3 9'

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

Sample: 295110 - SB-3 10'

Param	Flag	Result	Units	RL
Chloride		**59.4**	mg/Kg	4

12042419

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 1

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-C40 0858

PROJECT NAME: COG / Dagwood 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	ANALYSIS REQUEST: 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
29,5104	4/19		G		X	SB-3 0-1'	1	N			X													X				
105						SB-3 2'-3'																		X				
106						SB-3 4'-5'																		X				
107						SB-3 6'-7'																		X				
108						SB-3 8'																		X				
109						SB-3 9'																		X				
110						SB-3 10'																		X				

RELINQUISHED BY: (Signature) Date: 4/20/12 Time: 1030
RECEIVED BY: (Signature) Date: 4/20/12 Time: 10:30
SAMPLED BY: (Print & Initial) JT Date: 4/19/12 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
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 1.9° 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.

TRACEANALYSIS, INC.

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

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: May 4, 2012

Work Order: 12042419

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
295104	SB-3 0-1'	soil	2012-04-19	00:00	2012-04-24
295105	SB-3 2-3'	soil	2012-04-19	00:00	2012-04-24
295106	SB-3 4-5'	soil	2012-04-19	00:00	2012-04-24
295107	SB-3 6-7'	soil	2012-04-19	00:00	2012-04-24
295108	SB-3 8'	soil	2012-04-19	00:00	2012-04-24
295109	SB-3 9'	soil	2012-04-19	00:00	2012-04-24
295110	SB-3 10'	soil	2012-04-19	00:00	2012-04-24

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 12 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 2012-04-24 and assigned to work order 12042419. Samples for work order 12042419 were received intact at a temperature of 1.4 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	77061	2012-05-01 at 08:50	90860	2012-05-02 at 15:08
Chloride (Titration)	SM 4500-Cl B	77061	2012-05-01 at 08:50	90862	2012-05-02 at 15:09

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 12042419 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: 295104 - SB-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90860	Date Analyzed:	2012-05-02	Analyzed By:	AR
Prep Batch:	77061	Sample Preparation:	2012-05-01	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**11300**	mg/Kg	10	4.00

Sample: 295105 - SB-3 2-3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90860	Date Analyzed:	2012-05-02	Analyzed By:	AR
Prep Batch:	77061	Sample Preparation:	2012-05-01	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**9030**	mg/Kg	10	4.00

Sample: 295106 - SB-3 4-5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90860	Date Analyzed:	2012-05-02	Analyzed By:	AR
Prep Batch:	77061	Sample Preparation:	2012-05-01	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**199**	mg/Kg	5	4.00

Sample: 295107 - SB-3 6-7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90860	Date Analyzed:	2012-05-02	Analyzed By:	AR
Prep Batch:	77061	Sample Preparation:	2012-05-01	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**125**	mg/Kg	5	4.00

Sample: 295108 - SB-3 8'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90860	Date Analyzed:	2012-05-02	Analyzed By:	AR
Prep Batch:	77061	Sample Preparation:	2012-05-01	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**134**	mg/Kg	5	4.00

Sample: 295109 - SB-3 9'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90862	Date Analyzed:	2012-05-02	Analyzed By:	AR
Prep Batch:	77061	Sample Preparation:	2012-05-01	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**218**	mg/Kg	5	4.00

Sample: 295110 - SB-3 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90862	Date Analyzed:	2012-05-02	Analyzed By:	AR
Prep Batch:	77061	Sample Preparation:	2012-05-01	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**59.4**	mg/Kg	5	4.00

Method Blanks

Method Blank (1) QC Batch: 90860

QC Batch:	90860	Date Analyzed:	2012-05-02	Analyzed By:	AR
Prep Batch:	77061	QC Preparation:	2012-05-01	Prepared By:	AR

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

Method Blank (1) QC Batch: 90862

QC Batch:	90862	Date Analyzed:	2012-05-02	Analyzed By:	AR
Prep Batch:	77061	QC Preparation:	2012-05-01	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: 90860 | Date Analyzed: 2012-05-02 | Analyzed By: AR
Prep Batch: 77061 | QC Preparation: 2012-05-01 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2420	mg/Kg	1	2500	<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			2490	mg/Kg	1	2500	<3.85	100	85 - 115	3	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: 90862 | Date Analyzed: 2012-05-02 | Analyzed By: AR
Prep Batch: 77061 | QC Preparation: 2012-05-01 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2620	mg/Kg	1	2500	<3.85	105	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2510	mg/Kg	1	2500	<3.85	100	85 - 115	4	20

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

Matrix Spike (MS-1) Spiked Sample: 295108

QC Batch: 90860 | Date Analyzed: 2012-05-02 | Analyzed By: AR
Prep Batch: 77061 | QC Preparation: 2012-05-01 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2350	mg/Kg	5	2500	134	89	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			2420	mg/Kg	5	2500	134	91	79.4 - 120.6	3	20

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

Matrix Spike (MS-1) Spiked Sample: 295119

QC Batch: 90862 | Date Analyzed: 2012-05-02 | Analyzed By: AR
Prep Batch: 77061 | QC Preparation: 2012-05-01 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			5070	mg/Kg	10	2500	2530	102	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			5250	mg/Kg	10	2500	2530	109	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: 90860 | Date Analyzed: 2012-05-02 | 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	2012-05-02

Standard (CCV-2)

QC Batch: 90860 | Date Analyzed: 2012-05-02 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.3	99	85 - 115	2012-05-02

Standard (CCV-1)

QC Batch: 90862 | Date Analyzed: 2012-05-02 | 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	98.9	99	85 - 115	2012-05-02

Standard (CCV-2)

QC Batch: 90862 | Date Analyzed: 2012-05-02 | 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	2012-05-02

Appendix

Report Definitions

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

Laboratory Certifications

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

Standard Flags

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

Attachments

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

Summary Report

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

Report Date: May 7, 2012

Work Order: 12042416

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
295076	CS-1 Bottom Hole 2'	soil	2012-04-19	00:00	2012-04-24
295077	CS-1 East Sidewall	soil	2012-04-19	00:00	2012-04-24
295078	CS-1 West Sidewall	soil	2012-04-19	00:00	2012-04-24
295079	CS-2 Bottom Hole 2'	soil	2012-04-19	00:00	2012-04-24
295080	CS-2 East Sidewall	soil	2012-04-19	00:00	2012-04-24
295081	CS-2 West Sidewall	soil	2012-04-19	00:00	2012-04-24
295082	CS-3 Bottom Hole 2'	soil	2012-04-19	00:00	2012-04-24
295083	CS-3 North Sidewall	soil	2012-04-19	00:00	2012-04-24
295084	CS-3 South Sidewall	soil	2012-04-19	00:00	2012-04-24
295085	CS-4 Bottom Hole 1'	soil	2012-04-19	00:00	2012-04-24
295086	CS-4 North Sidewall	soil	2012-04-19	00:00	2012-04-24
295087	CS-4 East Sidewall	soil	2012-04-19	00:00	2012-04-24
295088	CS-4 South Sidewall	soil	2012-04-19	00:00	2012-04-24
295089	CS-4 West Sidewall	soil	2012-04-19	00:00	2012-04-24
295090	CS-5 Bottom Hole 2' (AH-4)	soil	2012-04-19	00:00	2012-04-24
295091	CS-5 East Sidewall (AH-4)	soil	2012-04-19	00:00	2012-04-24
295092	CS-5 West Sidewall (AH-4)	soil	2012-04-19	00:00	2012-04-24
295093	CS-6 0-1'	soil	2012-04-19	00:00	2012-04-24
295094	CS-7 0-1'	soil	2012-04-19	00:00	2012-04-24
295095	Trench #1 3' (AH-4)	soil	2012-04-19	00:00	2012-04-24
295096	Trench #1 4' (AH-4)	soil	2012-04-19	00:00	2012-04-24
295097	CS-8 Bottom Hole 3' (South Area)	soil	2012-04-19	00:00	2012-04-24
295098	CS-8 North Sidewall (South Area)	soil	2012-04-19	00:00	2012-04-24
295099	CS-8 East Sidewall (South Area)	soil	2012-04-19	00:00	2012-04-24
295100	CS-8 South Sidewall (South Area)	soil	2012-04-19	00:00	2012-04-24
295101	CS-8 West Sidewall (South Area)	soil	2012-04-19	00:00	2012-04-24

Sample - Field Code	BTEX Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)
295079 - CS-2 Bottom Hole 2'	<0.0200	<0.0200	<0.0200	<0.0200

Sample: 295076 - CS-1 Bottom Hole 2'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 295077 - CS-1 East Sidewall

Param	Flag	Result	Units	RL
Chloride		**24.4**	mg/Kg	4

Sample: 295078 - CS-1 West Sidewall

Param	Flag	Result	Units	RL
Chloride		**156**	mg/Kg	4

Sample: 295079 - CS-2 Bottom Hole 2'

Param	Flag	Result	Units	RL
Chloride		**161**	mg/Kg	4

Sample: 295080 - CS-2 East Sidewall

Param	Flag	Result	Units	RL
Chloride		**215**	mg/Kg	4

Sample: 295081 - CS-2 West Sidewall

Param	Flag	Result	Units	RL
Chloride		**5830**	mg/Kg	4

Sample: 295082 - CS-3 Bottom Hole 2'

Param	Flag	Result	Units	RL
Chloride		**3170**	mg/Kg	4

Sample: 295083 - CS-3 North Sidewall

Param	Flag	Result	Units	RL
Chloride		**6950**	mg/Kg	4

Sample: 295084 - CS-3 South Sidewall

Param	Flag	Result	Units	RL
Chloride		**3640**	mg/Kg	4

Sample: 295085 - CS-4 Bottom Hole 1'

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

Sample: 295086 - CS-4 North Sidewall

Param	Flag	Result	Units	RL
Chloride		**234**	mg/Kg	4

Sample: 295087 - CS-4 East Sidewall

Param	Flag	Result	Units	RL
Chloride		**7840**	mg/Kg	4

Sample: 295088 - CS-4 South Sidewall

Param	Flag	Result	Units	RL
Chloride		**3170**	mg/Kg	4

Sample: 295089 - CS-4 West Sidewall

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 295090 - CS-5 Bottom Hole 2' (AH-4)

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 295091 - CS-5 East Sidewall (AH-4)

Param	Flag	Result	Units	RL
Chloride		**4410**	mg/Kg	4

Sample: 295092 - CS-5 West Sidewall (AH-4)

Param	Flag	Result	Units	RL
Chloride		**64.6**	mg/Kg	4

Sample: 295093 - CS-6 0-1'

Param	Flag	Result	Units	RL
Chloride		**189**	mg/Kg	4

Sample: 295094 - CS-7 0-1'

Param	Flag	Result	Units	RL
Chloride		**34.8**	mg/Kg	4

Sample: 295095 - Trench #1 3' (AH-4)

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 295096 - Trench #1 4' (AH-4)

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 295097 - CS-8 Bottom Hole 3' (South Area)

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 295098 - CS-8 North Sidewall (South Area)

Param	Flag	Result	Units	RL
Chloride		**69.7**	mg/Kg	4

Sample: 295099 - CS-8 East Sidewall (South Area)

Param	Flag	Result	Units	RL
Chloride		139	mg/Kg	4

Sample: 295100 - CS-8 South Sidewall (South Area)

Param	Flag	Result	Units	RL
Chloride		184	mg/Kg	4

Sample: 295101 - CS-8 West Sidewall (South Area)

Param	Flag	Result	Units	RL
Chloride		169	mg/Kg	4

12042414

Analysis Request of Chain of Custody Record

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6460858

PROJECT NAME: COG/ Dogwood Federal T13 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
295076	4/19		S		X	CS-1 Bottom Hole 2'	1				X														X				
077						CS-1 East Sidewall																			X				
078						CS-1 West Sidewall																			X				
079						CS-2 Bottom Hole 2'							X												X				
080						CS-2 East Sidewall																			X				
081						CS-2 West Sidewall																			X				
082						CS-3 Bottom Hole 2'																			X				
083						CS-3 North Sidewall																			X				
084						CS-3 South Sidewall																			X				
085	↓		↓		↓	CS-4 Bottom Hole 1'	↓				↓														X				

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature)	Date: 9/24/12 Time: 10:30am	RECEIVED BY: (Signature)	Date: 9/24/12 Time: 10:30
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RECEIVING LABORATORY: Trace		RECEIVED BY: (Signature)	
ADDRESS: CITY: Midland STATE: TX ZIP:			
CONTACT: PHONE:		DATE: TIME:	

SAMPLED BY: (Print & Initial) JT Date: 9/17/12 Time:

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

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 1.4° uncut

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.

12042416

Analysis Request of Chain of Custody Record

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400858

PROJECT NAME: COG / Dogwood Federal TB
Eddy Co, NM

LAB I.D. NUMBER	DATE 202	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
086	4/12		S		X	CS-4 North Sidewall	1				X													X				
087						CS-4 East Sidewall																		X				
088						CS-4 South Sidewall																		X				
089						CS-4 West Sidewall																		X				
090						CS-5 Bottom Hole 2' (All 4)																		X				
091						CS-5 East Sidewall (All 4)																		X				
092						CS-5 West Sidewall (All 4)																		X				
093						CS-6 0-1'																		X				
094						CS-7 0-1'																		X				
095			↓		↓	Trench #1 3' (All 4)	↓				↓													X				

ANALYSIS REQUEST
(Circle or Specify Method No.)

RELINQUISHED BY: (Signature) — Date: 4/12/12 Time: 10:30 am

RECEIVED BY: (Signature) — Date: 4/12/12 Time: 10:30

SAMPLED BY: (Print & Initial) JT — Date: 4/11/12 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
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature)
DATE: TIME:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 1.4° 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.

1204241G

Analysis Request of Chain of Custody Record

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400858

PROJECT NAME: COG / Dogwood Fedral 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
096	4/19		S		X	Trench #1 4' (AH-4)	1				X													X				
097	4/20		S		X	~~SS~~-CS-8 Bottom Hole 3' (South area)	1				X													X				
098	"		"		"	CS-8 North Sidewall (South area)	"				"													X				
099						CS-8 East Sidewall (South area)																		X				
100						CS-8 South Sidewall (South area)																		X				
101	↓		↓		↓	CS-8 West Sidewall (South area)	↓				↓													X				

RELINQUISHED BY: (Signature) — Date: 4/20/12 Time: 1030am — RECEIVED BY: (Signature) — Date: 4/20/12 Time: 10:30

SAMPLED BY: (Print & Initial) JT — Date: 4/19/12 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:
CONTACT: PHONE: DATE: TIME:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 1.4° 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.

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

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

CONDITIONS

Action 206000

CONDITIONS

Operator:	OGRID:
Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	328947
	Action Number: 206000
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
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