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District I
1625 N. French Dr., Hobbs, NM 88240
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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 1300 Midland, Texas 79701**	Telephone No. **(432) 230-0077**
Facility Name **Prohibition Federal Unit #2 SWD**	Facility Type **SWD**

Surface Owner: Federal	Mineral Owner	Lease No. (API#) 30-025-31716

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	11	22S	32E	1980	South	2080	West	Lea

Latitude N 32.40418 ° **Longitude** W 103.64706 °

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release 20 bbls	Volume Recovered 10 bbls
Source of Release: Triplex Pump	Date and Hour of Occurrence 07/17/2010	Date and Hour of Discovery 07/17/2010 10:00a.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. N/A	

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*

Union on triplex threads wore out and failed. All of the fittings on the triplex were replaced.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected and collected samples to define spills extent. Soil that exceeded RRAL was removed and hauled away for proper disposal. Site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted it to NMOCD for review.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Ike Tavarez (agent for COG)	Approved by District Supervisor: Environmental Specialist
Title: Project Manager	Approval Date: 10/25/12 Expiration Date —
E-mail Address: ike.tavarez@tetratech.com	Conditions of Approval: — Attached ☐ IRP-10-12-2856
Date: 8/25/12 Phone: (432) 682-4559	

Attach Additional Sheets If Necessary

SITE INFORMATION

Report Type: Closure Report

General Site Information:						
Site:	**Prohibition Federal Unit #2 SWD**					
Company:	**COG Operating LLC**					
Section, Township and Range	**Sec 11**	**T22S**	**R32E**	**Unit K**		
Lease Number:	**API-30-025-31716**					
County:	**Lea County**					
GPS:	**32.40418° N**			**103.64706° W**		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	From the intersection of Hwy 248 and Hwy 8, travel north on Hwy 8 for 2.7 miles, turn left on Hwy 176 and travel for 21.7 miles, turn left onto lease road and travel 0.5 miles, turn right and travel 1.5 miles, turn left and travel 0.7 miles, turn left and travel 6 miles, turn right and travel 0.8 miles, turn left and travel 0.2 miles, turn right and travel 0.7 miles to site.					

Release Data:	
Date Released:	7/17/2010
Type Release:	Produced Water
Source of Contamination:	Triplex Pump
Fluid Released:	20 bbls
Fluids Recovered:	10 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

HOBBS OCD

OCT 22 2012

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approved
Geoff Leking, Env. Specialist
NMOCD - DIST 1
10/25/12

TETRA TECH

August 29, 2012

HOBBS OCD

OCT 22 2012

RECEIVED

Mr. Geoffrey Leking
Environmental Engineer Specialist
Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 88240

Re: Closure Report for the COG Operating LLC., Prohibition Federal #2 SWD, Unit K, Section 11, Township 22 South, Range 32 East, Lea County, New Mexico.

Mr. Leking:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Prohibition Federal Unit #2 SWD located in Unit K, Section 11, Township 22 South, Range 32 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.40418°, W 103.64706°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on July 17, 2010, and released approximately twenty (20) barrels of produced water due to worn out threads on a triplex pump. To alleviate the problem, COG personnel replace all fittings on the pump. Ten (10) barrels of standing fluids were recovered. The spill traveled outside the firewall of the battery and migrated south affecting an area approximately 120' long, with a width of 2' to 35' wide. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 11. According to the NMOCD groundwater map, the average depth to groundwater in this area is approximately 325' below surface. The well report data is shown in Appendix B.

Tetra Tech
1910 North Big Spring Midland,TX 79705
Tel 432.682.4559 Fax 432 682 3946 www.tetratech.com

Regulatory

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

Soil Assessment and Analytical Results

On September 9, 2010, Tetra Tech personnel inspected and sampled the spill area. A total of five (5) auger holes (AH-1 through AH-5) 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, all of the submitted samples were below the RRAL for TPH and BTEX. All of the auger holes (AH-1, AH-2, AH-3, AH-4 and AH-5) detected elevated chloride concentrations in the soils, with bottom hole samples of 17,300 mg/kg (2-2.5'), 1,110 mg/kg (1-1.5'), 670 mg/kg (0-1'), 12,000 mg/kg (1-1.5') and 3,790 mg/kg (0-1'), respectively. Deeper samples could not be collected due to a dense caliche formation. The chloride impact was not vertically defined.

To delineate the impact, an air rotary drilling rig was utilized to collect deeper samples. On March 25, 2011, Tetra Tech personnel supervised the installation of soil borings. A total of five (5) soil borings (SB-1 through SB-5) were installed to assess the soils. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The soil boring locations are shown on Figure 3.

Referring to Table 1, the deepest impact was detected in the area of SB-1 at the facility. The chloride concentrations significantly declined with depth at 50' below surface. The remaining auger holes showed a shallow impact to the soils and declined with depth. The areas of SB-2, SB-4 and SB-5 declined at an approximate depth of 5.0' to 7.0' and SB-3 showed a shallow impact to soil at 1.0' below surface.

Closure Activities

From April 30, 2012 to May 4, 2012, Tetra Tech personnel supervised the excavation of the site. Due to lines, structures and equipment, deeper excavation could not be achieved in the area of AH-1. However, approximately 1.0' of material was removed and deferred the remaining impacted soils in this area. The additional impacted areas were excavated to the appropriate depths as stated in the work plan. The excavation depths ranged from 1.0' to 5.0' below surface.

Once excavated, the NMOCD and BLM were contacted to discuss the remediation activities and both approved the backfilling of the site. The excavation areas and depths are highlighted in Table 1 and shown on Figure 4. A total of 286 cubic yards of soil were excavated and hauled to proper disposal. The excavated areas were backfilled with clean material to grade.

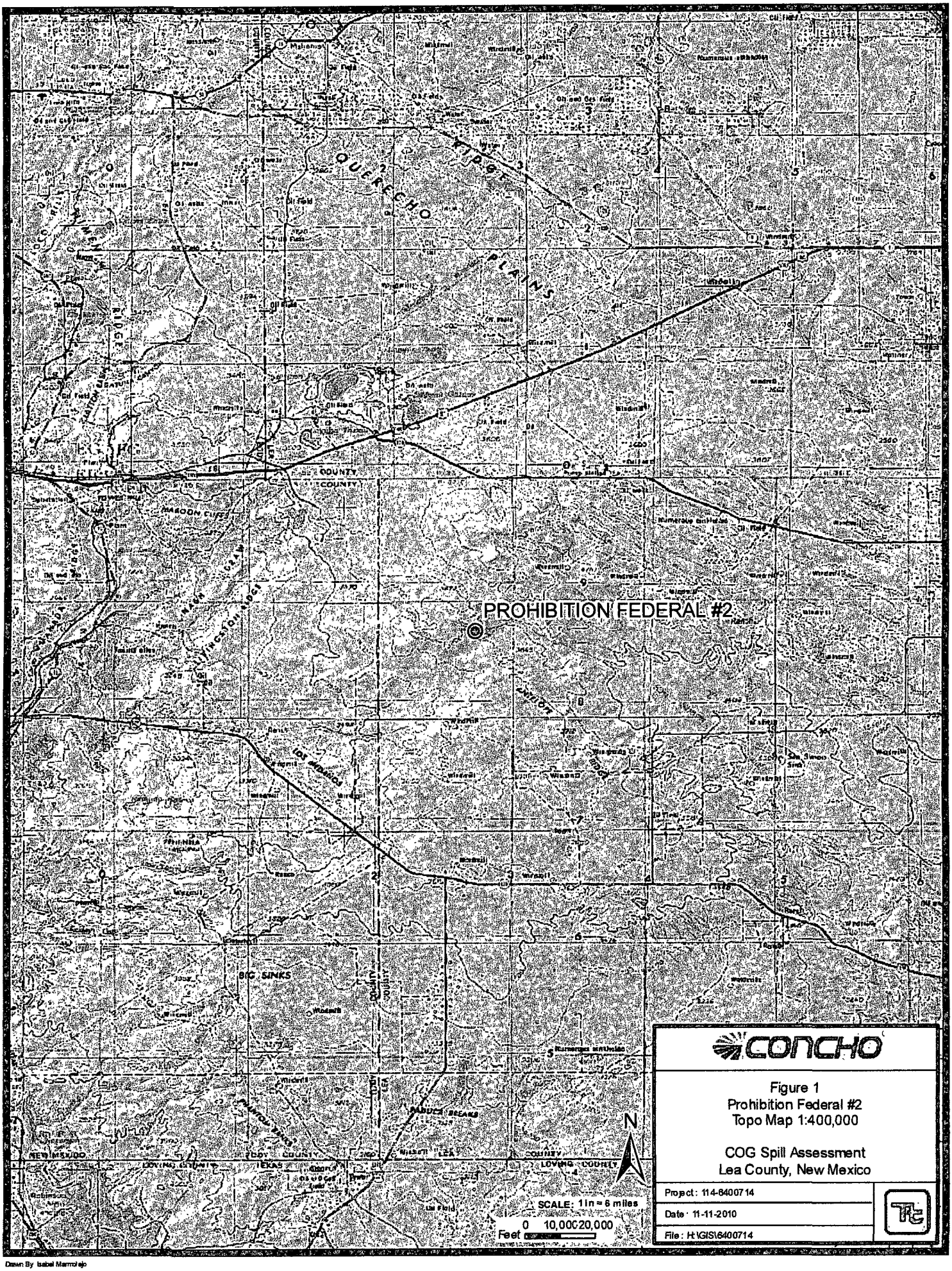
Based on the remedial activities performed, COG requests closure of the site. A copy of the C-141 (Final) is included in Appendix A. If you have any questions or comments concerning the remedial activities, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Ike Tavarez
Project Manager

cc: Pat Ellis – COG
cc: Jim Amos – BLM

Figures



CONCHO

Figure 1
Prohibition Federal #2
Topo Map 1:400,000

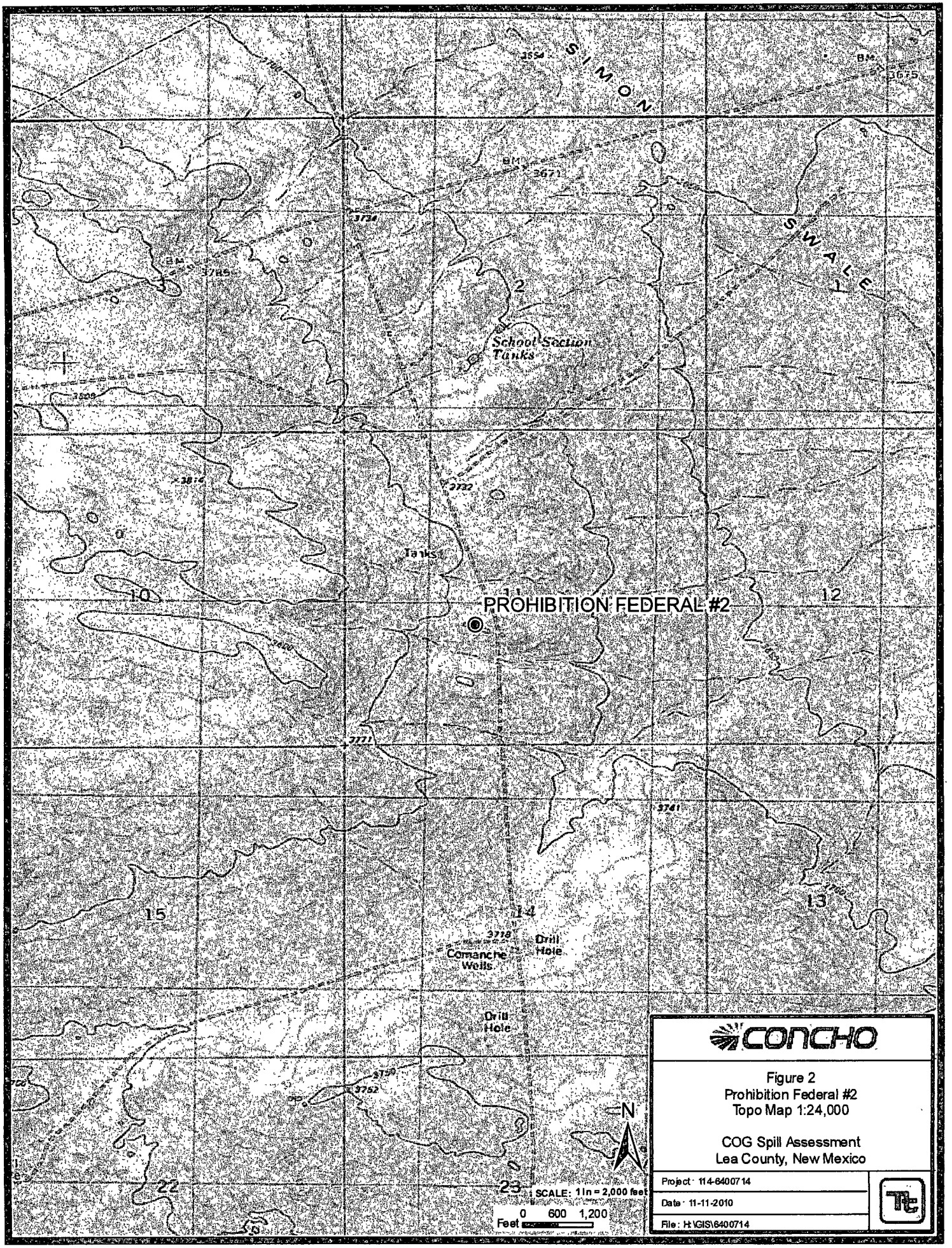
COG Spill Assessment
Lea County, New Mexico

Project: 114-6400714

Date: 11-11-2010

File: H:\GIS\6400714

Drawn By: Isabel Marmolejo



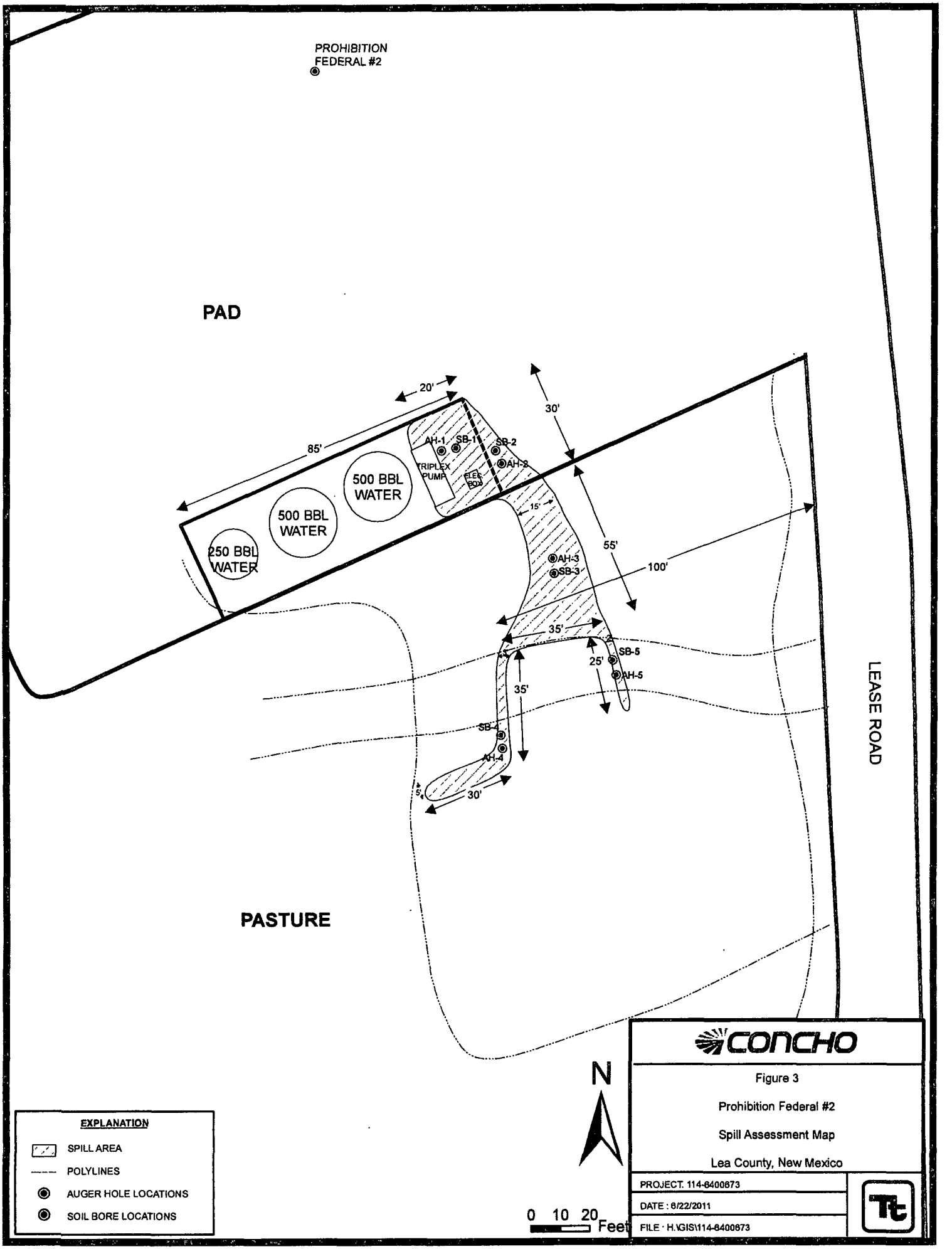
CONCHO

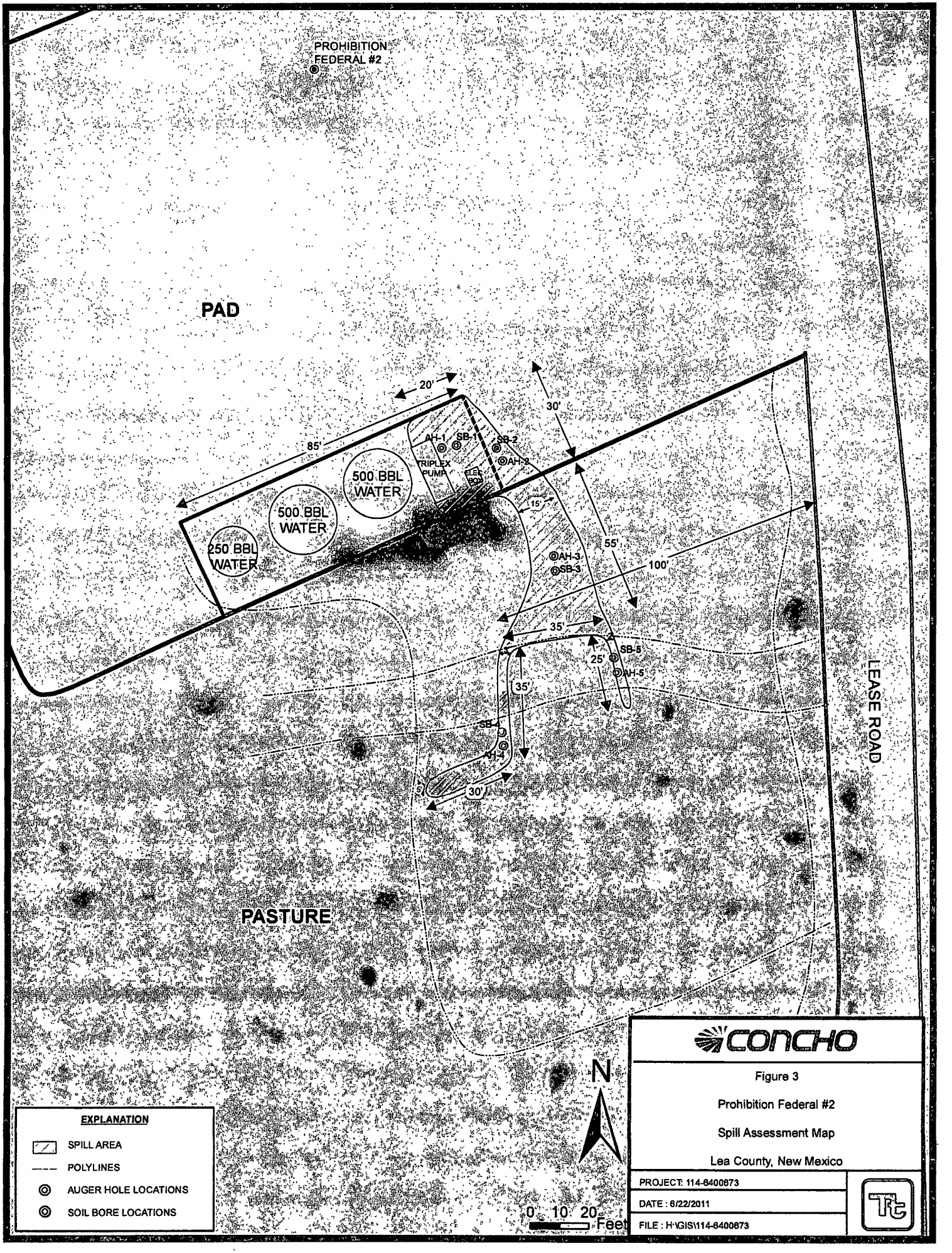
Figure 2
Prohibition Federal #2
Topo Map 1:24,000

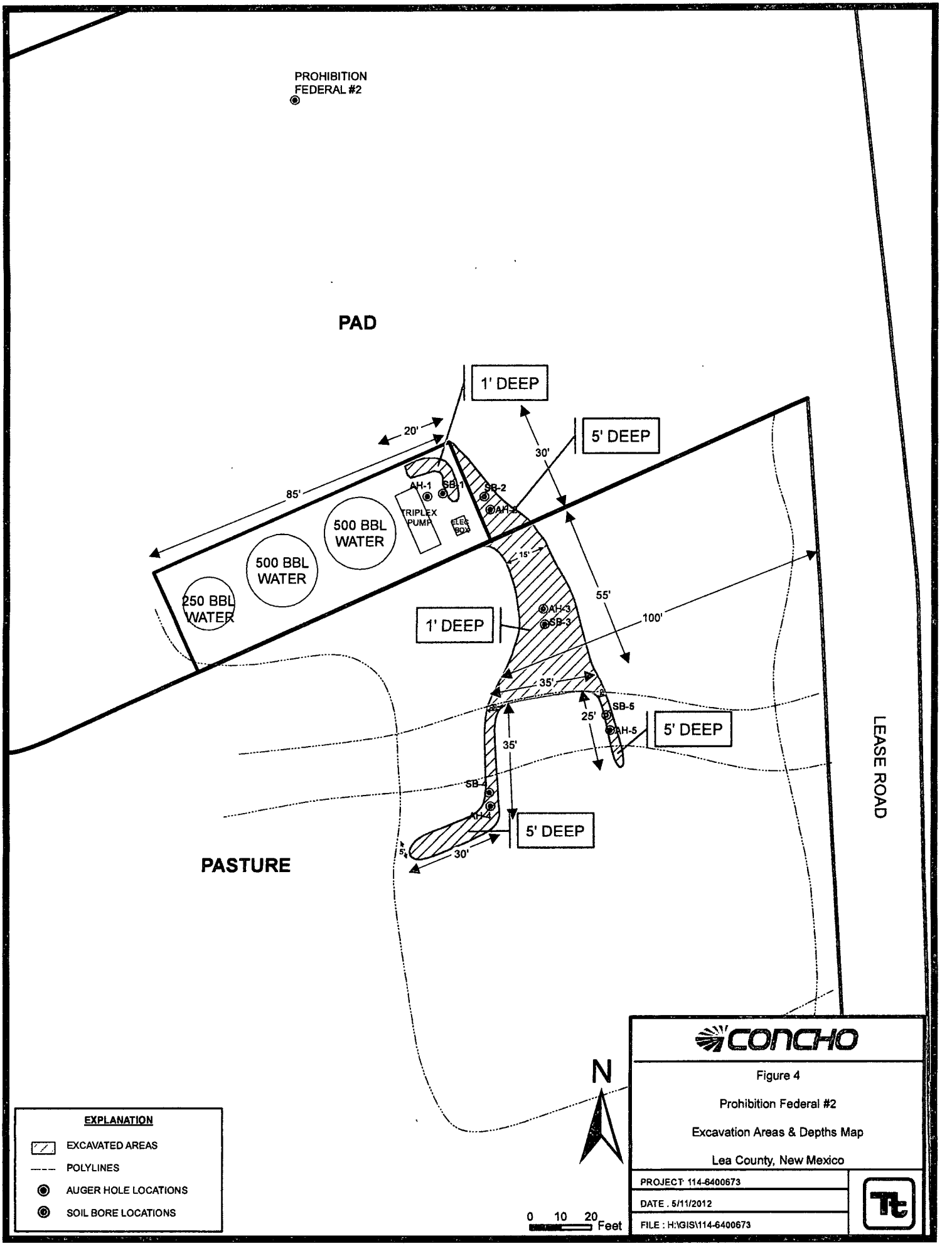
COG Spill Assessment
Lea County, New Mexico

Project · 114-6400714	
Date · 11-11-2010	
File : H:\GIS\6400714	

Drawn By: Isabel Marmolejo


PROHIBITION
FEDERAL #2
PAD
20'
30'
85'
AH-1
SB-1
SB-2
AH-2
TRIPLEX
PUMP
ELEC
BOX
500 BBL
WATER
500 BBL
WATER
250 BBL
WATER
15'
55'
100'
AH-3
SB-3
35'
25'
SB-5
AH-5
35'
SB-4
AH-4
5'
30'
LEASE ROAD
PASTURE
N
0 10 20 Feet
EXPLANATION
SPILL AREA
POLYLINES
AUGER HOLE LOCATIONS
SOIL BORE LOCATIONS
CONCHO
Figure 3
Prohibition Federal #2
Spill Assessment Map
Lea County, New Mexico
PROJECT: 114-6400673
DATE : 6/22/2011
FILE : H:\GIS\114-6400673


PROHIBITION FEDERAL #2
PAD
20'
30'
85'
AH-1
SB-1
SB-2
AH-2
TRIPLEX PUMP
ELEC BOX
500 BBL WATER
500 BBL WATER
250 BBL WATER
15'
55'
AH-3
SB-3
100'
35'
25'
SB-5
AH-5
35'
SB-4
AH-4
30'
50'
LEASE ROAD
PASTURE
N
0 10 20 Feet
EXPLANATION
SPILL AREA
POLYLINES
AUGER HOLE LOCATIONS
SOIL BORE LOCATIONS
CONCHO
Figure 3
Prohibition Federal #2
Spill Assessment Map
Lea County, New Mexico
PROJECT: 114-6400873
DATE : 6/22/2011
FILE : H:\GIS\114-6400873


PROHIBITION
FEDERAL #2
PAD
1' DEEP
5' DEEP
20'
30'
85'
AH-1
SB-1
SB-2
AH-2
TRIPLEX
PUMP
ELEC
BOX
500 BBL
WATER
500 BBL
WATER
250 BBL
WATER
15'
55'
100'
1' DEEP
AH-3
SB-3
35'
SB-5
25'
AH-5
5' DEEP
35'
SB-4
AH-4
5' DEEP
5'
30'
PASTURE
LEASE ROAD
N
EXPLANATION
EXCAVATED AREAS
POLYLINES
AUGER HOLE LOCATIONS
SOIL BORE LOCATIONS
0 10 20 Feet
CONCHO
Figure 4
Prohibition Federal #2
Excavation Areas & Depths Map
Lea County, New Mexico
PROJECT: 114-6400673
DATE . 5/11/2012
FILE : H:\GIS\114-6400673

Tables

Table 1
COG Operating LLC.
PROHIBITION FEDERAL #2 SWD
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-1	9/9/2010	0-1'			X	15.7	120	135.7	<0.0200	<0.0200	<0.0200	0.118	10,300
	"	1-1.5'		X		-	-	-	-	-	-	-	5,640
	"	2-2.5'		X		-	-	-	-	-	-	-	17,300
SB-1	3/24/2011	0-2'		X		-	-	-	-	-	-	-	8,290
	"	3'		X		-	-	-	-	-	-	-	12,200
	"	5'		X		-	-	-	-	-	-	-	14,400
	"	7'		X		-	-	-	-	-	-	-	11,700
	"	10'		X		-	-	-	-	-	-	-	14,000
	"	15'		X		-	-	-	-	-	-	-	12,600
	"	20'		X		-	-	-	-	-	-	-	6,530
	"	25'		X		-	-	-	-	-	-	-	17,400
	"	30'		X		-	-	-	-	-	-	-	8,540
	"	40'		X		-	-	-	-	-	-	-	2,970
	"	50'		X		-	-	-	-	-	-	-	<200
	"	60'		X		-	-	-	-	-	-	-	251
	"	70'		X		-	-	-	-	-	-	-	208

Table 1
COG Operating LLC.
PROHIBITION FEDERAL #2 SWD
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-2	9/9/2010	0-1'			X	2.47	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	8,090
	"	1-1.5'			X	-	-	-	-	-	-	-	1,110
SB-2	3/24/2011	0-1'			X								3,140
	"	3'			X								4,580
	"	5'			X								2,970
	"	7'		X		-	-	-	-	-	-	-	208
	"	10'		X		-	-	-	-	-	-	-	<200
	"	15'		X		-	-	-	-	-	-	-	<200
	"	20'		X		-	-	-	-	-	-	-	<200
AH-3	9/9/2010	0-1'		X		<2.00	142	142	<0.0200	<0.0200	<0.0200	<0.0200	670
SB-3	3/24/2011	0-1'		X									2,350
	"	3'		X		-	-	-	-	-	-	-	612
	"	5'		X		-	-	-	-	-	-	-	612
	"	7'		X		-	-	-	-	-	-	-	<200
	"	10'		X		-	-	-	-	-	-	-	<200
	"	15'		X		-	-	-	-	-	-	-	<200
	"	20'		X		-	-	-	-	-	-	-	<200

Table 1
COG Operating LLC.
PROHIBITION FEDERAL #2 SWD
Lea County, New Mexico

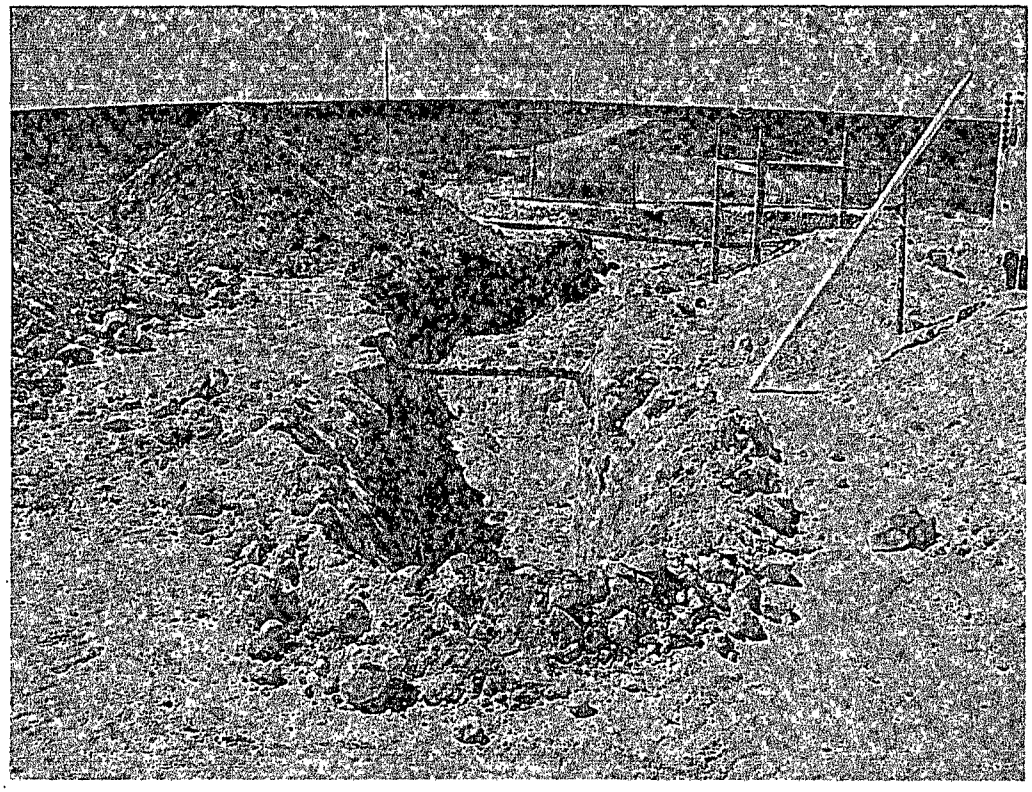
Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-4	9/9/2010	0-1'			X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	5,380
	"	1-1.5'			X	-	-	-	-	-	-	-	12,000
SB-5	3/24/2011	0-1'			X	-	-	-	-	-	-	-	3,150
	"	3'			X	-	-	-	-	-	-	-	6,400
	"	5'			X	-	-	-	-	-	-	-	1,360
	"	7'		X		-	-	-	-	-	-	-	<200
	"	10'		X		-	-	-	-	-	-	-	<200
	"	15'		X		-	-	-	-	-	-	-	<200
AH-5	9/9/2010	0-1'			X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	3,790
SB-4	3/24/2011	0-1'			X	-	-	-	-	-	-	-	314
	"	3'			X	-	-	-	-	-	-	-	2,110
	"	5'			X	-	-	-	-	-	-	-	4,520
	"	7'		X		-	-	-	-	-	-	-	<200
	"	10'		X		-	-	-	-	-	-	-	<200
	"	15'		X		-	-	-	-	-	-	-	379
	"	20'		X		-	-	-	-	-	-	-	<200

BEB Below Excavation Bottom
(--) Not Analyzed
Excavated material

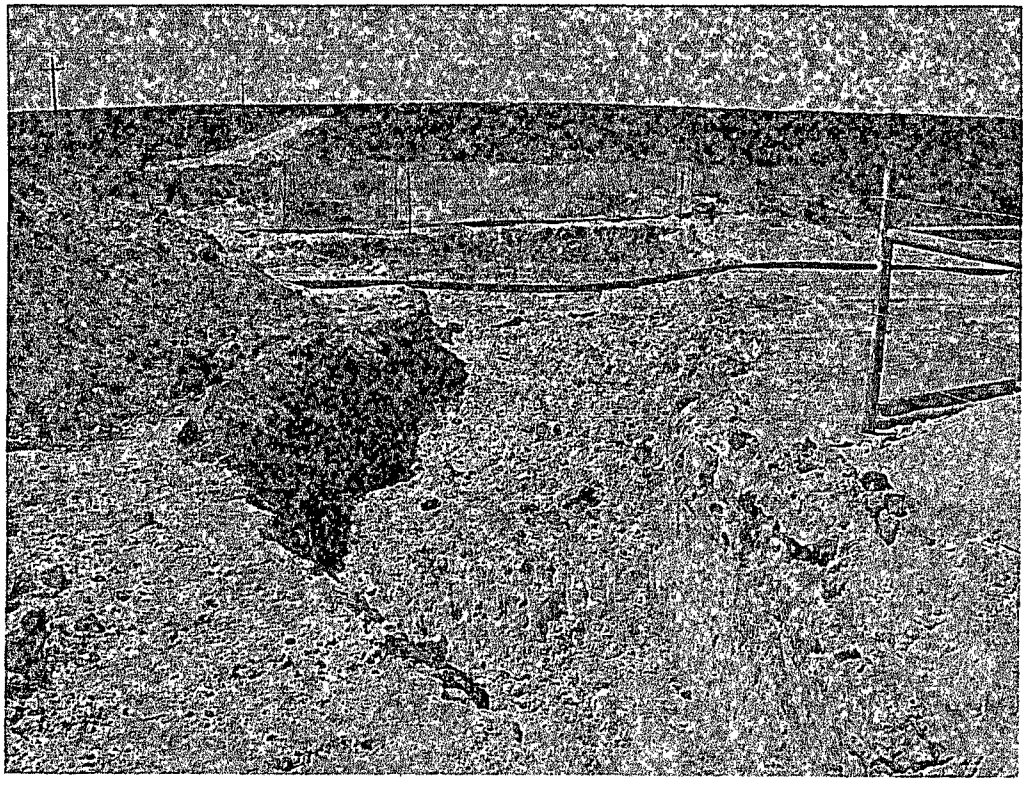
Photos

COG Operating LLC
Prohibition Federal Unit #2 SWD
Eddy County, New Mexico

TETRA TECH



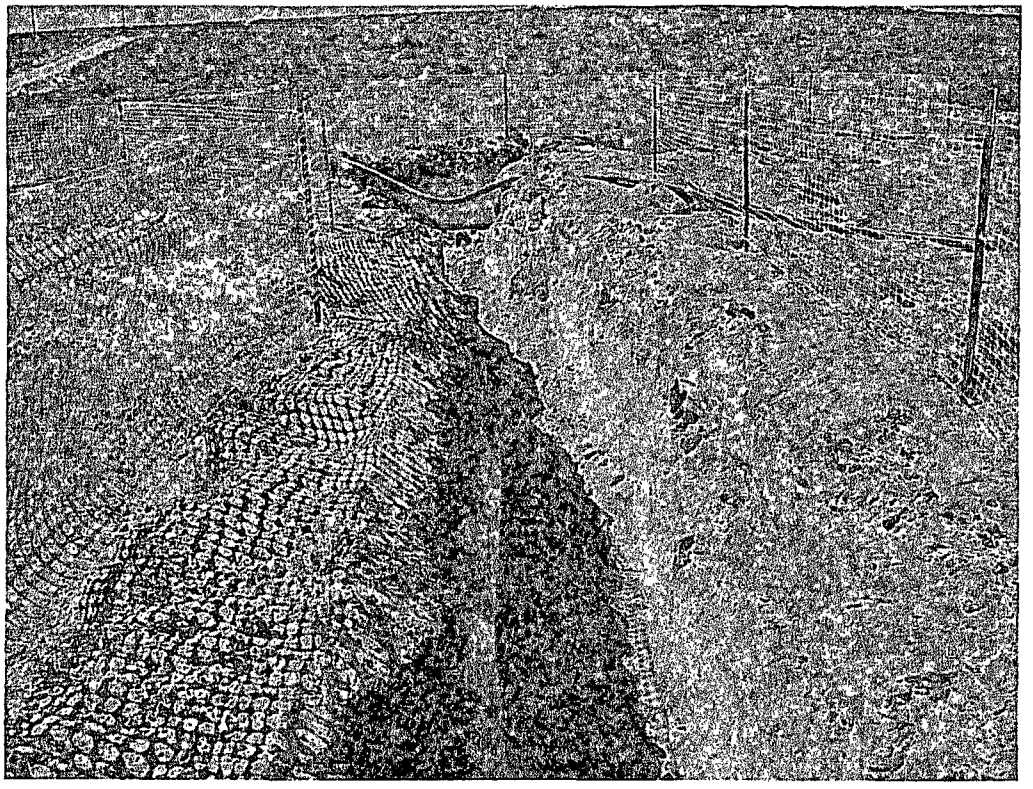
View South – Area of AH-2



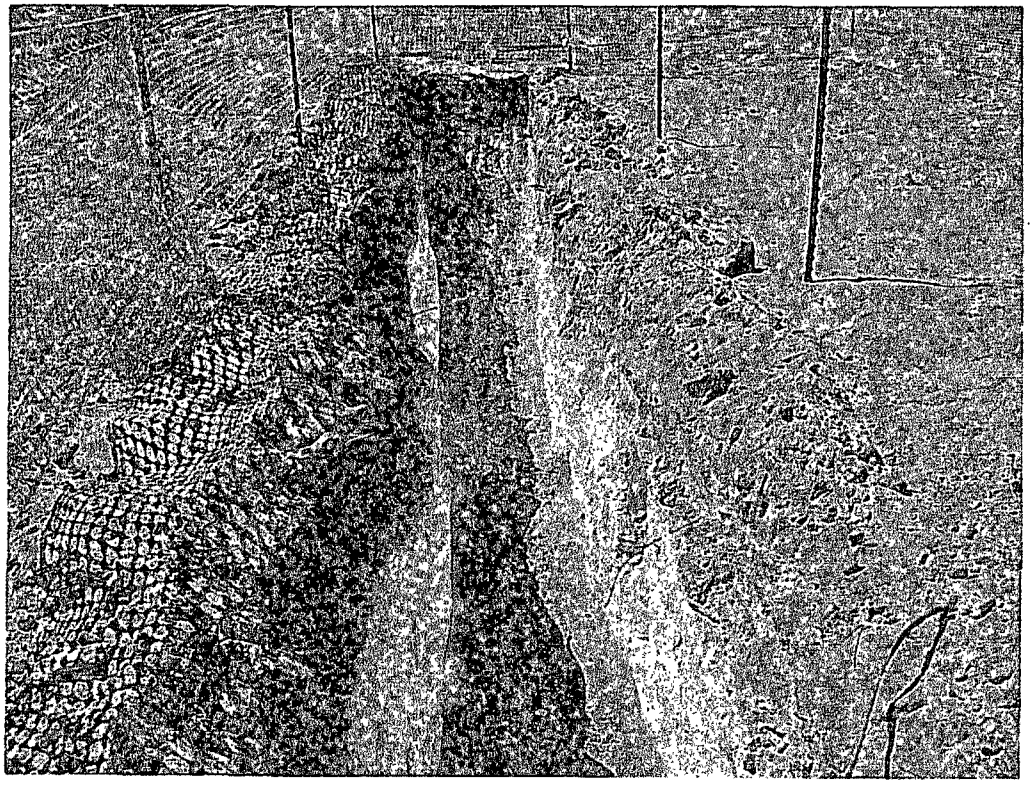
View South – Area of AH-3

COG Operating LLC
Prohibition Federal Unit #2 SWD
Eddy County, New Mexico

TETRA TECH



View West – Area of AH-4

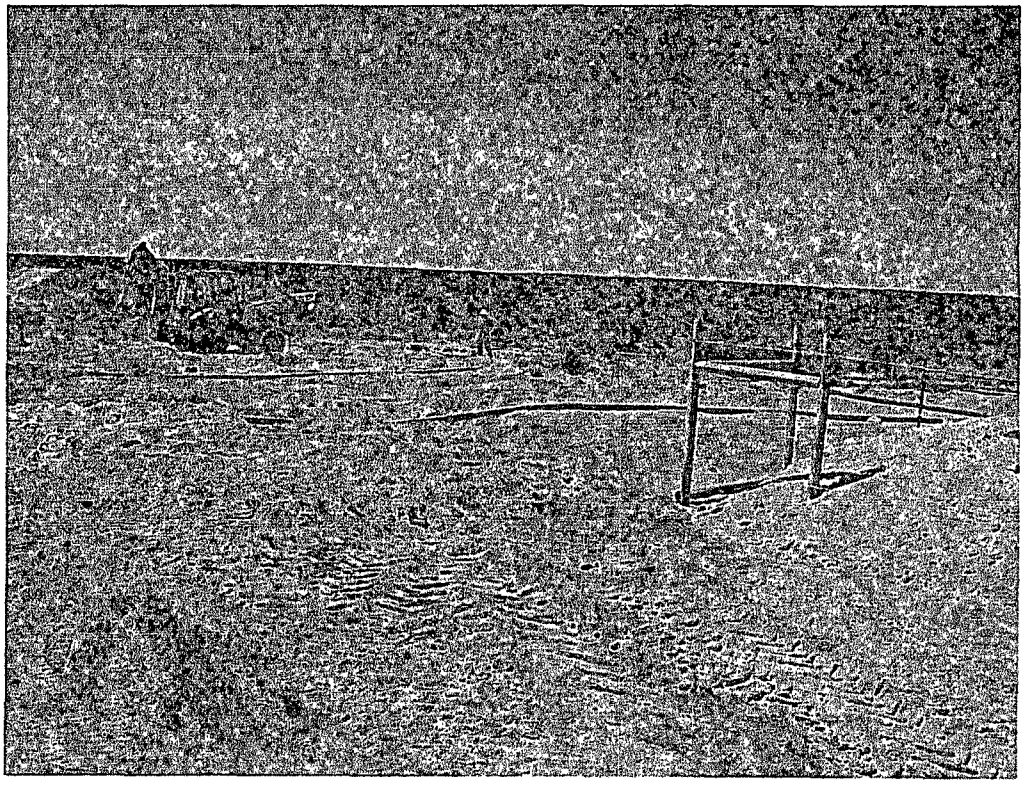


View South – Area of AH-5

COG Operating LLC
Prohibition Federal Unit #2 SWD
Eddy County, New Mexico

TETRA TECH

View South - Backfill



View South - Backfill

HOBBS OCD
OCT 22 2012
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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 **Prohibition Federal Unit #2 SWD**	Facility Type **SWD**

Surface Owner: Federal	Mineral Owner	Lease No. (API#) 30-025-31716

LOCATION OF RELEASE

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Latitude N 32.40418 ° **Longitude** W 103.64706 °

NATURE OF RELEASE

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Source of Release: Triplex Pump	Date and Hour of Occurrence 07/17/2010	Date and Hour of Discovery 07/17/2010 10:00a.m.
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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.*

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Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected and collected samples to define spills extent. Soil that exceeded RRAL was removed and hauled away for proper disposal. Site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted it to NMOCD for review.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Ike Tavarez (agent for COG)	Approved by District Supervisor: Environmental Specialist
Title: Project Manager	Approval Date: 10/25/12 Expiration Date: —
E-mail Address: ike.tavarez@tetratech.com	Conditions of Approval: — Attached ☐ IRP-10-12-2856
Date: 8/28/12 Phone: (432) 682-4559	

Attach Additional Sheets If Necessary

HOBBS OCD

OCT 22 2012

RECEIVED

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	Prohibition Federal Unit #2 SWD	Facility Type	SWD

Surface Owner Federal	Mineral Owner	Lease No. (API#) 30-025-31716

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	11	22S	32E	1980	SOUTH	2080	WEST	Lea

Latitude 32.404438 Longitude 103.6473011

NATURE OF RELEASE

Type of Release Produced Water		Volume of Release 20bbls	Volume Recovered 10bbls
Source of Release Triplex Pump		Date and Hour of Occurrence 07/17/2010	Date and Hour of Discovery 07/17/2010 10:00 a.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.*

Union on triplex threads were cut and failed. All of the fittings on the triplex were replaced.

Describe Area Affected and Cleanup Action Taken.*

Initially 20bbls of produced water was released from the triplex pump and we were able to recover 10bbls. The dimensions of the spill site measured an area of 1' x 100', originating around the pump and following the path of a lease road. The chloride concentration of the produced water in this area is 135,000 mg/l. 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 BLM/NMOCD for approval prior to any significant remediation work.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Josh Russo	Approved by District Supervisor:	
Title: HSE Coordinator	Approval Date:	Expiration Date:
E-mail Address: jrusso@concho.com	Conditions of Approval:	Attached ☐
Date: 07/17/2010 Phone: 432-212-2399		

* Attach Additional Sheets If Necessary

GW 325'

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - Prohibition Federal Unit #2 SWD
Lea County, New Mexico

21 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16 **630**	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

21 South 32 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

21 South 33 East

6	5	4	3	2 **79** **107**
7	8	9	10	11
18	17	16	15	14
19	20	21	22	23
30	29	28 **179**	27	26
31	32	33	34	35

22 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16 **448**	15	14	13
19	20 **47**	21	22	23	24
30	29 **413**	28 **444**	27	26	25
31	32	33	34	35	36

22 South 32 East

6	5	4	3	2	1
7	8	9	10	11 SITE	12
18	17	16	15	14 **382** **350**	13
19 (S) **280**	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

22 South 33 East

6	5	4	3	2
7	8	9	10	11
18	17	16	15	14
19	20	21	22	23
30	29	28	27	26
31	32	33	34	35

23 South 31 East

6 **85**	5 **354**	4 **168**	3	2	1
7 **140**	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

23 South 32 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21 **400**	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

23 South 33 East

6	5	4	3	2
7	8	9	10	11
18	17	16	15	14
19	20	21	22	23
30	29	28	27	26
31	32	33	34	35

- New Mexico State Engineers Well Reports
- USGS Well Reports
- Geology and Groundwater Conditions in Southern Eddy, County, NM
- NMOCD - Groundwater Data

Appendix B

Summary Report

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

Report Date: September 27, 2010

Work Order: 10091332

Project Location: Lea Co., NM
Project Name: COG/Prohibition Fed. #2 SWD
Project Number: 114-6400673

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
244451	AH-1 0-1'	soil	2010-09-09	00:00	2010-09-10
244452	AH-1 1-1.5'	soil	2010-09-09	00:00	2010-09-10
244453	AH-1 2-2.5'	soil	2010-09-09	00:00	2010-09-10
244454	AH-2 0-1'	soil	2010-09-09	00:00	2010-09-10
244455	AH-2 1-1.5'	soil	2010-09-09	00:00	2010-09-10
244456	AH-3 0-1'	soil	2010-09-09	00:00	2010-09-10
244457	AH-4 0-1'	soil	2010-09-09	00:00	2010-09-10
244458	AH-4 1-1.5'	soil	2010-09-09	00:00	2010-09-10
244459	AH-5 0-1'	soil	2010-09-09	00:00	2010-09-10

	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)
244451 - AH-1 0-1'	<0.0200	<0.0200	<0.0200	**0.118**	**120**	**15.7**
244454 - AH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	**2.47**
244456 - AH-3 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	**142**	<2.00
244457 - AH-4 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
244459 - AH-5 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00

Sample: 244451 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**10300**	mg/Kg	4.00

Sample: 244452 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**5640**	mg/Kg	4.00

Sample: 244453 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**17300**	mg/Kg	4.00

Sample: 244454 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**8090**	mg/Kg	4.00

Sample: 244455 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**1110**	mg/Kg	4.00

Sample: 244456 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**670**	mg/Kg	4.00

Sample: 244457 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**5380**	mg/Kg	4.00

Sample: 244458 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**12000**	mg/Kg	4.00

Sample: 244459 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		**3790**	mg/Kg	4.00

Summary Report

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

Report Date: April 5, 2011

Work Order: 11032922

Project Location: Lea Co., NM
Project Name: COG/Prohibition Federal #2
Project Number: 114-6400673

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
262038	SB-1 0-2'	soil	2011-03-24	00:00	2011-03-28
262039	SB-1 3'	soil	2011-03-24	00:00	2011-03-28
262040	SB-1 5'	soil	2011-03-24	00:00	2011-03-28
262041	SB-1 7'	soil	2011-03-24	00:00	2011-03-28
262042	SB-1 10'	soil	2011-03-24	00:00	2011-03-28
262043	SB-1 15'	soil	2011-03-24	00:00	2011-03-28
262044	SB-1 20'	soil	2011-03-24	00:00	2011-03-28
262045	SB-1 25'	soil	2011-03-24	00:00	2011-03-28
262046	SB-1 30'	soil	2011-03-24	00:00	2011-03-28
262047	SB-1 40'	soil	2011-03-24	00:00	2011-03-28
262048	SB-1 50'	soil	2011-03-24	00:00	2011-03-28
262049	SB-1 60'	soil	2011-03-24	00:00	2011-03-28
262050	SB-1 70'	soil	2011-03-24	00:00	2011-03-28
262051	SB-2 0-1'	soil	2011-03-24	00:00	2011-03-28
262052	SB-2 3'	soil	2011-03-24	00:00	2011-03-28
262053	SB-2 5'	soil	2011-03-24	00:00	2011-03-28
262054	SB-2 7'	soil	2011-03-24	00:00	2011-03-28
262055	SB-2 10'	soil	2011-03-24	00:00	2011-03-28
262056	SB-2 15'	soil	2011-03-24	00:00	2011-03-28
262057	SB-2 20'	soil	2011-03-24	00:00	2011-03-28
262058	SB-3 0-1'	soil	2011-03-24	00:00	2011-03-28
262059	SB-3 3'	soil	2011-03-24	00:00	2011-03-28
262060	SB-3 5'	soil	2011-03-24	00:00	2011-03-28
262061	SB-3 7'	soil	2011-03-24	00:00	2011-03-28
262062	SB-3 10'	soil	2011-03-24	00:00	2011-03-28
262063	SB-3 15'	soil	2011-03-24	00:00	2011-03-28
262064	SB-3 20'	soil	2011-03-24	00:00	2011-03-28
262065	SB-4 0-1'	soil	2011-03-25	00:00	2011-03-28
262066	SB-4 3'	soil	2011-03-25	00:00	2011-03-28
262067	SB-4 5'	soil	2011-03-25	00:00	2011-03-28

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
262068	SB-4 7'	soil	2011-03-25	00:00	2011-03-28
262069	SB-4 10'	soil	2011-03-25	00:00	2011-03-28
262070	SB-4 15'	soil	2011-03-25	00:00	2011-03-28
262071	SB-4 20'	soil	2011-03-25	00:00	2011-03-28
262072	SB-5 0-1'	soil	2011-03-25	00:00	2011-03-28
262073	SB-5 3'	soil	2011-03-25	00:00	2011-03-28
262074	SB-5 5'	soil	2011-03-25	00:00	2011-03-28
262075	SB-5 7'	soil	2011-03-25	00:00	2011-03-28
262076	SB-5 10'	soil	2011-03-25	00:00	2011-03-28
262077	SB-5 15'	soil	2011-03-25	00:00	2011-03-28

Sample: 262038 - SB-1 0-2'

Param	Flag	Result	Units	RL
Chloride		**8290**	mg/Kg	4.00

Sample: 262039 - SB-1 3'

Param	Flag	Result	Units	RL
Chloride		**12200**	mg/Kg	4.00

Sample: 262040 - SB-1 5'

Param	Flag	Result	Units	RL
Chloride		**14400**	mg/Kg	4.00

Sample: 262041 - SB-1 7'

Param	Flag	Result	Units	RL
Chloride		**11700**	mg/Kg	4.00

Sample: 262042 - SB-1 10'

Param	Flag	Result	Units	RL
Chloride		**14000**	mg/Kg	4.00

Sample: 262043 - SB-1 15'

Param	Flag	Result	Units	RL
Chloride		**12600**	mg/Kg	4.00

Sample: 262044 - SB-1 20'

Param	Flag	Result	Units	RL
Chloride		**6530**	mg/Kg	4.00

Sample: 262045 - SB-1 25'

Param	Flag	Result	Units	RL
Chloride		**17400**	mg/Kg	4.00

Sample: 262046 - SB-1 30'

Param	Flag	Result	Units	RL
Chloride		**8540**	mg/Kg	4.00

Sample: 262047 - SB-1 40'

Param	Flag	Result	Units	RL
Chloride		**2970**	mg/Kg	4.00

Sample: 262048 - SB-1 50'

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

Sample: 262049 - SB-1 60'

Param	Flag	Result	Units	RL
Chloride		**251**	mg/Kg	4.00

Sample: 262050 - SB-1 70'

Param	Flag	Result	Units	RL
Chloride		**208**	mg/Kg	4.00

Sample: 262051 - SB-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**3140**	mg/Kg	4.00

Sample: 262052 - SB-2 3'

Param	Flag	Result	Units	RL
Chloride		**4580**	mg/Kg	4.00

Sample: 262053 - SB-2 5'

Param	Flag	Result	Units	RL
Chloride		**2970**	mg/Kg	4.00

Sample: 262054 - SB-2 7'

Param	Flag	Result	Units	RL
Chloride		**208**	mg/Kg	4.00

Sample: 262055 - SB-2 10'

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

Sample: 262056 - SB-2 15'

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

Sample: 262057 - SB-2 20'

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

Sample: 262058 - SB-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**2350**	mg/Kg	4.00

Sample: 262059 - SB-3 3'

Param	Flag	Result	Units	RL
Chloride		**612**	mg/Kg	4.00

Sample: 262060 - SB-3 5'

Param	Flag	Result	Units	RL
Chloride		**612**	mg/Kg	4.00

Sample: 262061 - SB-3 7'

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

Sample: 262062 - SB-3 10'

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

Sample: 262063 - SB-3 15'

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

Sample: 262064 - SB-3 20'

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

Sample: 262065 - SB-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**314**	mg/Kg	4.00

Sample: 262066 - SB-4 3'

Param	Flag	Result	Units	RL
Chloride		**2110**	mg/Kg	4.00

Sample: 262067 - SB-4 5'

Param	Flag	Result	Units	RL
Chloride		**4520**	mg/Kg	4.00

Sample: 262068 - SB-4 7'

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

Sample: 262069 - SB-4 10'

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

Sample: 262070 - SB-4 15'

Param	Flag	Result	Units	RL
Chloride		**379**	mg/Kg	4.00

Sample: 262071 - SB-4 20'

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

Sample: 262072 - SB-5 0-1'

Param	Flag	Result	Units	RL
Chloride		**3150**	mg/Kg	4.00

Sample: 262073 - SB-5 3'

Param	Flag	Result	Units	RL
Chloride		**6400**	mg/Kg	4.00

Sample: 262074 - SB-5 5'

Param	Flag	Result	Units	RL
Chloride		**1360**	mg/Kg	4.00

Sample: 262075 - SB-5 7'

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

Sample: 262076 - SB-5 10'

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

Sample: 262077 - SB-5 15'

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

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

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: September 27, 2010

Work Order: 10091332

Project Location: Lea Co., NM
Project Name: COG/Prohibition Fed. #2 SWD
Project Number: 114-6400673

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
244451	AH-1 0-1'	soil	2010-09-09	00:00	2010-09-10
244452	AH-1 1-1.5'	soil	2010-09-09	00:00	2010-09-10
244453	AH-1 2-2.5'	soil	2010-09-09	00:00	2010-09-10
244454	AH-2 0-1'	soil	2010-09-09	00:00	2010-09-10
244455	AH-2 1-1.5'	soil	2010-09-09	00:00	2010-09-10
244456	AH-3 0-1'	soil	2010-09-09	00:00	2010-09-10
244457	AH-4 0-1'	soil	2010-09-09	00:00	2010-09-10
244458	AH-4 1-1.5'	soil	2010-09-09	00:00	2010-09-10
244459	AH-5 0-1'	soil	2010-09-09	00:00	2010-09-10

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 24 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

Standard Flags

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

Case Narrative

Samples for project COG/Prohibition Fed. #2 SWD were received by TraceAnalysis, Inc. on 2010-09-10 and assigned to work order 10091332. Samples for work order 10091332 were received intact at a temperature of 3.7 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	63055	2010-09-15 at 08:15	73591	2010-09-15 at 09:19
BTEX	S 8021B	63134	2010-09-16 at 12:00	73621	2010-09-16 at 20:46
Chloride (Titration)	SM 4500-Cl B	63191	2010-09-20 at 12:43	73697	2010-09-21 at 15:06
Chloride (Titration)	SM 4500-Cl B	63192	2010-09-20 at 12:43	73782	2010-09-23 at 09:52
TPH DRO - NEW	S 8015 D	63047	2010-09-14 at 11:48	73497	2010-09-14 at 11:48
TPH GRO	S 8015 D	63055	2010-09-15 at 08:15	73583	2010-09-15 at 09:46
TPH GRO	S 8015 D	63134	2010-09-16 at 12:00	73620	2010-09-16 at 21:14

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 10091332 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: 244451 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	73591	Date Analyzed:	2010-09-15	Analyzed By:	AG
Prep Batch:	63055	Sample Preparation:	2010-09-15	Prepared By:	AG

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		**0.118**		mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.33	mg/Kg	1	2.00	116	52.8 - 137
4-Bromofluorobenzene (4-BFB)		2.65	mg/Kg	1	2.00	132	38.4 - 157

Sample: 244451 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	73697	Date Analyzed:	2010-09-21	Analyzed By:	AR
Prep Batch:	63191	Sample Preparation:	2010-09-20	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**10300**		mg/Kg	100	4.00

Sample: 244451 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	73497	Date Analyzed:	2010-09-14	Analyzed By:	kg
Prep Batch:	63047	Sample Preparation:	2010-09-14	Prepared By:	kg

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		**120**		mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		112	mg/Kg	1	100	112	70 - 130

Sample: 244451 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	73583	Date Analyzed:	2010-09-15	Analyzed By:	AG
Prep Batch:	63055	Sample Preparation:	2010-09-15	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**15.7**	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.29	mg/Kg	1	2.00	114	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.33	mg/Kg	1	2.00	116	42 - 159

Sample: 244452 - AH-1 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	73782	Date Analyzed:	2010-09-23	Analyzed By:	AR
Prep Batch:	63192	Sample Preparation:	2010-09-22	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**5640**	mg/Kg	100	4.00

Sample: 244453 - AH-1 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	73782	Date Analyzed:	2010-09-23	Analyzed By:	AR
Prep Batch:	63192	Sample Preparation:	2010-09-22	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**17300**	mg/Kg	100	4.00

Sample: 244454 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	73591	Date Analyzed:	2010-09-15	Analyzed By:	AG
Prep Batch:	63055	Sample Preparation:	2010-09-15	Prepared By:	AG

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		<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.51	mg/Kg	1	2.00	126	52.8 - 137
4-Bromofluorobenzene (4-BFB)		2.70	mg/Kg	1	2.00	135	38.4 - 157

Sample: 244454 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	73782	Date Analyzed:	2010-09-23	Analyzed By:	AR
Prep Batch:	63192	Sample Preparation:	2010-09-22	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**8090**	mg/Kg	100	4.00

Sample: 244454 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	73497	Date Analyzed:	2010-09-14	Analyzed By:	kg
Prep Batch:	63047	Sample Preparation:	2010-09-14	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		101	mg/Kg	1	100	101	70 - 130

Sample: 244454 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	73583	Date Analyzed:	2010-09-15	Analyzed By:	AG
Prep Batch:	63055	Sample Preparation:	2010-09-15	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**2.47**	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.45	mg/Kg	1	2.00	122	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.35	mg/Kg	1	2.00	118	42 - 159

Sample: 244455 - AH-2 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	73782	Date Analyzed:	2010-09-23	Analyzed By:	AR
Prep Batch:	63192	Sample Preparation:	2010-09-22	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1110**	mg/Kg	100	4.00

Sample: 244456 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	73591	Date Analyzed:	2010-09-15	Analyzed By:	AG
Prep Batch:	63055	Sample Preparation:	2010-09-15	Prepared By:	AG

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		<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.29	mg/Kg	1	2.00	114	52.8 - 137
4-Bromofluorobenzene (4-BFB)		2.54	mg/Kg	1	2.00	127	38.4 - 157

Sample: 244456 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	73782	Date Analyzed:	2010-09-23	Analyzed By:	AR
Prep Batch:	63192	Sample Preparation:	2010-09-22	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**670**		mg/Kg	50	4.00

Sample: 244456 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	73497	Date Analyzed:	2010-09-14	Analyzed By:	kg
Prep Batch:	63047	Sample Preparation:	2010-09-14	Prepared By:	kg

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		**142**		mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		111	mg/Kg	1	100	111	70 - 130

Sample: 244456 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	73583	Date Analyzed:	2010-09-15	Analyzed By:	AG
Prep Batch:	63055	Sample Preparation:	2010-09-15	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.30	mg/Kg	1	2.00	115	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.30	mg/Kg	1	2.00	115	42 - 159

Sample: 244457 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	73621	Date Analyzed:	2010-09-16	Analyzed By:	AG
Prep Batch:	63134	Sample Preparation:	2010-09-16	Prepared By:	AG

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)		2.24	mg/Kg	1	2.00	112	52.8 - 137
4-Bromofluorobenzene (4-BFB)		2.37	mg/Kg	1	2.00	118	38.4 - 157

Sample: 244457 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	73782	Date Analyzed:	2010-09-23	Analyzed By:	AR
Prep Batch:	63192	Sample Preparation:	2010-09-22	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**5380**		mg/Kg	100	4.00

Sample: 244457 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	73497	Date Analyzed:	2010-09-14	Analyzed By:	kg
Prep Batch:	63047	Sample Preparation:	2010-09-14	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		96.2	mg/Kg	1	100	96	70 - 130

Sample: 244457 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	73620	Date Analyzed:	2010-09-16	Analyzed By:	AG
Prep Batch:	63134	Sample Preparation:	2010-09-16	Prepared By:	AG

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)		2.25	mg/Kg	1	2.00	112	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.22	mg/Kg	1	2.00	111	42 - 159

Sample: 244458 - AH-4 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	73782	Date Analyzed:	2010-09-23	Analyzed By:	AR
Prep Batch:	63192	Sample Preparation:	2010-09-22	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**12000**	mg/Kg	100	4.00

Sample: 244459 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	73621	Date Analyzed:	2010-09-16	Analyzed By:	AG
Prep Batch:	63134	Sample Preparation:	2010-09-16	Prepared By:	AG

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		<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.31	mg/Kg	1	2.00	116	52.8 - 137
4-Bromofluorobenzene (4-BFB)		2.47	mg/Kg	1	2.00	124	38.4 - 157

Sample: 244459 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	73782	Date Analyzed:	2010-09-23	Analyzed By:	AR
Prep Batch:	63192	Sample Preparation:	2010-09-22	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**3790**	mg/Kg	100	4.00

Sample: 244459 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	73497	Date Analyzed:	2010-09-14	Analyzed By:	kg
Prep Batch:	63047	Sample Preparation:	2010-09-14	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		97.5	mg/Kg	1	100	98	70 - 130

Sample: 244459 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	73620	Date Analyzed:	2010-09-16	Analyzed By:	AG
Prep Batch:	63134	Sample Preparation:	2010-09-16	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.30	mg/Kg	1	2.00	115	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.23	mg/Kg	1	2.00	112	42 - 159

Method Blank (1) QC Batch: 73497

QC Batch:	73497	Date Analyzed:	2010-09-14	Analyzed By:	kg
Prep Batch:	63047	QC Preparation:	2010-09-14	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		101	mg/Kg	1	100	101	70 - 130

Method Blank (1) QC Batch: 73583

QC Batch:	73583	Date Analyzed:	2010-09-15	Analyzed By:	AG
Prep Batch:	63055	QC Preparation:	2010-09-15	Prepared By:	AG

Parameter	Flag	MDL Result	Units	RL
GRO		<1.65	mg/Kg	2

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.42	mg/Kg	1	2.00	121	67.6 - 150
4-Bromofluorobenzene (4-BFB)		2.19	mg/Kg	1	2.00	110	52.4 - 130

Method Blank (1) QC Batch: 73591

QC Batch:	73591	Date Analyzed:	2010-09-15	Analyzed By:	AG
Prep Batch:	63055	QC Preparation:	2010-09-15	Prepared By:	AG

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.0150	mg/Kg	0.02
Toluene		<0.00950	mg/Kg	0.02
Ethylbenzene		<0.0106	mg/Kg	0.02
Xylene		<0.00930	mg/Kg	0.02

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.31	mg/Kg	1	2.00	116	66.6 - 122
4-Bromofluorobenzene (4-BFB)		2.63	mg/Kg	1	2.00	132	55.4 - 132

Method Blank (1) QC Batch: 73620

QC Batch:	73620	Date Analyzed:	2010-09-16
Prep Batch:	63134	QC Preparation:	2010-09-16
		Analyzed By:	AG
		Prepared By:	AG

Parameter	Flag	MDL Result	Units	RL
GRO		<1.65	mg/Kg	2

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.10	mg/Kg	1	2.00	105	67.6 - 150
4-Bromofluorobenzene (4-BFB)		1.98	mg/Kg	1	2.00	99	52.4 - 130

Method Blank (1) QC Batch: 73621

QC Batch:	73621	Date Analyzed:	2010-09-16
Prep Batch:	63134	QC Preparation:	2010-09-16
		Analyzed By:	AG
		Prepared By:	AG

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.0150	mg/Kg	0.02
Toluene		<0.00950	mg/Kg	0.02
Ethylbenzene		<0.0106	mg/Kg	0.02
Xylene		<0.00930	mg/Kg	0.02

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.06	mg/Kg	1	2.00	103	66.6 - 122
4-Bromofluorobenzene (4-BFB)		2.13	mg/Kg	1	2.00	106	55.4 - 132

Method Blank (1) QC Batch: 73697

QC Batch:	73697	Date Analyzed:	2010-09-21
Prep Batch:	63191	QC Preparation:	2010-09-20
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	MDL Result	Units	RL
Chloride		<2.18	mg/Kg	4

Method Blank (1) QC Batch: 73782

QC Batch:	73782	Date Analyzed:	2010-09-23
Prep Batch:	63192	QC Preparation:	2010-09-20
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	MDL Result	Units	RL
Chloride		<2.18	mg/Kg	4

Laboratory Control Spike (LCS-1)

QC Batch: 73497 | Date Analyzed: 2010-09-14 | Analyzed By: kg
Prep Batch: 63047 | QC Preparation: 2010-09-14 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	235	mg/Kg	1	250	<14.5	94	57.4 - 133.4

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
DRO	224	mg/Kg	1	250	<14.5	90	57.4 - 133.4	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
n-Tricosane	115	115	mg/Kg	1	100	115	115	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 73583 | Date Analyzed: 2010-09-15 | Analyzed By: AG
Prep Batch: 63055 | QC Preparation: 2010-09-15 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	14.4	mg/Kg	1	20.0	<1.65	72	69.9 - 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	16.4	mg/Kg	1	20.0	<1.65	82	69.9 - 95.4	13	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)	2.00	2.11	mg/Kg	1	2.00	100	106	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.42	1.34	mg/Kg	1	2.00	71	67	65.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 73591 | Date Analyzed: 2010-09-15 | Analyzed By: AG
Prep Batch: 63055 | QC Preparation: 2010-09-15 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.00	mg/Kg	1	2.00	<0.0150	100	81.9 - 108
Toluene	1.94	mg/Kg	1	2.00	<0.00950	97	81.9 - 107
Ethylbenzene	1.85	mg/Kg	1	2.00	<0.0106	92	78.4 - 107
Xylene	5.35	mg/Kg	1	6.00	<0.00930	89	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	2.12	mg/Kg	1	2.00	<0.0150	106	81.9 - 108	6	20
Toluene	2.05	mg/Kg	1	2.00	<0.00950	102	81.9 - 107	6	20
Ethylbenzene	1.98	mg/Kg	1	2.00	<0.0106	99	78.4 - 107	7	20
Xylene	5.74	mg/Kg	1	6.00	<0.00930	96	79.1 - 107	7	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.04	2.13	mg/Kg	1	2.00	102	106	70.2 - 114
4-Bromofluorobenzene (4-BFB)	1.50	1.61	mg/Kg	1	2.00	75	80	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 73620 | Date Analyzed: 2010-09-16 | Analyzed By: AG
Prep Batch: 63134 | QC Preparation: 2010-09-16 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	18.3	mg/Kg	1	20.0	<1.65	92	69.9 - 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 [1]	19.9	mg/Kg	1	20.0	<1.65	100	69.9 - 95.4	8	20

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

continued ...

[1]LCSD analyte out of range. LCS/LCSD has a RPD within limits. Therfore, LCS shows extraction occured properly.

control spikes continued ...

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.23	2.18	mg/Kg	1	2.00	112	109	61.9 - 142
4-Bromofluorobenzene (4-BFB)	2.21	2.34	mg/Kg	1	2.00	110	117	65.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 73621 | Date Analyzed: 2010-09-16 | Analyzed By: AG
Prep Batch: 63134 | QC Preparation: 2010-09-16 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.12	mg/Kg	1	2.00	<0.0150	106	81.9 - 108
Toluene	2.09	mg/Kg	1	2.00	<0.00950	104	81.9 - 107
Ethylbenzene	2.08	mg/Kg	1	2.00	<0.0106	104	78.4 - 107
Xylene	6.27	mg/Kg	1	6.00	<0.00930	104	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	2.04	mg/Kg	1	2.00	<0.0150	102	81.9 - 108	4	20
Toluene	2.07	mg/Kg	1	2.00	<0.00950	104	81.9 - 107	1	20
Ethylbenzene	2.12	mg/Kg	1	2.00	<0.0106	106	78.4 - 107	2	20
Xylene	6.28	mg/Kg	1	6.00	<0.00930	105	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)	2.09	2.20	mg/Kg	1	2.00	104	110	70.2 - 114
4-Bromofluorobenzene (4-BFB)	2.41	2.39	mg/Kg	1	2.00	120	120	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 73697 | Date Analyzed: 2010-09-21 | Analyzed By: AR
Prep Batch: 63191 | QC Preparation: 2010-09-20 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.7	mg/Kg	1	100	<2.18	98	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	<2.18	103	85 - 115	5	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: 73782 | Date Analyzed: 2010-09-23 | Analyzed By: AR
Prep Batch: 63192 | QC Preparation: 2010-09-20 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.1	mg/Kg	1	100	<2.18	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	<2.18	103	85 - 115	6	20

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

Matrix Spike (MS-1) Spiked Sample: 244471

QC Batch: 73497 | Date Analyzed: 2010-09-14 | Analyzed By: kg
Prep Batch: 63047 | QC Preparation: 2010-09-14 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	226	mg/Kg	1	250	16.9	84	35.2 - 167.1

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	223	mg/Kg	1	250	16.9	82	35.2 - 167.1	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	109	109	mg/Kg	1	100	109	109	70 - 130

Matrix Spike (MS-1) Spiked Sample: 244319

QC Batch: 73583 | Date Analyzed: 2010-09-15 | Analyzed By: AG
Prep Batch: 63055 | QC Preparation: 2010-09-15 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	16.3	mg/Kg	1	20.0	<1.65	82	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	[2]	20.1	mg/Kg	1	20.0	<1.65	100	61.8 - 114	21	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)	1.96	2.31	mg/Kg	1	2	98	116	50 - 162
4-Bromofluorobenzene (4-BFB)	1.73	2.09	mg/Kg	1	2	86	104	50 - 162

Matrix Spike (MS-1) Spiked Sample: 244456

QC Batch: 73591 | Date Analyzed: 2010-09-15 | Analyzed By: AG
Prep Batch: 63055 | QC Preparation: 2010-09-15 | Prepared By: AG

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		2.16	mg/Kg	1	2.00	<0.0150	108	80.5 - 112
Toluene		2.21	mg/Kg	1	2.00	<0.00950	110	82.4 - 113
Ethylbenzene	[3]	2.34	mg/Kg	1	2.00	<0.0106	117	83.9 - 114
Xylene	[4]	6.92	mg/Kg	1	6.00	<0.00930	115	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	[5]	2.42	mg/Kg	1	2.00	<0.0150	121	80.5 - 112	11	20
Toluene	[6]	2.46	mg/Kg	1	2.00	<0.00950	123	82.4 - 113	11	20
Ethylbenzene	[7]	2.61	mg/Kg	1	2.00	<0.0106	130	83.9 - 114	11	20
Xylene	[8]	7.88	mg/Kg	1	6.00	<0.00930	131	84 - 114	13	20

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

continued ...

[2]MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.
[3]Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
[4]Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
[5]MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.
[6]MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.
[7]MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.
[8]MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

matrix spikes continued ...

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	[9]	2.34	2.54	mg/Kg	1	2	117	127	41.3 - 117
4-Bromofluorobenzene (4-BFB)	[10] [11]	2.72	2.93	mg/Kg	1	2	136	146	35.5 - 129

Matrix Spike (MS-1) Spiked Sample: 244471

QC Batch: 73620 | Date Analyzed: 2010-09-16 | Analyzed By: AG
Prep Batch: 63134 | QC Preparation: 2010-09-16 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	22.4	mg/Kg	1	20.0	<1.65	112	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	22.6	mg/Kg	1	20.0	<1.65	113	61.8 - 114	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.28	2.23	mg/Kg	1	2	114	112	50 - 162
4-Bromofluorobenzene (4-BFB)	2.43	2.49	mg/Kg	1	2	122	124	50 - 162

Matrix Spike (MS-1) Spiked Sample: 244760

QC Batch: 73621 | Date Analyzed: 2010-09-16 | Analyzed By: AG
Prep Batch: 63134 | QC Preparation: 2010-09-16 | Prepared By: AG

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	[12]	2.54	mg/Kg	1	2.00	<0.0150	127	80.5 - 112
Toluene	[13]	2.60	mg/Kg	1	2.00	<0.00950	130	82.4 - 113
Ethylbenzene	[14]	2.86	mg/Kg	1	2.00	<0.0106	143	83.9 - 114

continued ...

[9] High surrogate recovery due to peak interference.
[10] High surrogate recovery due to peak interference.
[11] High surrogate recovery due to peak interference.
[12] Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
[13] Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
[14] Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

matrix spikes continued ...

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Xylene	[15]	8.36	mg/Kg	1	6.00	<0.00930	139	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	[16]	2.55	mg/Kg	1	2.00	<0.0150	128	80.5 - 112	0	20
Toluene	[17]	2.64	mg/Kg	1	2.00	<0.00950	132	82.4 - 113	2	20
Ethylbenzene	[18]	2.88	mg/Kg	1	2.00	<0.0106	144	83.9 - 114	1	20
Xylene	[19]	8.57	mg/Kg	1	6.00	<0.00930	143	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)		1.91	2.32	mg/Kg	1	2	96	116	41.3 - 117
4-Bromofluorobenzene (4-BFB)	[20]	2.33	2.86	mg/Kg	1	2	116	143	35.5 - 129

Matrix Spike (MS-1) Spiked Sample: 244451

QC Batch: 73697 | Date Analyzed: 2010-09-21 | Analyzed By: AR
Prep Batch: 63191 | QC Preparation: 2010-09-20 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	20200	mg/Kg	100	10000	10300	99	85 - 115

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	20500	mg/Kg	100	10000	10300	102	85 - 115	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: 244461

QC Batch: 73782 | Date Analyzed: 2010-09-23 | Analyzed By: AR
Prep Batch: 63192 | QC Preparation: 2010-09-20 | Prepared By: AR

[15]Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
[16]MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.
[17]MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.
[18]MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.
[19]MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.
[20]High surrogate recovery due to peak interference.

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10200	mg/Kg	100	10000	615	96	85 - 115

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	10500	mg/Kg	100	10000	615	99	85 - 115	3	20

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

Standard (CCV-1)

QC Batch: 73497 Date Analyzed: 2010-09-14 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	228	91	80 - 120	2010-09-14

Standard (CCV-2)

QC Batch: 73497 Date Analyzed: 2010-09-14 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	229	92	80 - 120	2010-09-14

Standard (CCV-3)

QC Batch: 73497 Date Analyzed: 2010-09-14 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	224	90	80 - 120	2010-09-14

Standard (CCV-2)

QC Batch: 73583 Date Analyzed: 2010-09-15 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.19	119	80 - 120	2010-09-15

Standard (CCV-3)

QC Batch: 73583 | Date Analyzed: 2010-09-15 | Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.16	116	80 - 120	2010-09-15

Standard (CCV-2)

QC Batch: 73591 | Date Analyzed: 2010-09-15 | Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.113	113	80 - 120	2010-09-15
Toluene		mg/Kg	0.100	0.112	112	80 - 120	2010-09-15
Ethylbenzene		mg/Kg	0.100	0.112	112	80 - 120	2010-09-15
Xylene		mg/Kg	0.300	0.339	113	80 - 120	2010-09-15

Standard (CCV-3)

QC Batch: 73591 | Date Analyzed: 2010-09-15 | Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.110	110	80 - 120	2010-09-15
Toluene		mg/Kg	0.100	0.109	109	80 - 120	2010-09-15
Ethylbenzene		mg/Kg	0.100	0.109	109	80 - 120	2010-09-15
Xylene		mg/Kg	0.300	0.331	110	80 - 120	2010-09-15

Standard (CCV-1)

QC Batch: 73620 | Date Analyzed: 2010-09-16 | Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.13	113	80 - 120	2010-09-16

Standard (CCV-2)

QC Batch: 73620 | Date Analyzed: 2010-09-16 | Analyzed By: AG

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	2010-09-16

Standard (CCV-1)

QC Batch: 73621 Date Analyzed: 2010-09-16 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.109	109	80 - 120	2010-09-16
Toluene		mg/Kg	0.100	0.109	109	80 - 120	2010-09-16
Ethylbenzene		mg/Kg	0.100	0.109	109	80 - 120	2010-09-16
Xylene		mg/Kg	0.300	0.329	110	80 - 120	2010-09-16

Standard (CCV-2)

QC Batch: 73621 Date Analyzed: 2010-09-16 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.108	108	80 - 120	2010-09-16
Toluene		mg/Kg	0.100	0.107	107	80 - 120	2010-09-16
Ethylbenzene		mg/Kg	0.100	0.109	109	80 - 120	2010-09-16
Xylene		mg/Kg	0.300	0.323	108	80 - 120	2010-09-16

Standard (ICV-1)

QC Batch: 73697 Date Analyzed: 2010-09-21 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.2	99	85 - 115	2010-09-21

Standard (CCV-1)

QC Batch: 73697 Date Analyzed: 2010-09-21 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-09-21

Standard (ICV-1)

QC Batch: 73782 Date Analyzed: 2010-09-23 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	2010-09-23

Standard (CCV-1)

QC Batch: 73782 Date Analyzed: 2010-09-23 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.0	98	85 - 115	2010-09-23

WO #: 10091332

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:	SITE MANAGER:
COG	Ike Tavarez

PROJECT NO.:	PROJECT NAME:
114-C400673	COG / Prohibition Fed #2 SWD in Eddy Co. NM

LAB I.D. NUMBER	DATE 2010	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
24457	9/9		S		X	AH-1 0-1'	1				X		X	X											X				
452						AH-1 1'-1.5'																							
453						AH-B1 2'-2.5'																							
454						AH-2 0-1'								X	X														
455						AH-2 1'-1.5'																							
456						AH-3 0-1'								X	X														
457						AH-4 0-1'								X	X														
458						AH-4 1'-1.5'																							
459	↓		↓		↓	AH-5 0-1'	↓				↓			X	X										↓				

RELINQUISHED BY: (Signature)	Date: 9/10/10 Time: 1530	RECEIVED BY: (Signature)	Date: 9/10/10 Time: 15:30
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:

SAMPLED BY: (Print & Initial) JT / TF — Date: 9/9/10 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: DATE: TIME:
RECEIVED BY: (Signature)

SAMPLE CONDITION WHEN RECEIVED: 3.7° - intact

REMARKS: If total TPH exceeds 5,000 mg/kg run diesper samples

Call Anita - 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.

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
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6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

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 5, 2011

Work Order: 11032922

Project Location: Lea Co., NM
Project Name: COG/Prohibition Federal #2
Project Number: 114-6400673

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
262038	SB-1 0-2'	soil	2011-03-24	00:00	2011-03-28
262039	SB-1 3'	soil	2011-03-24	00:00	2011-03-28
262040	SB-1 5'	soil	2011-03-24	00:00	2011-03-28
262041	SB-1 7'	soil	2011-03-24	00:00	2011-03-28
262042	SB-1 10'	soil	2011-03-24	00:00	2011-03-28
262043	SB-1 15'	soil	2011-03-24	00:00	2011-03-28
262044	SB-1 20'	soil	2011-03-24	00:00	2011-03-28
262045	SB-1 25'	soil	2011-03-24	00:00	2011-03-28
262046	SB-1 30'	soil	2011-03-24	00:00	2011-03-28
262047	SB-1 40'	soil	2011-03-24	00:00	2011-03-28

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
262048	SB-1 50'	soil	2011-03-24	00:00	2011-03-28
262049	SB-1 60'	soil	2011-03-24	00:00	2011-03-28
262050	SB-1 70'	soil	2011-03-24	00:00	2011-03-28
262051	SB-2 0-1'	soil	2011-03-24	00:00	2011-03-28
262052	SB-2 3'	soil	2011-03-24	00:00	2011-03-28
262053	SB-2 5'	soil	2011-03-24	00:00	2011-03-28
262054	SB-2 7'	soil	2011-03-24	00:00	2011-03-28
262055	SB-2 10'	soil	2011-03-24	00:00	2011-03-28
262056	SB-2 15'	soil	2011-03-24	00:00	2011-03-28
262057	SB-2 20'	soil	2011-03-24	00:00	2011-03-28
262058	SB-3 0-1'	soil	2011-03-24	00:00	2011-03-28
262059	SB-3 3'	soil	2011-03-24	00:00	2011-03-28
262060	SB-3 5'	soil	2011-03-24	00:00	2011-03-28
262061	SB-3 7'	soil	2011-03-24	00:00	2011-03-28
262062	SB-3 10'	soil	2011-03-24	00:00	2011-03-28
262063	SB-3 15'	soil	2011-03-24	00:00	2011-03-28
262064	SB-3 20'	soil	2011-03-24	00:00	2011-03-28
262065	SB-4 0-1'	soil	2011-03-25	00:00	2011-03-28
262066	SB-4 3'	soil	2011-03-25	00:00	2011-03-28
262067	SB-4 5'	soil	2011-03-25	00:00	2011-03-28
262068	SB-4 7'	soil	2011-03-25	00:00	2011-03-28
262069	SB-4 10'	soil	2011-03-25	00:00	2011-03-28
262070	SB-4 15'	soil	2011-03-25	00:00	2011-03-28
262071	SB-4 20'	soil	2011-03-25	00:00	2011-03-28
262072	SB-5 0-1'	soil	2011-03-25	00:00	2011-03-28
262073	SB-5 3'	soil	2011-03-25	00:00	2011-03-28
262074	SB-5 5'	soil	2011-03-25	00:00	2011-03-28
262075	SB-5 7'	soil	2011-03-25	00:00	2011-03-28
262076	SB-5 10'	soil	2011-03-25	00:00	2011-03-28
262077	SB-5 15'	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/Prohibition Federal #2 were received by TraceAnalysis, Inc. on 2011-03-28 and assigned to work order 11032922. Samples for work order 11032922 were received intact at a temperature of 8.9 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	67926	2011-04-04 at 12:38	80068	2011-04-05 at 10:43
Chloride (Titration)	SM 4500-Cl B	67926	2011-04-04 at 12:38	80069	2011-04-05 at 10:44
Chloride (Titration)	SM 4500-Cl B	67926	2011-04-04 at 12:38	80070	2011-04-05 at 10:45
Chloride (Titration)	SM 4500-Cl B	67926	2011-04-04 at 12:38	80071	2011-04-05 at 10:45

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 11032922 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: 262038 - SB-1 0-2'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80068	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**8290**		mg/Kg	100	4.00

Sample: 262039 - SB-1 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80068	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**12200**		mg/Kg	100	4.00

Sample: 262040 - SB-1 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80068	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**14400**		mg/Kg	100	4.00

Sample: 262041 - SB-1 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80068	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

continued ...

sample: 262041 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**11700**	mg/Kg	100	4.00

Sample: 262042 - SB-1 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80068	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**14000**	mg/Kg	100	4.00

Sample: 262043 - SB-1 15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80068	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**12600**	mg/Kg	100	4.00

Sample: 262044 - SB-1 20'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80068	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**6530**	mg/Kg	100	4.00

Sample: 262045 - SB-1 25'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80068	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**17400**	mg/Kg	100	4.00

Sample: 262046 - SB-1 30'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80068	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**8540**	mg/Kg	100	4.00

Sample: 262047 - SB-1 40'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80068	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**2970**	mg/Kg	100	4.00

Sample: 262048 - SB-1 50'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80069	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

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

Sample: 262049 - SB-1 60'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80069	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

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

Sample: 262050 - SB-1 70'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80069	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**208**	mg/Kg	50	4.00

Sample: 262051 - SB-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80069	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**3140**	mg/Kg	100	4.00

Sample: 262052 - SB-2 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80069	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**4580**	mg/Kg	100	4.00

Sample: 262053 - SB-2 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80069	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**2970**	mg/Kg	100	4.00

Sample: 262054 - SB-2 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80069	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**208**	mg/Kg	50	4.00

Sample: 262055 - SB-2 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80069	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

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

Sample: 262056 - SB-2 15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80069	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

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

Sample: 262057 - SB-2 20'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80069	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

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

Sample: 262058 - SB-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80070	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**2350**	mg/Kg	100	4.00

Sample: 262059 - SB-3 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80070	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**612**	mg/Kg	50	4.00

Sample: 262060 - SB-3 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80070	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**612**	mg/Kg	50	4.00

Sample: 262061 - SB-3 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80070	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

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

Sample: 262062 - SB-3 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80070	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

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

Sample: 262063 - SB-3 15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80070	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

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

Sample: 262064 - SB-3 20'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80070	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

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

Sample: 262065 - SB-4 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80070	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

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

Sample: 262066 - SB-4 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80070	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**2110**	mg/Kg	100	4.00

Sample: 262067 - SB-4 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80070	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**4520**	mg/Kg	100	4.00

Sample: 262068 - SB-4 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80071	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

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

Sample: 262069 - SB-4 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80071	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

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

Sample: 262070 - SB-4 15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80071	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**379**	mg/Kg	50	4.00

Sample: 262071 - SB-4 20'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80071	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

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

Sample: 262072 - SB-5 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80071	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**3150**	mg/Kg	100	4.00

Sample: 262073 - SB-5 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80071	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**6400**	mg/Kg	100	4.00

Sample: 262074 - SB-5 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80071	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

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

Sample: 262075 - SB-5 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80071	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

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

Sample: 262076 - SB-5 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80071	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

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

Sample: 262077 - SB-5 15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80071	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	Sample Preparation:	2011-04-04	Prepared By:	AR

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

Method Blank (1) QC Batch: 80068

QC Batch:	80068	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	QC Preparation:	2011-04-04	Prepared By:	AR

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

Method Blank (1) QC Batch: 80069

QC Batch:	80069	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	QC Preparation:	2011-04-04	Prepared By:	AR

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

Method Blank (1) QC Batch: 80070

QC Batch:	80070	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	QC Preparation:	2011-04-04	Prepared By:	AR

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

Method Blank (1) QC Batch: 80071

QC Batch:	80071	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	QC Preparation:	2011-04-04	Prepared By:	AR

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

Laboratory Control Spike (LCS-1)

QC Batch:	80068	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	QC Preparation:	2011-04-04	Prepared By:	AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.2	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	102	mg/Kg	1	100	<3.85	102	85 - 115	5	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:	80069	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	QC Preparation:	2011-04-04	Prepared By:	AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	95.9	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	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	104	mg/Kg	1	100	<3.85	104	85 - 115	8	20

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

Laboratory Control Spike (LCS-1)

QC Batch:	80070	Date Analyzed:	2011-04-05	Analyzed By:	AR
Prep Batch:	67926	QC Preparation:	2011-04-04	Prepared By:	AR

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 80071 | Date Analyzed: 2011-04-05 | Analyzed By: AR
Prep Batch: 67926 | QC Preparation: 2011-04-04 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.6	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.

Matrix Spike (MS-1) Spiked Sample: 262047

QC Batch: 80068 | Date Analyzed: 2011-04-05 | Analyzed By: AR
Prep Batch: 67926 | QC Preparation: 2011-04-04 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	12200	mg/Kg	100	10000	2970	92	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	13000	mg/Kg	100	10000	2970	100	80 - 120	6	20

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

Matrix Spike (MS-1) Spiked Sample: 262057

QC Batch: 80069 | Date Analyzed: 2011-04-05 | Analyzed By: AR
Prep Batch: 67926 | QC Preparation: 2011-04-04 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10300	mg/Kg	100	10000	<385	103	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	10700	mg/Kg	100	10000	<385	107	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: 262067

QC Batch: 80070 | Date Analyzed: 2011-04-05 | Analyzed By: AR
Prep Batch: 67926 | QC Preparation: 2011-04-04 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	14600	mg/Kg	100	10000	4520	101	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	15300	mg/Kg	100	10000	4520	108	80 - 120	5	20

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

Matrix Spike (MS-1) Spiked Sample: 262077

QC Batch: 80071 | Date Analyzed: 2011-04-05 | Analyzed By: AR
Prep Batch: 67926 | QC Preparation: 2011-04-04 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10100	mg/Kg	100	10000	<385	101	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	10300	mg/Kg	100	10000	<385	103	80 - 120	2	20

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

Standard (ICV-1)

QC Batch: 80068 | Date Analyzed: 2011-04-05 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	106	106	85 - 115	2011-04-05

Standard (CCV-1)

QC Batch: 80068 Date Analyzed: 2011-04-05 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	94.4	94	85 - 115	2011-04-05

Standard (ICV-1)

QC Batch: 80069 Date Analyzed: 2011-04-05 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.9	98	85 - 115	2011-04-05

Standard (CCV-1)

QC Batch: 80069 Date Analyzed: 2011-04-05 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	2011-04-05

Standard (ICV-1)

QC Batch: 80070 Date Analyzed: 2011-04-05 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.5	98	85 - 115	2011-04-05

Standard (CCV-1)

QC Batch: 80070 Date Analyzed: 2011-04-05 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	2011-04-05

Standard (ICV-1)

QC Batch: 80071 Date Analyzed: 2011-04-05 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2011-04-05

Standard (CCV-1)

QC Batch: 80071 Date Analyzed: 2011-04-05 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.0	99	85 - 115	2011-04-05

*WO#: 11032922

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: 4

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-64006-73

PROJECT NAME: COG / Prohibition Federal #2
Lea 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
262038	3/24		S		X	SB-1 0-2'	1				X	
039						3'	1				X	
040						5'	1				X	
041						7'	1				X	
042						10'	1				X	
043						15'	1				X	
044						20'	1				X	
045						25'	1				X	
046						30'	1				X	
047						40'	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. 8270/825	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
												X				

RELINQUISHED BY: (Signature) — Date: 3/28/11 Time: 1630
RECEIVED BY: (Signature) — Date: 3/28/11 Time: 16:30
SAMPLED BY: (Print & Initial) Kim — Date: 3/28/11 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: DATE: TIME:
RECEIVED BY: (Signature)
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 5 9°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 #: 11032922

Analysis Request of Chain of Custody Record

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG
SITE MANAGER: Ike Tavarez
PROJECT NO.: 114-6400673
PROJECT NAME: COG / Prohibition Federal #2
Lea 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	Chlorides	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
262048	3/24		S		X	SB-1 50'	1				X													X				
049						60'	1				X													X				
050						70'	1				X													X				
051						SB-2 0-1'	1				X													X				
052						3'	1				X													X				
053						5'	1				X													X				
054						7'	1				X													X				
055						10'	1				X													X				
056						15'	1				X													X				
057						20'	1				X													X				

RELINQUISHED BY: (Signature) Date: 3/28/11 Time: 16:30
RECEIVED BY: (Signature) Date: 3/28/11 Time: 16:30
SAMPLED BY: (Print & Initial) Kim Date: 3/28/11 Time:

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

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

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

SAMPLE CONDITION WHEN RECEIVED: 8.9°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.

#1103292Z

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.: 114-6400623

PROJECT NAME: COG / Prohibition Federal #2 Lea 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
402058	3/24		S	X		SB-3 0-1'	1				X	
059						3'	1				X	
060						5'	1				X	
061						7'	1				X	
062						10'	1				X	
063						15'	1				X	
064						20'	1				X	
065	3/25					SB-4 0-1'	1				X	
066						3'	1				X	
067						5'	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 Cr Pb Hg Se | TCLP Volatiles | TCLP Semi Volatiles | RCI | GC.MS Vol. 8240/8260/624 | GC.MS Semi. Vol. 8270/625 | PCB's 8080/608 | Pest. 8081/608 | Chloride | Gamma Spec. | Alpha Beta (Air) | PLM (Asbestos) | Major Anions/Cations, pH, TDS

RELINQUISHED BY: (Signature)	Date: 3/28/11 Time: 16:30	RECEIVED BY: (Signature)	Date: 3/28/11 Time: 16:30
SAMPLED BY: (Print & Initial) Kim	Date: 3/28/11 Time:		
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS	AIRBILL #: OTHER:		
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
TETRA TECH CONTACT PERSON: Ike Tavarez	Results by: RUSH Charges Authorized: Yes No		
RECEIVING LABORATORY: Test America ADDRESS: CITY: Midland STATE: TX ZIP: CONTACT: PHONE:	RECEIVED BY: (Signature) DATE: TIME:		
SAMPLE CONDITION WHEN RECEIVED: 8.9°C iNact	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.

Analysis Request of Chain of Custody Record

WO#: 11032902

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

PAGE: 4 OF: 4

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400673

PROJECT NAME: COG / Prohibition Federal #2 Lea 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
262068	3/25		S		X	SB-4 7'	1				X													X				
069						10'	1				X													X				
070						15'	1				X													X				
071						20'	1				X													X				
072						SB-5 0-1'	1				X													X				
073						3'	1				X													X				
074						5'	1				X													X				
075						7'	1				X													X				
076						10'	1				X													X				
077						15'	1				X													X				

RELINQUISHED BY: (Signature) Date: 3/28/11 Time: 16:30

RECEIVED BY: (Signature) Date: 3/28/11 Time: 16:30

SAMPLED BY: (Print & Initial) Kim Date: 3/28/11 Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

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

AIRBILL #:

OTHER:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: TRACE

ADDRESS:

CITY: MIDLAND STATE: TX ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: TIME:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 8.9°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.