SITE INFORMATION

Report Type: Closure Report

General Site Information:						
Site:	Moose Federal 23 Tank Battery					
Company:	COG Operating LLC					
Section, Township and Range	Unit L	Sec 23	T16S	R28E		
Lease Number:	API-30-015-25332					
County:	Eddy County					
GPS:	32.905833° N			104.152166° W		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	From the intersection of Hwy 82 and Co Rd 217 travel west on Hwy 82 for 9.3 miles, turn right and travel 2.5 miles, turn left and travel 2.3 miles, turn left and travel 2.3 miles, turn right and travel 0.9 miles, turn left and travel 2.7 miles to site.					

Release Data:	1st Spill	2nd Spill
Date Released:	02/21/2011	02/26/2011
Type Release:	Oil	Oil
Source of Contamination:	Swedge in Tank Battery	Stock Tank
Fluid Released:	65 bbls	40 bbls
Fluids Recovered:	63 bbls	35 bbls

Official Communication:			
Name:	Pat Ellis		Ike Tavarez
Company:	COG Operating, LLC		Tetra Tech
Address:	550 W. Texas Ave. Ste. 1300		1910 N. Big Spring
P.O. Box			
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		432-682-4559
Fax:	(432) 684-7137		
Email:	pellis@conchoresources.com		ike.tavarez@tetratech.com

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

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

TETRA TECH

March 30, 2012

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

Re: Closure Report for the COG Operating LLC., Moose Federal 23 Tank Battery, Unit L, Section 23, Township 16 South, Range 28 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Moose Federal 23 Tank Battery located in Unit L, Section 23, Township 16 South, Range 28 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.905833°, W 104.152166°. The site location is shown on Figures 1 and 2.

Background (Spill #1 and #2)

According to the State of New Mexico C-141 Initial Reports, COG had two reportable leaks at the facility. On February 21, 2011, a spill occurred when a swedge failed on a circulating line, releasing approximately sixty five (65) barrels of oil, which was contained inside the facility firewalls. Sixty three (63) barrels of standing fluids were recovered. The spill area measured approximately 10' x 100'.

On February 26, 2011, the second spill was discovered when a hole developed on an oil tank and released approximately forty (40) barrels. Thirty five (35) barrels of fluid were recovered. The release was contained inside the facility firewall and measured approximately 20' x 50'. The initial C-141 forms are enclosed in Appendix A.

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

Groundwater

No water wells were listed within Section 23. According to the NMOCD groundwater map, the average depth to groundwater in this area is less than 50' below surface. A well located in Section 24, T16S, R23E showed a depth to groundwater of 24', with an elevation of approximately 3,570'. In addition, a well located in Section 2, T17S, R28E showed a depth to water of 34' with a surface elevation of 3,574'. The Moose Federal 23 Tank Battery is located on top of the Pavo Mesa, with a surface elevation of 3750', approximately 175' high in elevation. Based on the site relative elevations, the groundwater depth at the Moose Federal Tank Battery should be greater than 100' below surface. The well report data and topographic maps are included in Appendix B.

Regulatory

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

Soil Assessment and Analytical Results

On March 24, 2010, Tetra Tech personnel inspected and sampled the spill area. Nine (9) auger holes (AH-1 and AH-9) 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 spill area and auger hole locations are shown on Figure 3.

Referring to Table 1, the areas of auger holes (AH-6 and AH-7) did not show TPH and BTEX concentrations above the RRAL. However, AH-1, AH-3, AH-5 and AH-8 samples were above the RRAL for TPH at 0-1' and only

the area of AH-3 was vertically defined at 2.5' below surface. In addition, either the total BTEX or benzene concentrations exceeded the RRAL at 0-1' in the areas of AH-1, AH-2, AH-3, AH-4, AH-5, AH-8 and AH-9. Auger holes (AH-2, AH-3 and AH-4) were vertically defined at 1.0', 2.0' and 1.0', respectively.

Elevated chloride concentrations were detected at 0-1' in the areas of AH-5 and AH-8 with concentrations of 1,570 mg/kg and 2,270 mg/kg, respectively. Due to the dense caliche formation, these areas were not defined using a hand auger.

Closure Activities

Based on the approved work plan, Tetra Tech personnel supervised the excavation of the site. The final excavation depths of the soil remediation were met and exceeded as stated in the approved work plan. The spill area inside the tank battery was excavated to approximately 1.0' to 3.0' below surface. A total of 80 cubic yards of soil were excavated and hauled to proper disposal. The excavation depths are highlighted in Table 1 and shown on Figure 4.

As requested by the BLM, confirmation samples were collected from the excavation bottom holes and sidewalls. The confirmation samples results are shown in Table 1. Once excavated to the appropriate depths, the excavation was backfilled with clean soil to grade.

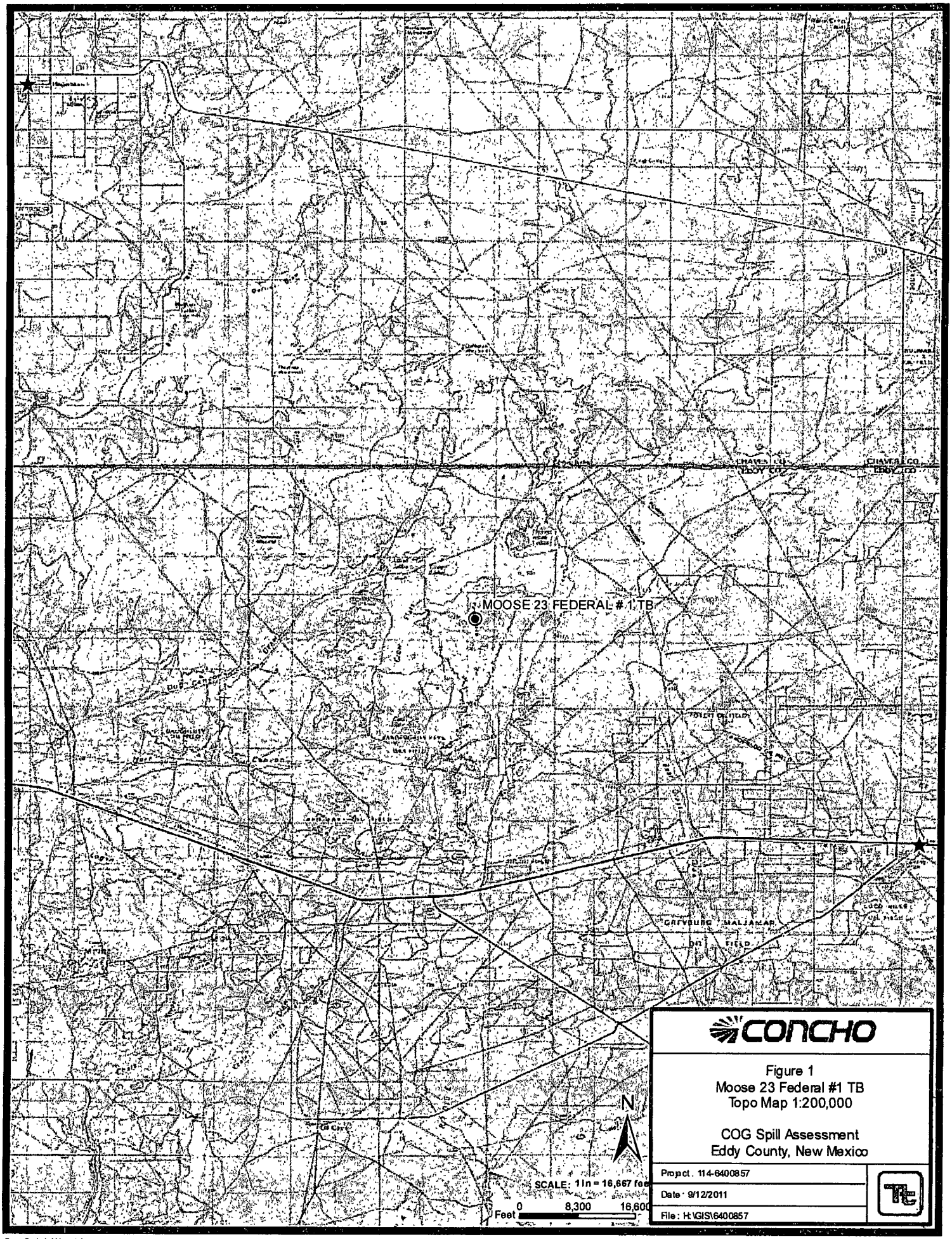
Based on the remedial activities performed, COG request closure of the site. Copies of the C-141's (Finals) are included in Appendix A. If you have any questions or comments concerning the remedial activities, please call at (432) 682-4559

Respectfully submitted,
TETRA TECH

Ike Tavarez
Project Manager

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

Figures



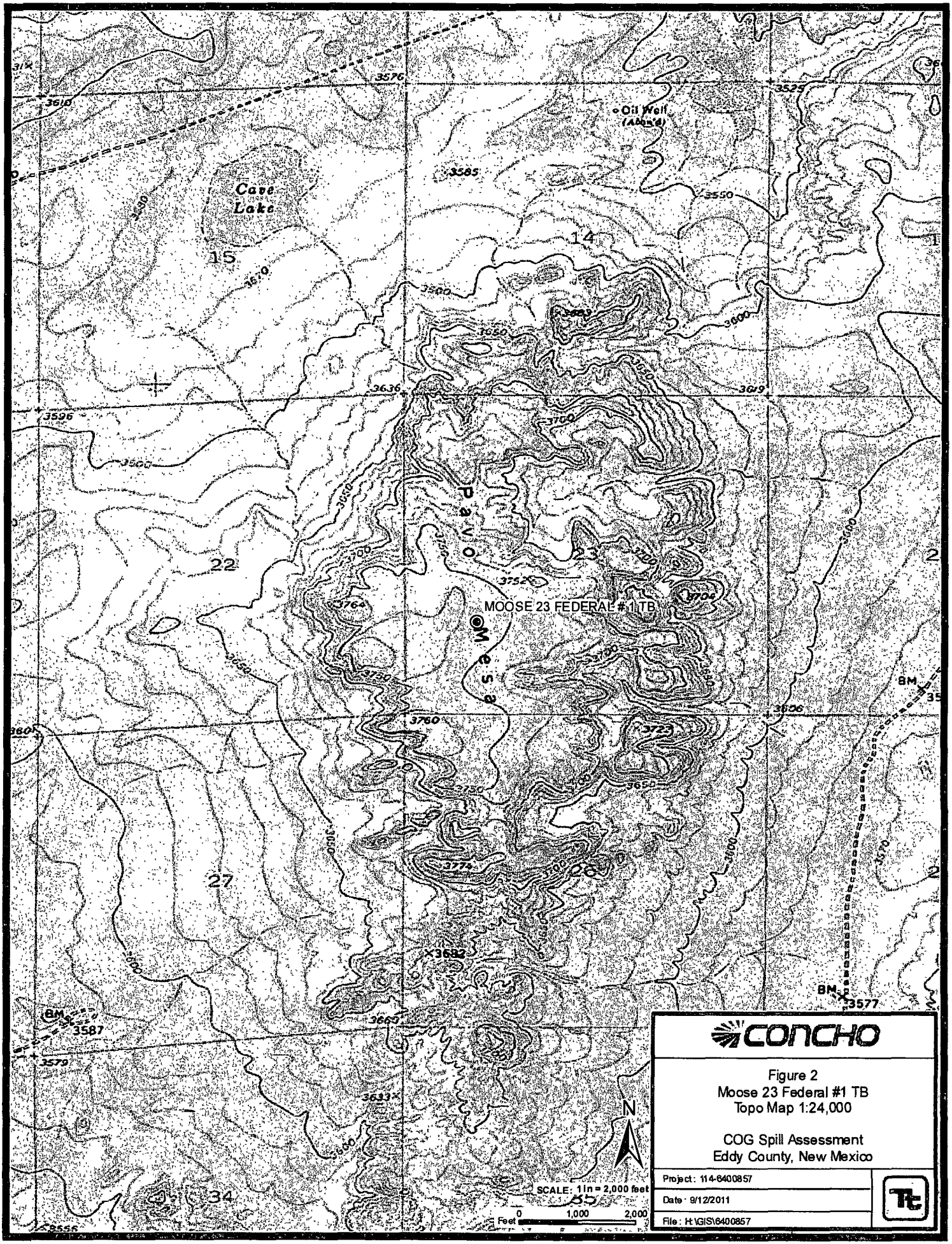
CONCHO

Figure 1
Moose 23 Federal #1 TB
Topo Map 1:200,000

COG Spill Assessment
Eddy County, New Mexico

Project : 114-6400857
Date : 9/12/2011
File : H:\GIS\6400857

Drawn By: Isabel Marmolejo



CONCHO

Figure 2
Moose 23 Federal #1 TB
Topo Map 1:24,000

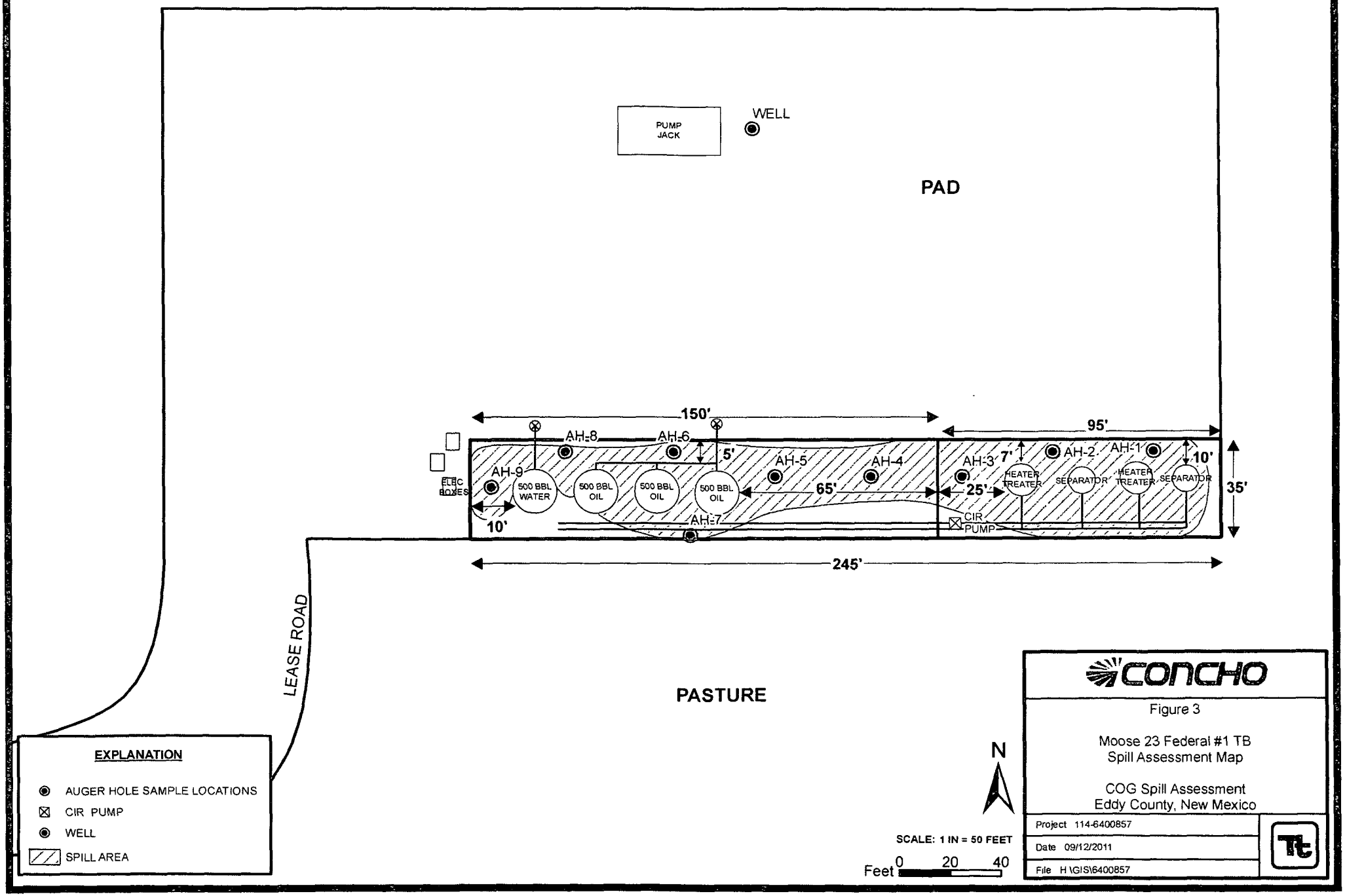
COG Spill Assessment
Eddy County, New Mexico

Project: 114-6400857

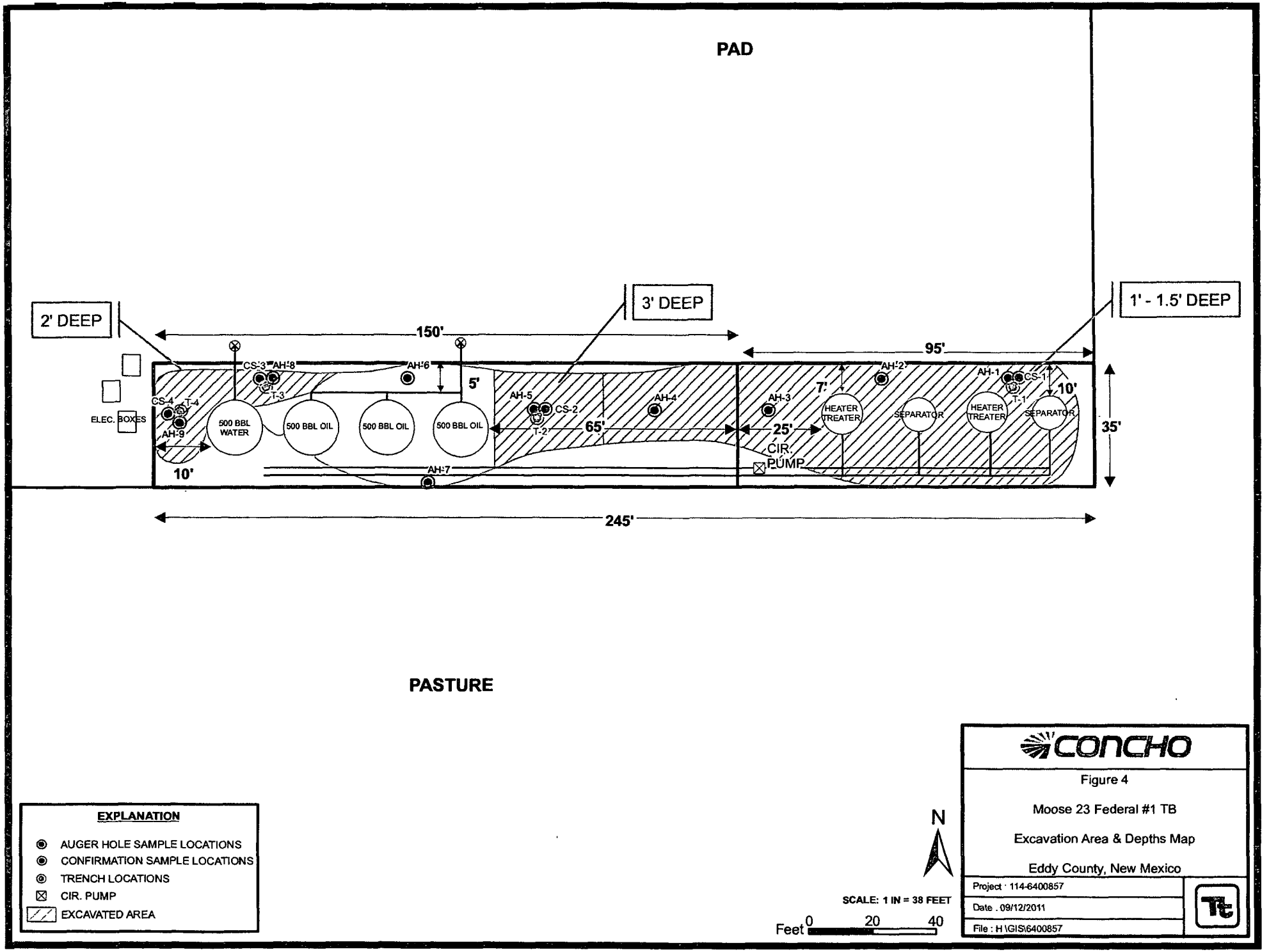
Date: 9/12/2011

File: H:\GIS\6400857

Drawn By: Isabel Marmolejo



Drawn By Isabel Marmolejo


PAD
2' DEEP
3' DEEP
1' - 1.5' DEEP
150'
95'
5'
7'
10'
35'
65'
25'
10'
245'
CS-3
AH-8
AH-6
T-3
CS-4
T-4
AH-9
ELEC. BOXES
500 BBL WATER
500 BBL OIL
500 BBL OIL
500 BBL OIL
AH-5
CS-2
T-2
AH-4
AH-7
AH-3
CIR. PUMP
AH-2
AH-1
CS-1
T-1
HEATER TREATER
SEPARATOR
HEATER TREATER
SEPARATOR
PASTURE
EXPLANATION
AUGER HOLE SAMPLE LOCATIONS
CONFIRMATION SAMPLE LOCATIONS
TRENCH LOCATIONS
CIR. PUMP
EXCAVATED AREA
N
SCALE: 1 IN = 38 FEET
Feet 0 20 40
CONCHO
Figure 4
Moose 23 Federal #1 TB
Excavation Area & Depths Map
Eddy County, New Mexico
Project : 114-6400857
Date . 09/12/2011
File : H \GIS\6400857
Drawn By: Isabel Marmolejo

Tables

Table 1
COG Operating LLC.
MOOSE FEDERAL #23 TANK BATTERY
Eddy 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)	Total BTEX	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-1	3/24/2011	0-1	0.5'		X	3,190	1,990	**5,180**	**15.6**	148	97.2	165	**425.8**	<200
CS-1 Bottom Hole	1/13/2012	1	-	X		454	664	1,118	<0.100	1.07	6.31	16.7	24.08	-
CS-1 North	1/13/2012	-	-	X		2.84	<50.0	2.84	<0.200	<0.200	<0.200	<0.200	<0.200	-
CS-1 South	1/13/2012	-	-	X		727	607	1,334	<0.100	2.05	5.78	21.5	29.33	-
CS-1 East	1/13/2012	-	-	X		101	2,780	2,881	<0.100	<0.100	<0.100	0.221	0.221	-
T-1	1/13/2012	2	-	X		5.09	<50.0	5.09	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	-
AH-2	3/24/2011	0-1	0.5'		X	632	929	1,561	0.209	7.40	15.0	28.3	**50.9**	<200
	"	1-1.5	0.5'	X		64.9	78.8	143.7	<0.0200	0.147	0.244	0.645	1.04	<200
AH-3	3/24/2011	0-1			X	4,870	11,700	**16,570**	**21.3**	165	130	212	**528.3**	324
	"	1-1.5			X	5,020	8,780	**13,800**	**27.7**	160	113	183	**483.7**	<200
	"	2-2.5		X		7.26	<50.0	7.26	<0.02	0.171	0.157	0.426	0.75	<200

Table 1
COG Operating LLC.
MOOSE FEDERAL #23 TANK BATTERY
Eddy 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)	Total BTEX	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-4	3/24/2011	0-1			X	688	3710	4398	1.37	20.5	19.4	33.8	75.1	<200
	"	1-1.5		X		28.1	<50.0	28.1	<0.0200	0.177	0.277	0.749	1.2	<200
	"	2-2.5		X		10.3	<50.0	10.3	-	-	-	-	-	<200
AH-5	3/24/2011	0-1			X	3,360	7,300	**10,660**	**13.0**	83.5	73	124	**293.5**	1,570
CS-2 Bottom Hole	1/13/2012	3	-	X		512	951	1,463	0.465	12.3	11.5	24.8	49.1	222
CS-2 North	1/13/2012	-	-	X		3.64	<50.0	3.64	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<200
CS-2 South	1/13/2012	-	-	X		66.6	744	811	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<200
AH-6	3/24/2011	0-1		X		127	293	420	-	-	-	-	-	385
AH-7	3/24/2011	0-1		X		156	2,770	2,926	0.223	0.162	0.154	1.83	2.4	547

Table 1
COG Operating LLC.
MOOSE FEDERAL #23 TANK BATTERY
Eddy 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)	Total BTEX	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-8	3/24/2011	0-1			X	1,280	4,090	**5,370**	4.25	12.8	5.85	32.9	**55.8**	2,270
CS-3 Bottom Hole	1/13/2012	1			X	9.78	65.8	75.6	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	573
CS-3 Bottom Hole (resampled)	1/30/2012	2	-	X		-	-	-	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	-
CS-3 North	1/13/2012	-	-	X		8.97	112	121	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	710
CS-3 South	1/13/2012	-	-	X		10.2	151	161	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	1,310
T-3	1/13/2012	2	-	X		697	1,420	2,117	3.39	48.8	21.2	64.5	**137.9**	375
T-3	1/13/2012	4	-	X		-	-	-	0.412	4.27	1.73	5.45	11.9	-
AH-9	3/24/2011	0-1	1'		X	1,420	2,290	3,710	**22.2**	111	58.0	96.7	**287.9**	781
CS-4 Bottom Hole	1/13/2012	2	-	X		-	-	-	<0.100	0.381	0.383	1.46	2.224	-
CS-4 North	1/13/2012	-	-	X		-	-	-	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	-
CS-4 South	1/13/2012	-	-	X		-	-	-	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	-
CS-4 West	1/13/2012	-	-	X		-	-	-	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	-

BEB Below Excavation Bottom

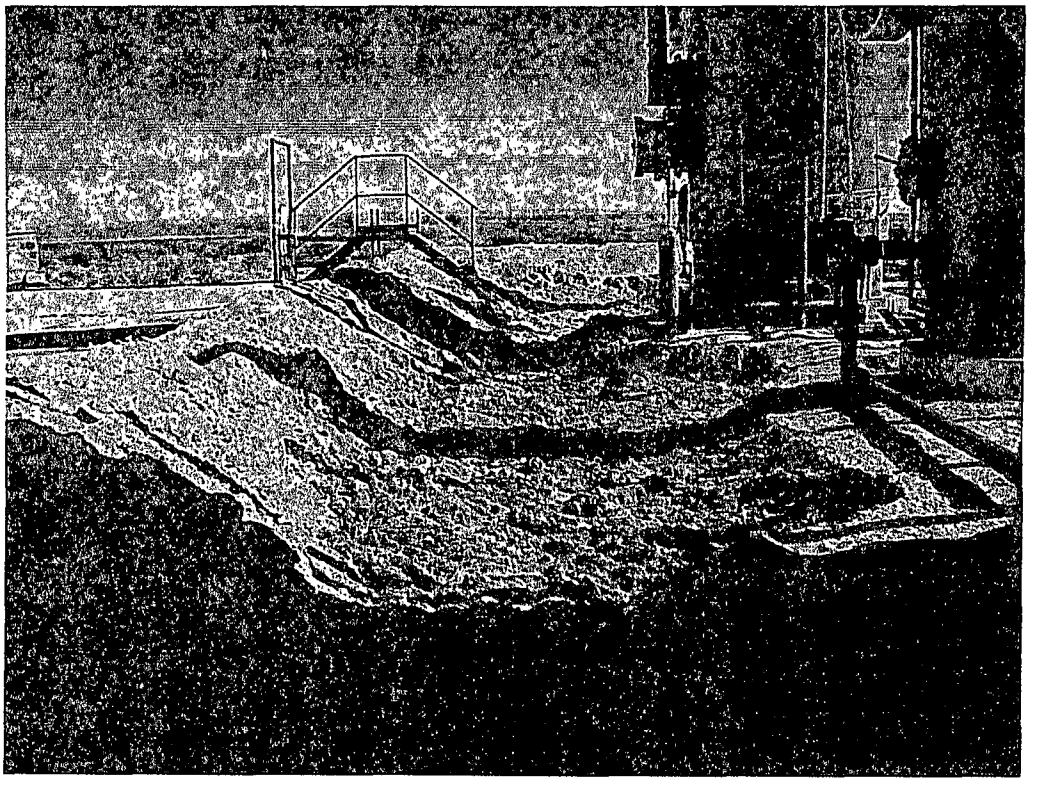
(--) Not Analyzed

Excavation Depths

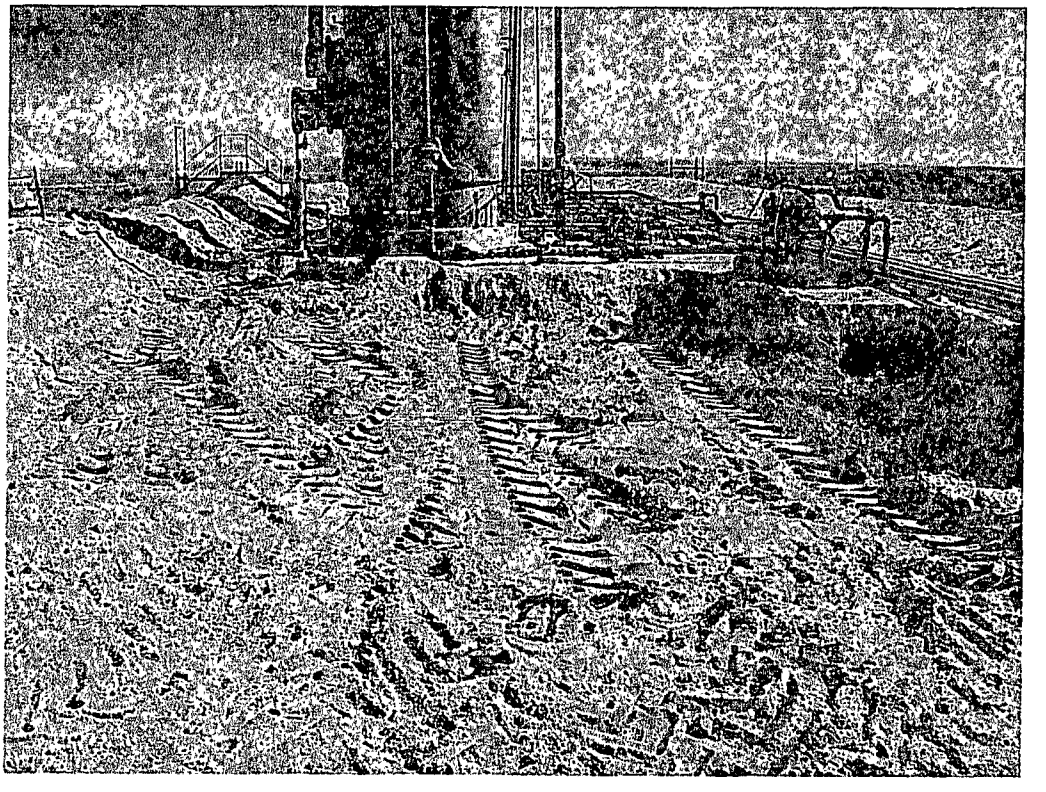
Photos

COG Operating LLC
Moose Federal 23
Eddy County, New Mexico

TETRA TECH



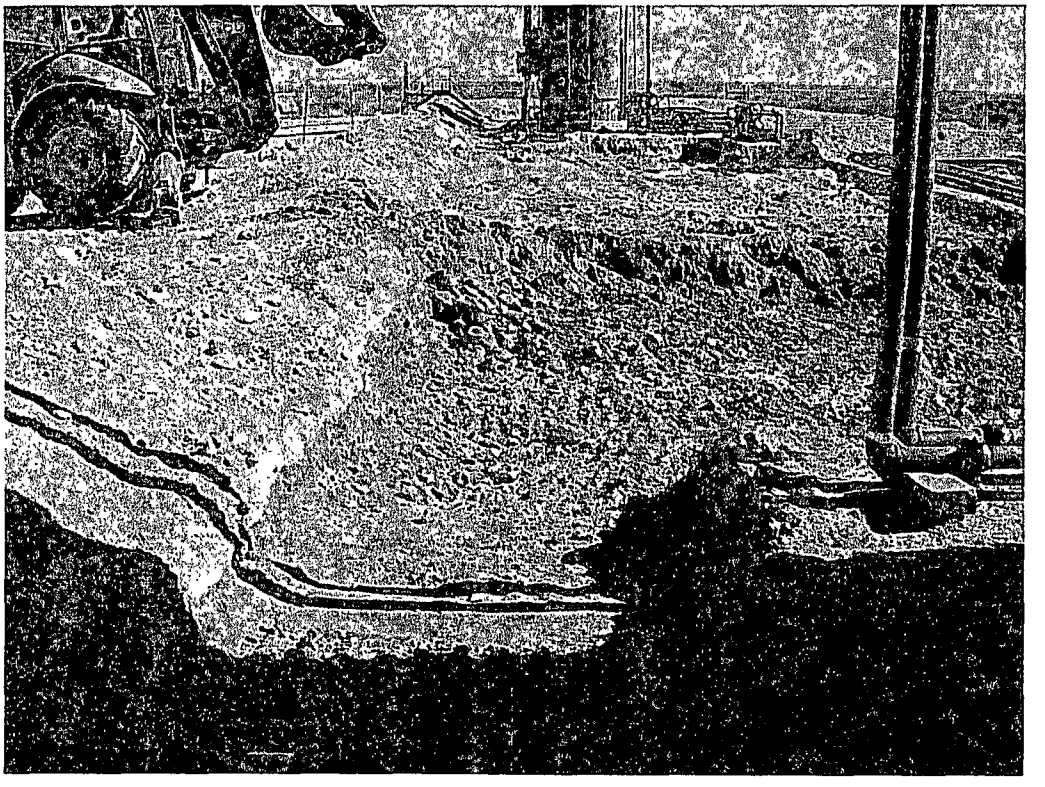
View East – AH-1 and AH-2



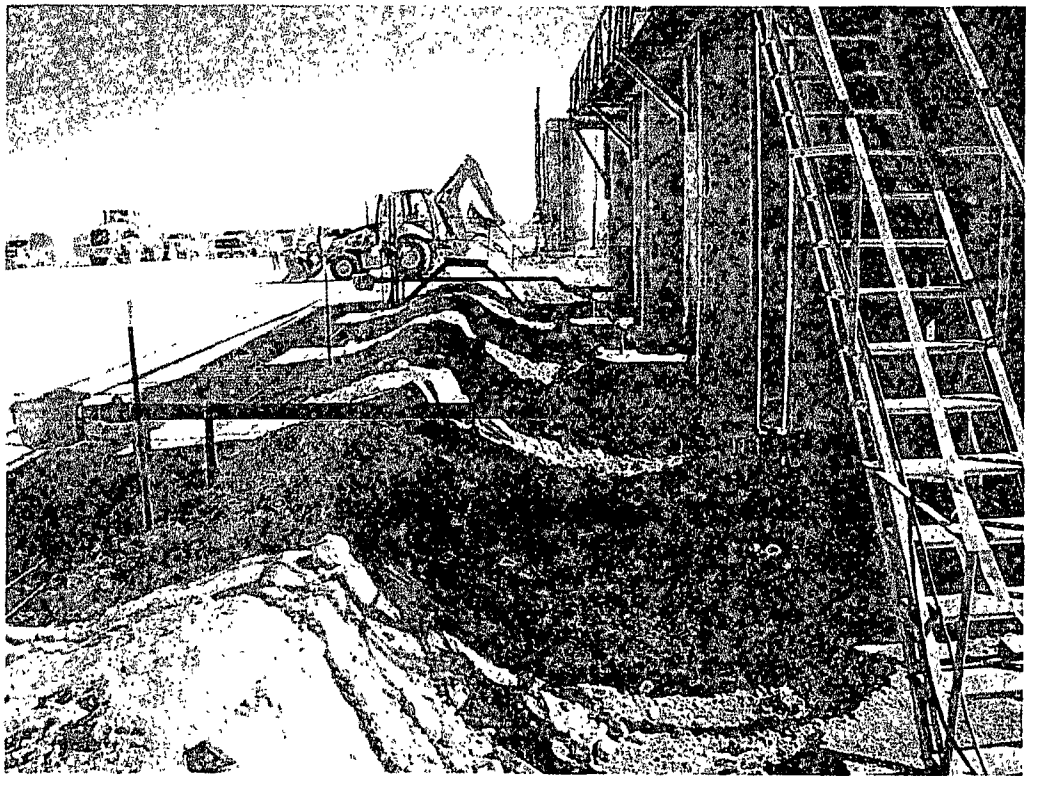
View East – AH-3

COG Operating LLC
Moose Federal 23
Eddy County, New Mexico

TETRA TECH



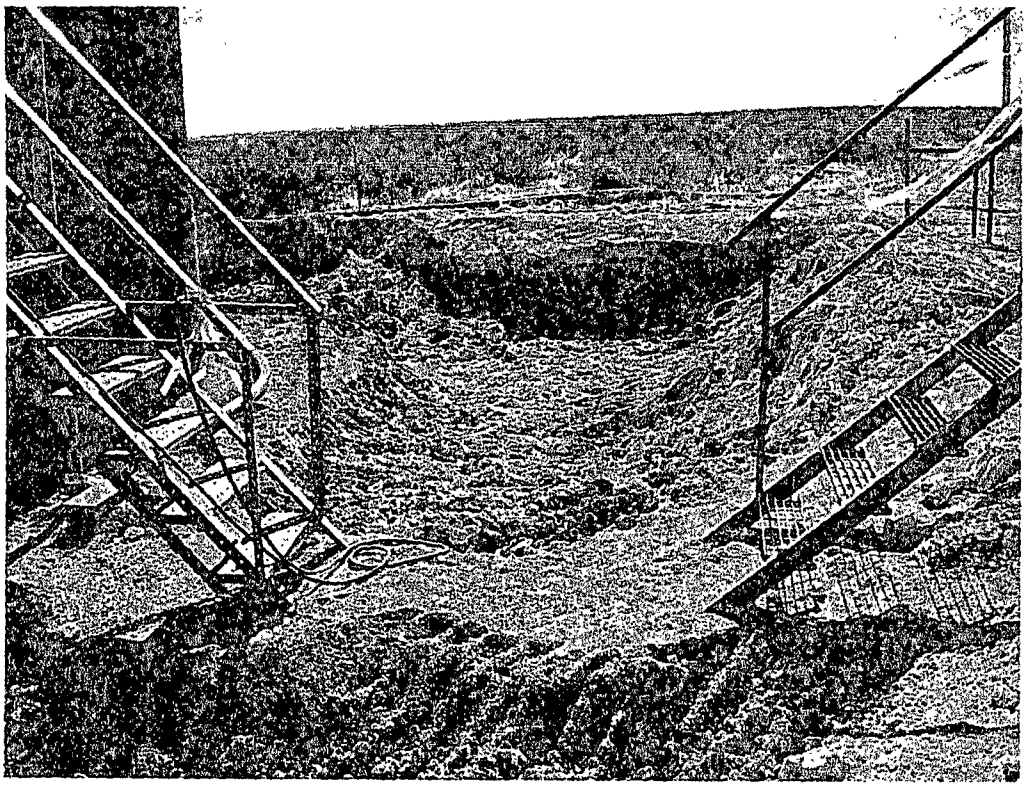
View East – AH-4 and AH5



View East – AH-8

COG Operating LLC
Moose Federal 23
Eddy County, New Mexico

TETRA TECH



View South – AH-9

Appendix A

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

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

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Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Moose Federal 23	Facility Type	Tank Battery

Surface Owner Federal	Mineral Owner	Lease No. (API#) 30-015-25332

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	23	16S	28E					Eddy

Latitude 32 54.350 **Longitude** 104 09.130

NATURE OF RELEASE

Type of Release Oil	Volume of Release 65bbls	Volume Recovered 63bbls
Source of Release Swedge inside tank battery	Date and Hour of Occurrence 02/21/2011	Date and Hour of Discovery 02/21/2011 4:30 p.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher—OCD	
By Whom? Josh Russo	Date and Hour 02/22/2011 3:43 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

Swedge failed on circulating line coming off of production tank. The swedge has been replaced with a new one.

Describe Area Affected and Cleanup Action Taken.*

Initially 65bbls of oil was released and completely contained inside the walls of the facility. We were able to recover 63bbls with a vacuum truck and all standing fluid has been recovered. The contaminated soil has been removed from the facility and the spill area measured 10' x 100'. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD / BLM for approval prior to any significant remediation work.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Josh Russo	Approved by District Supervisor:	
Title: HSE Coordinator	Approval Date:	Expiration Date:
E-mail Address: jrusso@conchoresources.com	Conditions of Approval:	Attached ☐
Date: 03/02/2011 Phone: 432-212-2399		

* Attach Additional Sheets If Necessary

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State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

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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 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Moose Federal 23	Facility Type	Tank Battery

Surface Owner Federal	Mineral Owner	Lease No. (API#) 30-015-25332

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	23	16S	28E					Eddy

Latitude 32 54.350 **Longitude** 104 09.130

NATURE OF RELEASE

Type of Release Oil	Volume of Release 40bbls	Volume Recovered 35bbls
Source of Release Stock tank	Date and Hour of Occurrence 02/26/2011	Date and Hour of Discovery 02/26/2011 8:30 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher—OCD	
By Whom? Josh Russo	Date and Hour 02/28/2011 9:38 a.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A hole developed in a stock tank at the tank battery. The tank has been removed from service.

Describe Area Affected and Cleanup Action Taken.*

Initially 40bbls of oil was released from the stock tank and we were able to recover 35bbls with a vacuum truck. The entire release was contained inside the berm walls of the facility and measured an area of 20' x 50' around the tanks and toward the heaters. The contaminated soil has been removed and all free fluids have been picked up. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD / BLM for approval prior to any significant remediation work.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Josh Russo	Approved by District Supervisor:
Title: HSE Coordinator	Approval Date: / Expiration Date:
E-mail Address: jrusso@conchoresources.com	Conditions of Approval: / Attached ☐
Date: 03/02/2011 Phone: 432-212-2399	

* Attach Additional Sheets If Necessary

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State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

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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 **Moose Federal 23**	Facility Type **Tank Battery**

Surface Owner: Federal	Mineral Owner	Lease No. (API#) 30-015-25332

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	23	16S	28E					Eddy

Latitude 32 54.350 **Longitude** 104 09.130

NATURE OF RELEASE

Type of Release: Oil	Volume of Release 40 bbls	Volume Recovered 35 bbls
Source of Release: Equalizer	Date and Hour of Occurrence 02/26/2011	Date and Hour of Discovery 02/26/2011 8:30 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher--OCD	
By Whom? Josh Russo	Date and Hour 02/28/2011 9:38 a.m.	
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.*

A hole developed in a stock tank at the tank battery. The tank has been removed from service.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected the site and collected samples to define the spills extent. Impacted soil exceeding RRAL was removed and hauled to proper disposal. Once excavated to the appropriate depths, the excavation was backfilled with clean soil. Tetra Tech prepared a closure report and submitted it to NMOCD for review.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Ike Tavarez (agent for COG)	Approved by District Supervisor:	
Title: Project Manager	Approval Date:	Expiration Date:
E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval:	Attached ☐
Date: 3-30-12 Phone: (432) 682-4559		

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company **COG Operating LLC**	Contact **Pat Ellis**
Address **550 W. Texas, Suite 1300 Midland, Texas 79701**	Telephone No. **(432) 230-0077**
Facility Name Moose Federal 23	Facility Type **Tank Battery**

Surface Owner: Federal	Mineral Owner	Lease No. (API#) 30-015-25332

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	23	16S	28E					Eddy

Latitude 32 54.350 **Longitude** 104 09.130

NATURE OF RELEASE

Type of Release: Oil	Volume of Release 65 bbls	Volume Recovered 63 bbls
Source of Release: Equalizer	Date and Hour of Occurrence 02/21/2011	Date and Hour of Discovery 02/21/2011 4:30 p.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher--OCD	
By Whom? Josh Russo	Date and Hour 3/15/10 4:59 p.m.	
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.*

Swedge failed on circulating line coming off of production tank. The swedge has been replaced with a new one.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected the site and collected samples to define the spills extent. Impacted soil exceeding RRAL was removed and hauled to proper disposal. Once excavated to the appropriate depths, the excavation was backfilled with clean soil. Tetra Tech prepared a closure report and submitted it to NMOCD for review.

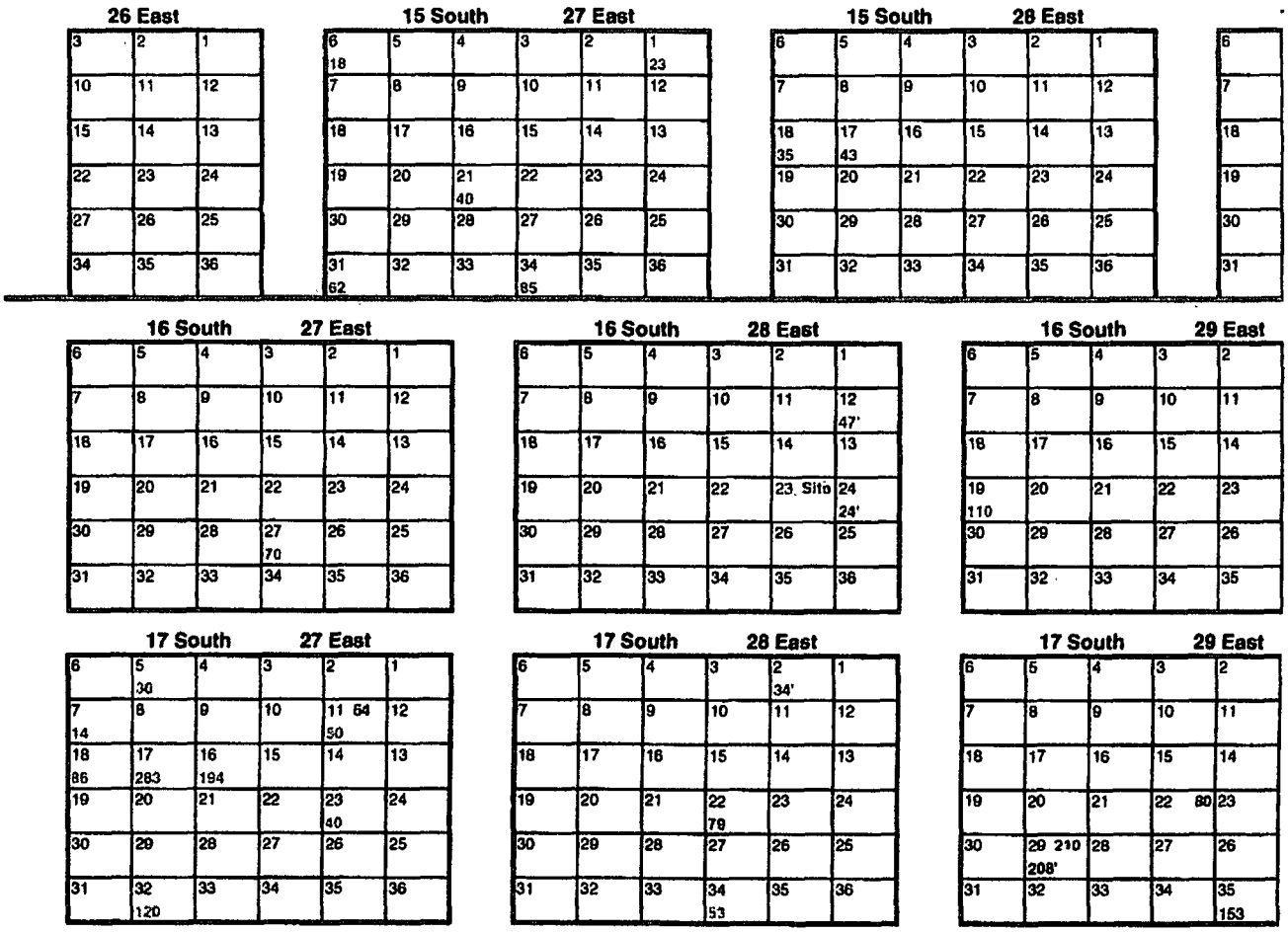
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Ike Tavarez (agent for COG)	Approved by District Supervisor:	
Title: Project Manager	Approval Date:	Expiration Date:
E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval:	Attached ☐
Date: 1-30-12 Phone: (432) 682-4559		

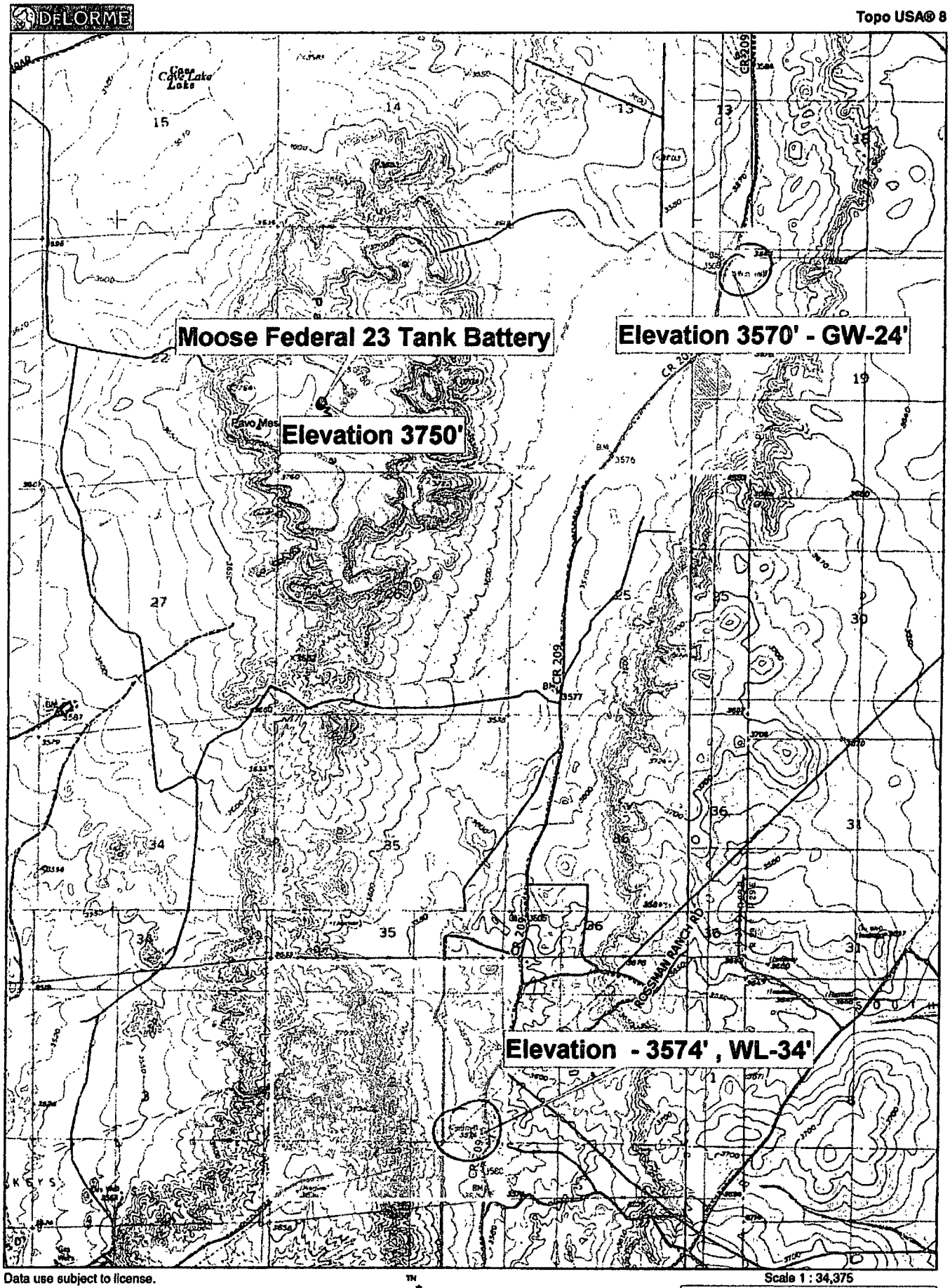
* Attach Additional Sheets If Necessary

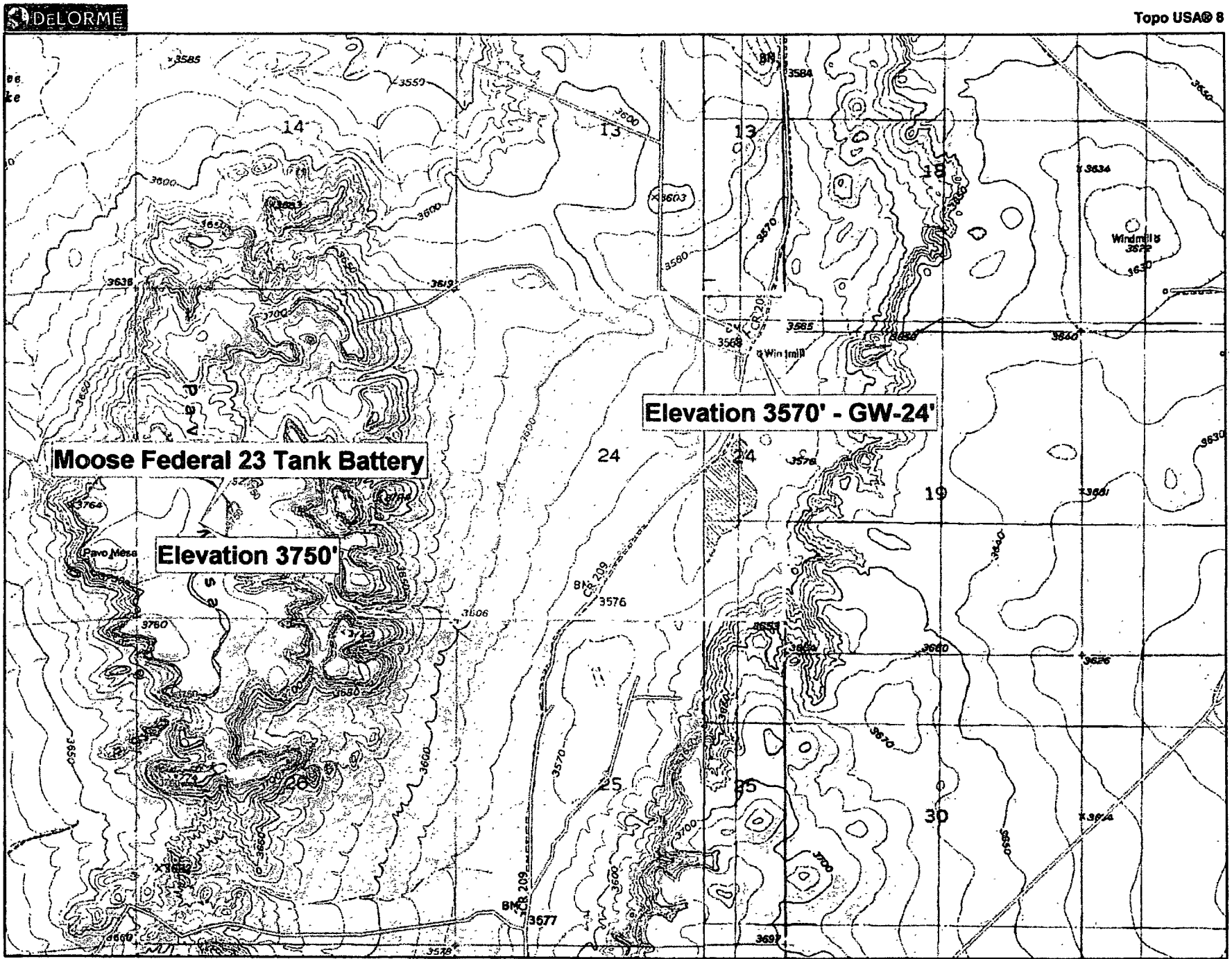
Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - Moose Federal 23
Eddy County, New Mexico



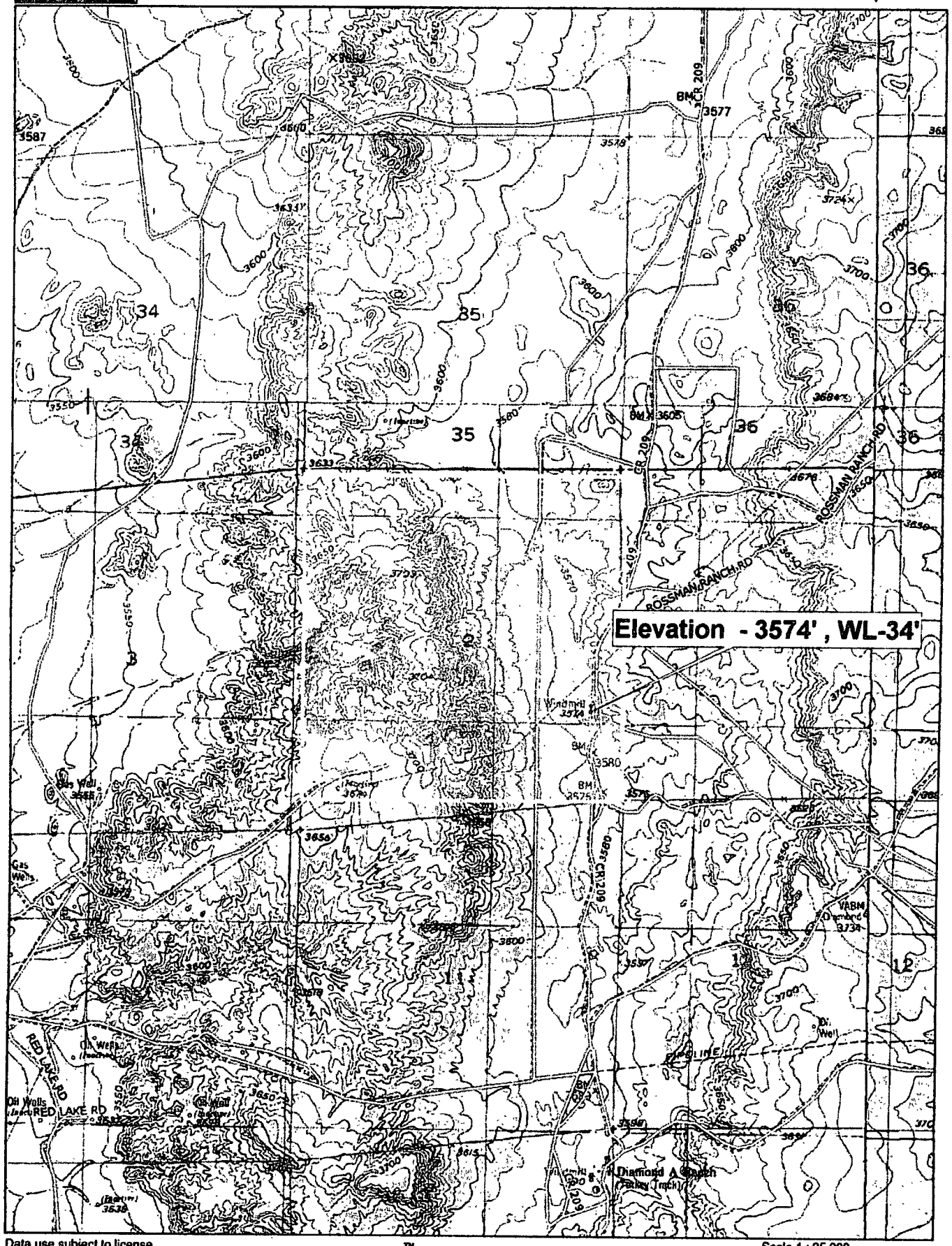
New Mexico State Engineers Well Reports
USGS Well Reports
Geology and Groundwater Conditions in Southern Eddy, County, NM
NMOCD Map - Groundwater Data


DeLORME
Topo USA® 8
Moose Federal 23 Tank Battery
Elevation 3570' - GW-24'
Elevation 3750'
Elevation - 3574' , WL-34'
CR 209
ROSSMAN RANCH RD
Data use subject to license.
© DeLorme. Topo USA® 8.
www.delorme.com
Scale 1 : 34,375
1" = 2,864.6 ft
Data Zoom 12-5


DeLORME
Topo USA® 8
Moose Federal 23 Tank Battery
Elevation 3750'
Elevation 3570' - GW-24'
Pavo Mesa
CR 209
CR 20
Windmill
Data use subject to license.
© DeLorme. Topo USA® 8.
www.delorme.com
Scale 1 : 25,000
1" = 2,083.3 ft
Data Zoom 13-0

DELORME

Topo USA® 8



TN

MN (7.9° E)

Scale 1 : 25,000

1" = 2,083.3 ft

Data Zoom 13-0

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

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

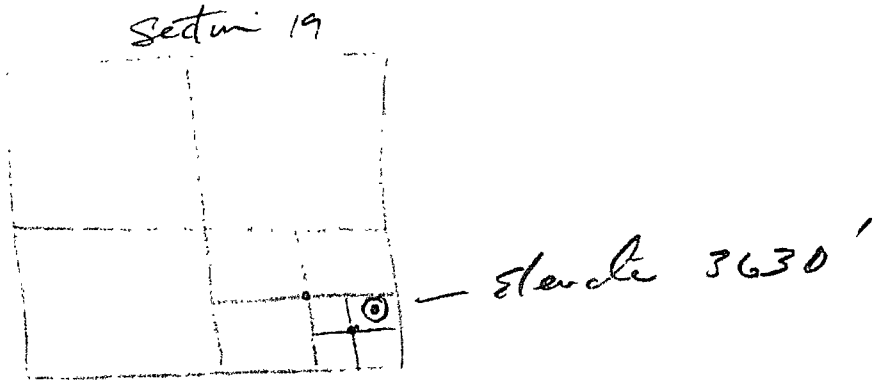
POD Number	Sub basin	Use	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
RA 09342		DOM	ED	4	4	3	19	16S	29E	582737	3640640*	220	110	110

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

Record Count: 1

PLSS Search:

Township: 16S **Range: 29E**



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

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

No records found.

PLSS Search:

Township: 16S **Range: 28E**

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

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

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

Average Depth to Water: **110 feet**

Minimum Depth: **110 feet**

Maximum Depth: **110 feet**

Record Count: 1

PLSS Search:

Township: 16S Range: 29E

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

Appendix C

Summary Report

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

Report Date: September 8, 2011

Work Order: 11032822

Project Location: Eddy Co., NM
Project Name: COG/Moose Fed. #23 TB
Project Number: 114-6400857

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
261909	AH-2 0-1' 0.5' BEB	soil	2011-03-24	00:00	2011-03-28
261910	AH-2 1-1.5' 0.5' BEB	soil	2011-03-24	00:00	2011-03-28
261914	AH-4 0-1'	soil	2011-03-24	00:00	2011-03-28
261915	AH-4 1-1.5'	soil	2011-03-24	00:00	2011-03-28
261919	AH-7 0-1'	soil	2011-03-24	00:00	2011-03-28
261921	AH-9 0-1' 1' BEB	soil	2011-03-24	00:00	2011-03-28

	BTEX			
Sample - Field Code	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)
261909 - AH-2 0-1' 0.5' BEB	**0.209**	**7.40**	**15.0**	**28.3**
261910 - AH-2 1-1.5' 0.5' BEB	<0.0200	**0.147**	**0.244**	**0.645**
261914 - AH-4 0-1'	**1.37**	**20.5**	**19.4**	**33.8**
261915 - AH-4 1-1.5'	<0.0200	**0.177**	**0.277**	**0.749**
261919 - AH-7 0-1'	**0.223**	**0.162**	**0.154**	**1.83**
261921 - AH-9 0-1' 1' BEB	**22.2**	**111**	**58.0**	**96.7**

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 8, 2011

Work Order: 11032822

Project Location: Eddy Co., NM
Project Name: COG/Moose Fed. #23 TB
Project Number: 114-6400857

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
261909	AH-2 0-1' 0.5' BEB	soil	2011-03-24	00:00	2011-03-28
261910	AH-2 1-1.5' 0.5' BEB	soil	2011-03-24	00:00	2011-03-28
261914	AH-4 0-1'	soil	2011-03-24	00:00	2011-03-28
261915	AH-4 1-1.5'	soil	2011-03-24	00:00	2011-03-28
261919	AH-7 0-1'	soil	2011-03-24	00:00	2011-03-28
261921	AH-9 0-1' 1' BEB	soil	2011-03-24	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.

This report consists of a total of 9 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/Moose Fed. #23 TB were received by TraceAnalysis, Inc. on 2011-03-28 and assigned to work order 11032822. Samples for work order 11032822 were received intact at a temperature of 3.6 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	67886	2011-04-01 at 11:35	80015	2011-04-02 at 14:30

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 11032822 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: 261909 - AH-2 0-1' 0.5' BEB

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

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**0.209**	mg/Kg	1	0.0200
Toluene		**7.40**	mg/Kg	1	0.0200
Ethylbenzene		**15.0**	mg/Kg	1	0.0200
Xylene		**28.3**	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.45	mg/Kg	1	2.00	122	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)	[1]	6.47	mg/Kg	1	2.00	324	70.6 - 179

Sample: 261910 - AH-2 1-1.5' 0.5' BEB

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

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0200	mg/Kg	1	0.0200
Toluene		**0.147**	mg/Kg	1	0.0200
Ethylbenzene		**0.244**	mg/Kg	1	0.0200
Xylene		**0.645**	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.10	mg/Kg	1	2.00	105	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)		2.25	mg/Kg	1	2.00	112	70.6 - 179

Sample: 261914 - AH-4 0-1'

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

[1]High surrogate recovery due to peak interference.

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**1.37**	mg/Kg	1	0.0200
Toluene	[2]	**20.5**	mg/Kg	1	0.0200
Ethylbenzene	[3]	**19.4**	mg/Kg	1	0.0200
Xylene	[4]	**33.8**	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.06	mg/Kg	1	2.00	103	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)	[5]	6.44	mg/Kg	1	2.00	322	70.6 - 179

Sample: 261915 - AH-4 1-1.5'

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

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0200	mg/Kg	1	0.0200
Toluene		**0.177**	mg/Kg	1	0.0200
Ethylbenzene		**0.277**	mg/Kg	1	0.0200
Xylene		**0.749**	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.00	mg/Kg	1	2.00	100	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)		2.20	mg/Kg	1	2.00	110	70.6 - 179

Sample: 261919 - AH-7 0-1'

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

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**0.223**	mg/Kg	1	0.0200
Toluene		**0.162**	mg/Kg	1	0.0200
Ethylbenzene		**0.154**	mg/Kg	1	0.0200
Xylene		**1.83**	mg/Kg	1	0.0200

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.93	mg/Kg	1	2.00	96	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)		2.36	mg/Kg	1	2.00	118	70.6 - 179

Sample: 261921 - AH-9 0-1' 1' BEB

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

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**22.2**	mg/Kg	10	0.0200
Toluene	[6]	**111**	mg/Kg	10	0.0200
Ethylbenzene		**58.0**	mg/Kg	10	0.0200
Xylene		**96.7**	mg/Kg	10	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		9.66	mg/Kg	10	10.0	97	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)	[7]	21.0	mg/Kg	10	10.0	210	70.6 - 179

Method Blank (1) QC Batch: 80015

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.78	mg/Kg	1	2.00	89	65.9 - 111.8
4-Bromofluorobenzene (4-BFB)		1.73	mg/Kg	1	2.00	86	48.4 - 123.1

[6]Estimated concentration value greater than standard range.
[7]High surrogate recovery due to peak interference.

Laboratory Control Spike (LCS-1)

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

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.70	mg/Kg	1	2.00	<0.0118	85	77.4 - 121.7
Toluene	1.76	mg/Kg	1	2.00	<0.00600	88	88.6 - 121.6
Ethylbenzene	1.91	mg/Kg	1	2.00	<0.00850	96	74.3 - 117.9
Xylene	5.75	mg/Kg	1	6.00	<0.00613	96	73.4 - 118.8

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.76	mg/Kg	1	2.00	<0.0118	88	77.4 - 121.7	4	20
Toluene	1.81	mg/Kg	1	2.00	<0.00600	90	88.6 - 121.6	3	20
Ethylbenzene	1.96	mg/Kg	1	2.00	<0.00850	98	74.3 - 117.9	3	20
Xylene	5.89	mg/Kg	1	6.00	<0.00613	98	73.4 - 118.8	2	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.74	1.51	mg/Kg	1	2.00	87	76	65.5 - 116.7
4-Bromofluorobenzene (4-BFB)	1.84	1.59	mg/Kg	1	2.00	92	80	56.2 - 132.1

Matrix Spike (MS-1) Spiked Sample: 261925

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

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	[8]	1.61	mg/Kg	1	2.00	<0.0118	80	69.4 - 123.6
Toluene	[9]	1.70	mg/Kg	1	2.00	0.1724	76	75.4 - 134.3
Ethylbenzene		1.72	mg/Kg	1	2.00	<0.00850	86	58.8 - 133.7
Xylene	[10]	5.25	mg/Kg	1	6.00	0.552	78	57 - 134.2

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.74	mg/Kg	1	2.00	<0.0118	87	69.4 - 123.6	8	20

continued ...

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

matrix spikes continued ...

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Toluene	1.88	mg/Kg	1	2.00	0.1724	85	75.4 - 134.3	10	20
Ethylbenzene	1.96	mg/Kg	1	2.00	<0.00850	98	58.8 - 133.7	13	20
Xylene	5.97	mg/Kg	1	6.00	0.552	90	57 - 134.2	13	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)	1.87	2.28	mg/Kg	1	2	94	114	79.4 - 141.1
4-Bromofluorobenzene (4-BFB)	2.12	2.41	mg/Kg	1	2	106	120	71 - 167

Standard (CCV-1)

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

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

Standard (CCV-2)

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

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

Standard (CCV-3)

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

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0872	87	80 - 120	2011-04-02

continued ...

standard continued ...

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

XWO#: 1032822

Analysis Request of Chain of Custody Record

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

PAGE: 1 OF: 2

CLIENT NAME:	SITE MANAGER:
COG	Ike Tavarez

PROJECT NO.:	PROJECT NAME:
114-40085-7	COG / Moose Federal #23 TB Eddy Co, NM

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
201908	3/24		S		X	AH-1 0-1' 0.5' BEB	1				X	
909						AH-2 0-1' 0.5' BEB						
910						AH-2 1'-1.5' 0.5' BEB						
911						AH-3 0-1'						
912						AH-3 1'-1.5'						
913						AH-3 2'-2.5'						
914						AH-4 0-1'						
915						AH-4 1'-1.5'						
916						AH-4 2'-2.5'						
917						AH-5 0-1'						

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8021B	TPH 8015 MOD. TX1005 (Ext to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 8081/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
	X											X				
	X															
	X															
	X															
	X															

RELINQUISHED BY: (Signature)	Date: 3/24/11 Time: 18:12	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:

SAMPLED BY: (Print & Initial) JR/DE Date: 3/24/11 Time:

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

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

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

SAMPLE CONDITION WHEN RECEIVED: 3.6°C

REMARKS: If total TPH exceeds 1,000 mg/kg, run dup per samples / If any BTEX or Benzene exceeds 10 mg/kg run deeper samples / If highest TPH, If total BTEX exceeds 50mg/kg

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

dwo #: 11032822

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: 2 OF: 2

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 14-6400857

PROJECT NAME: COG / Moose Federal 23 TB
Eddy Co. NM

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD	TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 8080/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
261918	3/24		S		X	AH-6 0-1'	1				X			X												X				
919	↓		↓		↓	AH-7 0-1'	↓							X												X				
920						AH-8 0-1'								X												X				
921	↓		↓		↓	AH-9 0-1' 1'BEB	↓							X												X				

RELINQUISHED BY: (Signature) Date: 3-28-11 Time: 12:20
RECEIVED BY: (Signature) Date: Time:
SAMPLED BY: (Print & Initial) JT/DE Date: 3/24/11 Time:

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

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

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

SAMPLE CONDITION WHEN RECEIVED: 3.6°C

REMARKS: If total TPH exceeds 1,000 mg/Kg, run deeper samples / Run BTEX on highest TPH, If total BTEX exceeds 50 mg/Kg or Benzene exceeds 10 mg/Kg, run deeper samples

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

X WO#: 11032822

Analysis Request of Chain of Custody Record

PAGE: 1 OF:

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.: 114-6400685 ?
PROJECT NAME: COG / Moose Federal #73 ?3 Ed. Co., NM

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. (Ext. to C35) TX1005	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
201908	3/24		S		X	AH 1 0-1' C-5 BEB	1				X		X	X											X				
909	↓		↓		↓	AH 2 0-1 C-5 BEB	↓				↓		X	X											↓				
910	↓		↓		↓	AH 2 1-1.5 C-5 BEB	↓				↓		X	X											↓				
911	↓		↓		↓	AH 3 0-1	↓				↓		X	X											↓				
912	↓		↓		↓	AH 3 1'-1.5'	↓				↓		X	X											↓				
913	↓		↓		↓	AH 3 2'-2.5	↓				↓		X	X											↓				
914	↓		↓		↓	AH 4 0-1'	↓				↓		X	X											↓				
915	↓		↓		↓	AH-4 1-1.5	↓				↓		X	X											↓				
916	↓		↓		↓	AH 4 2'-2.5	↓				↓														↓				
917	↓		↓		↓	AH 5 0-1'	↓				↓		X	X											↓				

RELINQUISHED BY: (Signature) [signature] Date: 3-28-11 Time: 12:20
RECEIVED BY: (Signature) Date: Time:
SAMPLED BY: (Print & Initial) JT/DE Date: 3/24/11 Time:

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

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
TETRA TECH CONTACT PERSON: Ike Tavarez
Results by:
RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature) [signature]
DATE: 3-28-11 TIME: 12:20

SAMPLE CONDITION WHEN RECEIVED: 3.0°C [illegible]

REMARKS: TL total TPH exceeds 1,000 mg/kg, analyze samples / Run BTEX on (5) highest TPH, if total BTEX exceeds [illegible] or Benzene exceeds 10 mg/kg run deeper samples

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

APR -5 2011 EP

Analysis Request of Chain of Custody Record

PAGE: 2 OF

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.: 114-6400857
PROJECT NAME: COG / Moose Federal 23 TB, Edd. Co. NM

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	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
261918	3/24		S		X	AH 6 0-1'	1				X			X											X				
919	↓		↓		↓	AH 7 0-1'	↓						X	X											X				
920	↓		↓		↓	AH 8 0-1'	↓						X	X											X				
921	↓		↓		↓	AH 9 0-1' 1 BEB	↓						X	X											X				

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

SAMPLED BY: (Print & Initial) JJ/DF Date: 3/24/11 Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS AIRBILL #: HAND DELIVERED UPS OTHER:
TETRA TECH CONTACT PERSON: Ike Tavarez
Results by:
RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature) [signature]
DATE: 3-28-11 TIME: 12:20

SAMPLE CONDITION WHEN RECEIVED: 3.6°C intact

REMARKS: If total TPH exceeds 1,000 mg/kg, run deeper samples | Run BTEX on highest TPH. If total BTEX exceeds 50 mg/kg or Benzene exceeds 10 mg/kg run deeper samples

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

Summary Report

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

Report Date: April 4, 2011

Work Order: 11032822

Project Location: Eddy Co., NM
Project Name: COG/Moose Fed. #23 TB
Project Number: 114-6400857

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
261908	AH-1 0-1' 0.5' BEB	soil	2011-03-24	00:00	2011-03-28
261909	AH-2 0-1' 0.5' BEB	soil	2011-03-24	00:00	2011-03-28
261910	AH-2 1-1.5' 0.5' BEB	soil	2011-03-24	00:00	2011-03-28
261911	AH-3 0-1'	soil	2011-03-24	00:00	2011-03-28
261912	AH-3 1-1.5'	soil	2011-03-24	00:00	2011-03-28
261913	AH-3 2-2.5'	soil	2011-03-24	00:00	2011-03-28
261914	AH-4 0-1'	soil	2011-03-24	00:00	2011-03-28
261915	AH-4 1-1.5'	soil	2011-03-24	00:00	2011-03-28
261916	AH-4 2-2.5'	soil	2011-03-24	00:00	2011-03-28
261917	AH-5 0-1'	soil	2011-03-24	00:00	2011-03-28
261918	AH-6 0-1'	soil	2011-03-24	00:00	2011-03-28
261919	AH-7 0-1'	soil	2011-03-24	00:00	2011-03-28
261920	AH-8 0-1'	soil	2011-03-24	00:00	2011-03-28
261921	AH-9 0-1' 1' BEB	soil	2011-03-24	00:00	2011-03-28

	BTEX				TPH DRO - NEW	TPH GRO
Sample - Field Code	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
261908 - AH-1 0-1' 0.5' BEB	**15.6**	**148**	**97.2**	**165**	**1990**	**3190**
261909 - AH-2 0-1' 0.5' BEB					**929**	**632**
261910 - AH-2 1-1.5' 0.5' BEB					**78.8**	**64.9**
261911 - AH-3 0-1'	**21.3**	**165**	**130**	**212**	**11700**	**4870**
261912 - AH-3 1-1.5'	**27.7**	**160**	**113**	**183**	**8780**	**5020**
261913 - AH-3 2-2.5'	<0.0200	**0.171**	**0.157**	**0.426**	<50.0	**7.26**
261914 - AH-4 0-1'					**3710**	**688**
261915 - AH-4 1-1.5'					<50.0	**28.1**
261916 - AH-4 2-2.5'					<50.0	**10.3**
261917 - AH-5 0-1'	**13.0**	**83.5**	**73.0**	**124**	**7300**	**3360**
261918 - AH-6 0-1'					**293**	**127**
261919 - AH-7 0-1'					**2770**	**156**

continued ...

... continued

Sample - Field Code	BTEX Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
261920 - AH-8 0-1'	**4.25**	**12.8**	**5.85**	**32.9**	**4090**	**1280**
261921 - AH-9 0-1' 1' BEB					**2290**	**1420**

Sample: 261908 - AH-1 0-1' 0.5' BEB

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

Sample: 261909 - AH-2 0-1' 0.5' BEB

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

Sample: 261910 - AH-2 1-1.5' 0.5' BEB

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

Sample: 261911 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**324**	mg/Kg	4.00

Sample: 261912 - AH-3 1-1.5'

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

Sample: 261913 - AH-3 2-2.5'

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

Sample: 261914 - AH-4 0-1'

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

Sample: 261915 - AH-4 1-1.5'

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

Sample: 261916 - AH-4 2-2.5'

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

Sample: 261917 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		**1570**	mg/Kg	4.00

Sample: 261918 - AH-6 0-1'

Param	Flag	Result	Units	RL
Chloride		**385**	mg/Kg	4.00

Sample: 261919 - AH-7 0-1'

Param	Flag	Result	Units	RL
Chloride		**547**	mg/Kg	4.00

Sample: 261920 - AH-8 0-1'

Param	Flag	Result	Units	RL
Chloride		**2270**	mg/Kg	4.00

Sample: 261921 - AH-9 0-1' 1' BEB

Param	Flag	Result	Units	RL
Chloride		**781**	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 79927 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

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

Report Date: April 4, 2011

Work Order: 11032822

Project Location: Eddy Co., NM
Project Name: COG/Moose Fed. #23 TB
Project Number: 114-6400857

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
261908	AH-1 0-1' 0.5' BEB	soil	2011-03-24	00:00	2011-03-28
261909	AH-2 0-1' 0.5' BEB	soil	2011-03-24	00:00	2011-03-28
261910	AH-2 1-1.5' 0.5' BEB	soil	2011-03-24	00:00	2011-03-28
261911	AH-3 0-1'	soil	2011-03-24	00:00	2011-03-28
261912	AH-3 1-1.5'	soil	2011-03-24	00:00	2011-03-28
261913	AH-3 2-2.5'	soil	2011-03-24	00:00	2011-03-28
261914	AH-4 0-1'	soil	2011-03-24	00:00	2011-03-28
261915	AH-4 1-1.5'	soil	2011-03-24	00:00	2011-03-28
261916	AH-4 2-2.5'	soil	2011-03-24	00:00	2011-03-28
261917	AH-5 0-1'	soil	2011-03-24	00:00	2011-03-28
261918	AH-6 0-1'	soil	2011-03-24	00:00	2011-03-28

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
261919	AH-7 0-1'	soil	2011-03-24	00:00	2011-03-28
261920	AH-8 0-1'	soil	2011-03-24	00:00	2011-03-28
261921	AH-9 0-1' 1' BEB	soil	2011-03-24	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/Moose Fed. #23 TB were received by TraceAnalysis, Inc. on 2011-03-28 and assigned to work order 11032822. Samples for work order 11032822 were received intact at a temperature of 3.6 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	67886	2011-04-01 at 11:35	80015	2011-04-02 at 14:30
Chloride (Titration)	SM 4500-Cl B	67767	2011-03-29 at 13:28	79936	2011-03-31 at 13:29
Chloride (Titration)	SM 4500-Cl B	67767	2011-03-29 at 13:28	79937	2011-03-31 at 13:30
Chloride (Titration)	SM 4500-Cl B	67767	2011-03-29 at 13:28	79938	2011-03-31 at 13:31
TPH DRO - NEW	S 8015 D	67823	2011-03-30 at 10:06	79924	2011-03-30 at 10:06
TPH DRO - NEW	S 8015 D	67893	2011-04-01 at 09:28	80023	2011-04-01 at 09:28
TPH GRO	S 8015 D	67886	2011-04-01 at 11:35	80016	2011-04-02 at 14:30

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 11032822 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: 261908 - AH-1 0-1' 0.5' BEB

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		**15.6**		mg/Kg	10	0.0200
Toluene	[1]	**148**		mg/Kg	10	0.0200
Ethylbenzene	[2]	**97.2**		mg/Kg	10	0.0200
Xylene	[3]	**165**		mg/Kg	10	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		11.2	mg/Kg	10	10.0	112	52.8 - 137
4-Bromofluorobenzene (4-BFB)	[4]	37.8	mg/Kg	10	10.0	378	38.4 - 157

Sample: 261908 - AH-1 0-1' 0.5' BEB

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

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

Sample: 261908 - AH-1 0-1' 0.5' BEB

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

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		**1990**		mg/Kg	1	50.0

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	[5]	252	mg/Kg	1	100	252	70 - 130

Sample: 261908 - AH-1 0-1' 0.5' BEB

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

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**3190**	mg/Kg	10	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		11.7	mg/Kg	10	10.0	117	48.5 - 152
4-Bromofluorobenzene (4-BFB)	[6]	61.3	mg/Kg	10	10.0	613	42 - 159

Sample: 261909 - AH-2 0-1' 0.5' BEB

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

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

Sample: 261909 - AH-2 0-1' 0.5' BEB

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

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**929**	mg/Kg	1	50.0

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	[7]	185	mg/Kg	1	100	185	70 - 130

Sample: 261909 - AH-2 0-1' 0.5' BEB

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

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**632**	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.58	mg/Kg	1	2.00	129	48.5 - 152
4-Bromofluorobenzene (4-BFB)	[8]	10.6	mg/Kg	1	2.00	530	42 - 159

Sample: 261910 - AH-2 1-1.5' 0.5' BEB

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

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

Sample: 261910 - AH-2 1-1.5' 0.5' BEB

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

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**78.8**	mg/Kg	1	50.0

[7]High surrogate recovery due to peak interference.
[8]High surrogate recovery due to peak interference.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		116	mg/Kg	1	100	116	70 - 130

Sample: 261910 - AH-2 1-1.5' 0.5' BEB

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

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**64.9**	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.18	mg/Kg	1	2.00	109	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.93	mg/Kg	1	2.00	146	42 - 159

Sample: 261911 - AH-3 0-1'

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

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**21.3**	mg/Kg	20	0.0200
Toluene	[9]	**165**	mg/Kg	20	0.0200
Ethylbenzene	[10]	**130**	mg/Kg	20	0.0200
Xylene	[11]	**212**	mg/Kg	20	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		22.1	mg/Kg	20	20.0	110	52.8 - 137
4-Bromofluorobenzene (4-BFB)	[12]	62.2	mg/Kg	20	20.0	311	38.4 - 157

Sample: 261911 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79937	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

[9]Estimated concentration value greater than standard range.
[10]Estimated concentration value greater than standard range.
[11]Estimated concentration value greater than standard range.
[12]High surrogate recovery due to peak interference.

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**324**		mg/Kg	50	4.00

Sample: 261911 - AH-3 0-1'

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

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		**11700**		mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	[13]	748	mg/Kg	5	100	748	70 - 130

Sample: 261911 - AH-3 0-1'

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

Parameter	Flag	Result	RL	Units	Dilution	RL
GRO		**4870**		mg/Kg	20	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		23.1	mg/Kg	20	20.0	116	48.5 - 152
4-Bromofluorobenzene (4-BFB)	[14]	71.6	mg/Kg	20	20.0	358	42 - 159

Sample: 261912 - AH-3 1-1.5'

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

[13]High surrogate recovery due to peak interference.
[14]High surrogate recovery due to peak interference.

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		**27.7**		mg/Kg	50	0.0200
Toluene		**160**		mg/Kg	50	0.0200
Ethylbenzene		**113**		mg/Kg	50	0.0200
Xylene		**183**		mg/Kg	50	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		51.7	mg/Kg	50	50.0	103	52.8 - 137
4-Bromofluorobenzene (4-BFB)	[15]	88.3	mg/Kg	50	50.0	177	38.4 - 157

Sample: 261912 - AH-3 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79937	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

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

Sample: 261912 - AH-3 1-1.5'

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

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		**8780**		mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	[16]	587	mg/Kg	5	100	587	70 - 130

Sample: 261912 - AH-3 1-1.5'

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

[15]High surrogate recovery due to peak interference.
[16]High surrogate recovery due to peak interference.

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**5020**	mg/Kg	50	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		55.2	mg/Kg	50	50.0	110	48.5 - 152
4-Bromofluorobenzene (4-BFB)	[17]	99.7	mg/Kg	50	50.0	199	42 - 159

Sample: 261913 - AH-3 2-2.5'

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

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0200	mg/Kg	1	0.0200
Toluene		**0.171**	mg/Kg	1	0.0200
Ethylbenzene		**0.157**	mg/Kg	1	0.0200
Xylene		**0.426**	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.00	mg/Kg	1	2.00	100	52.8 - 137
4-Bromofluorobenzene (4-BFB)		2.05	mg/Kg	1	2.00	102	38.4 - 157

Sample: 261913 - AH-3 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79937	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

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

Sample: 261913 - AH-3 2-2.5'

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

[17] High surrogate recovery due to peak interference.

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		106	mg/Kg	1	100	106	70 - 130

Sample: 261913 - AH-3 2-2.5'

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

Parameter	Flag	Result	RL	Units	Dilution	RL
GRO		**7.26**		mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.06	mg/Kg	1	2.00	103	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.35	mg/Kg	1	2.00	118	42 - 159

Sample: 261914 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79937	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

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

Sample: 261914 - AH-4 0-1'

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

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**3710**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	[18]	340	mg/Kg	1	100	340	70 - 130

Sample: 261914 - AH-4 0-1'

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

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**688**	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.10	mg/Kg	1	2.00	105	48.5 - 152
4-Bromofluorobenzene (4-BFB)	[19]	10.6	mg/Kg	1	2.00	530	42 - 159

Sample: 261915 - AH-4 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79937	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

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

Sample: 261915 - AH-4 1-1.5'

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

continued ...

[18]High surrogate recovery due to peak interference.
[19]High surrogate recovery due to peak interference.

sample 261915 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL

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		109	mg/Kg	1	100	109	70 - 130

Sample: 261915 - AH-4 1-1.5'

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

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**28.1**	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.05	mg/Kg	1	2.00	102	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.57	mg/Kg	1	2.00	128	42 - 159

Sample: 261916 - AH-4 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79937	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

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

Sample: 261916 - AH-4 2-2.5'

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

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

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

Sample: 261916 - AH-4 2-2.5'

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

Parameter	Flag	Result	RL	Units	Dilution	RL
GRO		**10.3**		mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.57	mg/Kg	1	2.00	78	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.62	mg/Kg	1	2.00	81	42 - 159

Sample: 261917 - AH-5 0-1'

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

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		**13.0**		mg/Kg	50	0.0200
Toluene		**83.5**		mg/Kg	50	0.0200
Ethylbenzene		**73.0**		mg/Kg	50	0.0200
Xylene		**124**		mg/Kg	50	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		52.2	mg/Kg	50	50.0	104	52.8 - 137
4-Bromofluorobenzene (4-BFB)	[20]	80.2	mg/Kg	50	50.0	160	38.4 - 157

Sample: 261917 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79937	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1570**	mg/Kg	100	4.00

Sample: 261917 - AH-5 0-1'

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

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**7300**	mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	[21]	482	mg/Kg	5	100	482	70 - 130

Sample: 261917 - AH-5 0-1'

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

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**3360**	mg/Kg	50	2.00

[20] High surrogate recovery due to peak interference.
[21] High surrogate recovery due to peak interference.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		55.8	mg/Kg	50	50.0	112	48.5 - 152
4-Bromofluorobenzene (4-BFB)	[22]	84.4	mg/Kg	50	50.0	169	42 - 159

Sample: 261918 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79937	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**385**	mg/Kg	50	4.00

Sample: 261918 - AH-6 0-1'

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

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**293**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	[23]	142	mg/Kg	1	100	142	70 - 130

Sample: 261918 - AH-6 0-1'

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

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**127**	mg/Kg	1	2.00

[22]High surrogate recovery due to peak interference.
[23]High surrogate recovery due to peak interference.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.51	mg/Kg	1	2.00	126	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.73	mg/Kg	1	2.00	136	42 - 159

Sample: 261919 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79937	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**547**		mg/Kg	50	4.00

Sample: 261919 - AH-7 0-1'

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

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		**2770**		mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	[24]	329	mg/Kg	1	100	329	70 - 130

Sample: 261919 - AH-7 0-1'

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

Parameter	Flag	Result	RL	Units	Dilution	RL
GRO		**156**		mg/Kg	1	2.00

[24]High surrogate recovery due to peak interference.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.00	mg/Kg	1	2.00	100	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.47	mg/Kg	1	2.00	124	42 - 159

Sample: 261920 - AH-8 0-1'

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

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**4.25**	mg/Kg	20	0.0200
Toluene		**12.8**	mg/Kg	20	0.0200
Ethylbenzene		**5.85**	mg/Kg	20	0.0200
Xylene		**32.9**	mg/Kg	20	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		21.0	mg/Kg	20	20.0	105	52.8 - 137
4-Bromofluorobenzene (4-BFB)		27.0	mg/Kg	20	20.0	135	38.4 - 157

Sample: 261920 - AH-8 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79937	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**2270**	mg/Kg	100	4.00

Sample: 261920 - AH-8 0-1'

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

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		**4090**		mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	[25]	381	mg/Kg	1	100	381	70 - 130

Sample: 261920 - AH-8 0-1'

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

Parameter	Flag	Result	RL	Units	Dilution	RL
GRO		**1280**		mg/Kg	20	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		22.0	mg/Kg	20	20.0	110	48.5 - 152
4-Bromofluorobenzene (4-BFB)		26.9	mg/Kg	20	20.0	134	42 - 159

Sample: 261921 - AH-9 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79938	Date Analyzed:	2011-03-31	Analyzed By:	AR
Prep Batch:	67767	Sample Preparation:	2011-03-29	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**781**		mg/Kg	50	4.00

Sample: 261921 - AH-9 0-1' 1' BEB

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

continued ...

[25] High surrogate recovery due to peak interference.

sample 261921 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**2290**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	[26]	332	mg/Kg	1	100	332	70 - 130

Sample: 261921 - AH-9 0-1' 1' BEB

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

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**1420**	mg/Kg	10	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		10.3	mg/Kg	10	10.0	103	48.5 - 152
4-Bromofluorobenzene (4-BFB)	[27]	25.4	mg/Kg	10	10.0	254	42 - 159

Method Blank (1) QC Batch: 79924

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

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

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

[26]High surrogate recovery due to peak interference.
[27]High surrogate recovery due to peak interference.

Method Blank (1) QC Batch: 79936

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

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

Method Blank (1) QC Batch: 79937

QC Batch: 79937 | Date Analyzed: 2011-03-31 | Analyzed By: AR
Prep Batch: 67767 | QC Preparation: 2011-03-29 | Prepared By: AR

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

Method Blank (1) QC Batch: 79938

QC Batch: 79938 | Date Analyzed: 2011-03-31 | Analyzed By: AR
Prep Batch: 67767 | QC Preparation: 2011-03-29 | Prepared By: AR

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

Method Blank (1) QC Batch: 80015

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

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

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

Method Blank (1) QC Batch: 80016

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

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

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

Method Blank (1) QC Batch: 80023

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

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

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

Laboratory Control Spike (LCS-1)

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

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	261	mg/Kg	1	250	<15.7	104	47.5 - 144.1	2	20

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

continued ...

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
n-Tricosane	126	122	mg/Kg	1	100	126	122	70 - 130

Laboratory Control Spike (LCS-1)

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

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.8	mg/Kg	1	100	<3.85	97	85 - 115

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 79937 | Date Analyzed: 2011-03-31 | Analyzed By: AR
Prep Batch: 67767 | QC Preparation: 2011-03-29 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.2	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	103	mg/Kg	1	100	<3.85	103	85 - 115	6	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 79938 | Date Analyzed: 2011-03-31 | Analyzed By: AR
Prep Batch: 67767 | QC Preparation: 2011-03-29 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.6	mg/Kg	1	100	<3.85	98	85 - 115

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

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

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.76	mg/Kg	1	2.00	<0.0118	88	81.9 - 108	4	20
Toluene	1.81	mg/Kg	1	2.00	<0.00600	90	81.9 - 107	3	20
Ethylbenzene	1.96	mg/Kg	1	2.00	<0.00850	98	78.4 - 107	3	20
Xylene	5.89	mg/Kg	1	6.00	<0.00613	98	79.1 - 107	2	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.74	1.51	mg/Kg	1	2.00	87	76	70.2 - 114
4-Bromofluorobenzene (4-BFB)	1.84	1.59	mg/Kg	1	2.00	92	80	69.8 - 121

Laboratory Control Spike (LCS-1)

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

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

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

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

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

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

Laboratory Control Spike (LCS-1)

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

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	278	mg/Kg	1	250	<15.7	111	47.5 - 144.1	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	126	124	mg/Kg	1	100	126	124	70 - 130

Matrix Spike (MS-1) Spiked Sample: 261939

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

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

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	233	mg/Kg	1	250	<15.7	93	11.7 - 152.3	4	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	121	126	mg/Kg	1	100	121	126	70 - 130

Matrix Spike (MS-1) Spiked Sample: 261910

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

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

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

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

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

Matrix Spike (MS-1) Spiked Sample: 261920

QC Batch: 79937 | Date Analyzed: 2011-03-31 | Analyzed By: AR
Prep Batch: 67767 | QC Preparation: 2011-03-29 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	12200	mg/Kg	100	10000	2270	99	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	12500	mg/Kg	100	10000	2270	102	80 - 120	2	20

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

Matrix Spike (MS-1) Spiked Sample: 261933

QC Batch: 79938 | Date Analyzed: 2011-03-31 | Analyzed By: AR
Prep Batch: 67767 | QC Preparation: 2011-03-29 | Prepared By: AR

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

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10300	mg/Kg	100	10000	<385	103	80 - 120	3	20

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

Matrix Spike (MS-1) Spiked Sample: 261925

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

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	[28]	1.61	mg/Kg	1	2.00	<0.0118	80	80.5 - 112
Toluene	[29]	1.70	mg/Kg	1	2.00	0.1724	76	82.4 - 113
Ethylbenzene		1.72	mg/Kg	1	2.00	<0.00850	86	83.9 - 114
Xylene	[30]	5.25	mg/Kg	1	6.00	0.552	78	84 - 114

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

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

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

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

Matrix Spike (MS-1) Spiked Sample: 261891

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

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

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

[28]Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
[29]Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
[30]Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

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

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

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

Matrix Spike (MS-1) Spiked Sample: 261916

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

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

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	275	mg/Kg	1	250	<15.7	110	11.7 - 152.3	4	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	117	119	mg/Kg	1	100	117	119	70 - 130

Standard (CCV-1)

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

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

Standard (CCV-2)

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

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

Standard (CCV-3)

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

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	272	109	80 - 120	2011-03-30

Standard (ICV-1)

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

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

Standard (CCV-1)

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

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

Standard (ICV-1)

QC Batch: 79937 Date Analyzed: 2011-03-31 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.5	100	85 - 115	2011-03-31

Standard (CCV-1)

QC Batch: 79937 Date Analyzed: 2011-03-31 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2011-03-31

Standard (ICV-1)

QC Batch: 79938 Date Analyzed: 2011-03-31 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.9	100	85 - 115	2011-03-31

Standard (CCV-1)

QC Batch: 79938 Date Analyzed: 2011-03-31 Analyzed By: AR

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

Standard (CCV-1)

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

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

Standard (CCV-2)

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

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

continued ...

standard continued ...

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Xylene		mg/Kg	0.300	0.294	98	80 - 120	2011-04-02

Standard (CCV-3)

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

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

Standard (CCV-1)

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

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

Standard (CCV-2)

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

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

Standard (CCV-3)

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

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

Standard (CCV-2)

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

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

Standard (CCV-3)

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

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

Standard (CCV-4)

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

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	293	117	80 - 120	2011-04-01

XWO#: 11032822

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.: 114-6400857
PROJECT NAME: COG/ Moose Federal #23 TB, Eddy Co, NM

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	BTEX 8021B	TPH TX1005 (Ext. to C35) / 8015 MOD.	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
201908	3/24		S		X	AH-1 0-1' 0.5' BEB	1				X			X											X				
909						AH-2 0-1' 0.5' BEB								X															
910						AH-2 1'-1.5' 0.5 BEB																							
911						AH-3 0-1'								X															
912						AH-3 1'-1.5'																							
913						AH-3 2'-2.5'																							
914						AH-4 0-1'								X															
915						AH-4 1'-1.5'																							
916						AH-4 2'-2.5'																							
917						AH-5 0-1'								X															

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

SAMPLED BY: (Print & Initial) JT/DE Date: 3/24/11 Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS AIRBILL #: HAND DELIVERED (circled) UPS OTHER:
TETRA TECH CONTACT PERSON: Ike Tavarez
Results by:
RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature) [signature]
DATE: 3-28-11 TIME: 12:20

SAMPLE CONDITION WHEN RECEIVED: 3.6°C [initials]

REMARKS: If total TPH exceeds 1,000 mg/kg, run deeper samples / Run BTEX on 5 highest TPH. If total BTEX exceeds 50 mg/kg or Benzene exceeds 10 mg/kg run deeper samples

dwo #: 1032822

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: 2 OF: 2

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400857

PROJECT NAME: COG / Moore Federal 23 TB
Eddy Co. NM

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 8081/608	Chlorides	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
261918	3/24		S		X	AH-6 0-1'	1				X			X											X				
919						AH-7 0-1'								X											X				
920						AH-8 0-1'								X											X				
921						AH-9 0-1' 1'BEB								X											X				

RELINQUISHED BY: (Signature) Date: 3-28-11 Time: 12:20

RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Initial) JT / DE Date: 3/24/11 Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

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

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RECEIVING LABORATORY: Trace

ADDRESS:

CITY: Midland STATE: TX ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: 3-28-11 TIME: 12:20

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 3.6°C

REMARKS: If total TPH exceeds 1000 mg/kg, run deeper samples / Run BTEX on highest TPH. If total BTEX exceeds 50 mg/kg or Benzene exceeds 10 mg/kg, run deeper samples

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

Summary Report

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

Report Date: January 26, 2012

Work Order: 12012003

Project Location: Eddy Co., NM
Project Name: COG/Moose Fed. #23 TB
Project Number: 114-6400857

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
286946	CS-1 North (AH-1)	soil	2012-01-13	00:00	2012-01-19
286947	CS-1 South (AH-1)	soil	2012-01-13	00:00	2012-01-19
286948	CS-1 East (AH-1)	soil	2012-01-13	00:00	2012-01-19
286949	CS-1 Bottom Hole 1' (AH-1)	soil	2012-01-13	00:00	2012-01-19
286950	T-1 2' (AH-1)	soil	2012-01-13	00:00	2012-01-19
286952	CS-2 North (AH-5)	soil	2012-01-13	00:00	2012-01-19
286953	CS-2 South (AH-5)	soil	2012-01-13	00:00	2012-01-19
286954	CS-2 Bottom Hole 3' (AH-5)	soil	2012-01-13	00:00	2012-01-19
286958	CS-3 North (AH-8)	soil	2012-01-13	00:00	2012-01-19
286959	CS-3 South (AH-8)	soil	2012-01-13	00:00	2012-01-19
286960	CS-3 Bottom Hole 1' (AH-8)	soil	2012-01-13	00:00	2012-01-19
286961	T-3 2' (AH-8)	soil	2012-01-13	00:00	2012-01-19
286962	T-3 4' (AH-8)	soil	2012-01-13	00:00	2012-01-19
286964	CS-4 North (AH-9)	soil	2012-01-13	00:00	2012-01-19
286965	CS-4 South (AH-9)	soil	2012-01-13	00:00	2012-01-19
286966	CS-4 West (AH-9)	soil	2012-01-13	00:00	2012-01-19
286967	CS-4 Bottom Hole 2' (AH-9)	soil	2012-01-13	00:00	2012-01-19

Sample - Field Code	BTEX Benzene (mg/Kg)	BTEX Toluene (mg/Kg)	BTEX Ethylbenzene (mg/Kg)	BTEX Xylene (mg/Kg)	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
286946 - CS-1 North (AH-1)	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	**2.84**
286947 - CS-1 South (AH-1)	<0.100	**2.05**	**5.78**	**21.5**	**607**	**727**
286948 - CS-1 East (AH-1)	<0.100	<0.100	<0.100	**0.221**	**2780**	**101**
286949 - CS-1 Bottom Hole 1' (AH-1)	<0.100	**1.07**	**6.31**	**16.7**	**664**	**454**
286950 - T-1 2' (AH-1)	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	**5.09**
286952 - CS-2 North (AH-5)	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	**3.64**
286953 - CS-2 South (AH-5)	<0.0200	<0.0200	<0.0200	<0.0200	**744**	**66.6**
286954 - CS-2 Bottom Hole 3' (AH-5)	**0.465**	**12.3**	**11.5**	**24.8**	**951**	**512**

continued ...

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Sample - Field Code	BTEX Benzene (mg/Kg)	BTEX Toluene (mg/Kg)	BTEX Ethylbenzene (mg/Kg)	BTEX Xylene (mg/Kg)	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
286958 - CS-3 North (AH-8)	<0.0200	<0.0200	<0.0200	<0.0200	**112**	**8.97**
286959 - CS-3 South (AH-8)	<0.0200	<0.0200	<0.0200	<0.0200	**151**	**10.2**
286960 - CS-3 Bottom Hole 1' (AH-8)	<0.0200	<0.0200	<0.0200	<0.0200	**65.8**	**9.78**
286961 - T-3 2' (AH-8)	**3.39**	**48.8** J-	**21.2**	**64.5**	**1420**	**697**
286962 - T-3 4' (AH-8)	**0.412**	**4.27**	**1.73**	**5.45**		
286964 - CS-4 North (AH-9)	<0.0200	<0.0200	<0.0200	<0.0200		
286965 - CS-4 South (AH-9)	<0.0200	<0.0200	<0.0200	<0.0200		
286966 - CS-4 West (AH-9)	<0.0200	<0.0200	<0.0200	<0.0200		
286967 - CS-4 Bottom Hole 2' (AH-9)	<0.100	**0.381**	**0.383**	**1.46**		

Sample: 286952 - CS-2 North (AH-5)

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

Sample: 286953 - CS-2 South (AH-5)

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

Sample: 286954 - CS-2 Bottom Hole 3' (AH-5)

Param	Flag	Result	Units	RL
Chloride		**222**	mg/Kg	4

Sample: 286958 - CS-3 North (AH-8)

Param	Flag	Result	Units	RL
Chloride		**710**	mg/Kg	4

Sample: 286959 - CS-3 South (AH-8)

Param	Flag	Result	Units	RL
Chloride		**1310**	mg/Kg	4

Sample: 286960 - CS-3 Bottom Hole 1' (AH-8)

Param	Flag	Result	Units	RL
Chloride		**573**	mg/Kg	4

Sample: 286961 - T-3 2' (AH-8)

Param	Flag	Result	Units	RL
Chloride		**375**	mg/Kg	4

TRACEANALYSIS, INC.

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

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: January 26, 2012

Work Order: 12012003

Project Location: Eddy Co., NM
Project Name: COG/Moose Fed. #23 TB
Project Number: 114-6400857

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
286946	CS-1 North (AH-1)	soil	2012-01-13	00:00	2012-01-19
286947	CS-1 South (AH-1)	soil	2012-01-13	00:00	2012-01-19
286948	CS-1 East (AH-1)	soil	2012-01-13	00:00	2012-01-19
286949	CS-1 Bottom Hole 1' (AH-1)	soil	2012-01-13	00:00	2012-01-19
286950	T-1 2' (AH-1)	soil	2012-01-13	00:00	2012-01-19
286952	CS-2 North (AH-5)	soil	2012-01-13	00:00	2012-01-19
286953	CS-2 South (AH-5)	soil	2012-01-13	00:00	2012-01-19
286954	CS-2 Bottom Hole 3' (AH-5)	soil	2012-01-13	00:00	2012-01-19
286958	CS-3 North (AH-8)	soil	2012-01-13	00:00	2012-01-19
286959	CS-3 South (AH-8)	soil	2012-01-13	00:00	2012-01-19
286960	CS-3 Bottom Hole 1' (AH-8)	soil	2012-01-13	00:00	2012-01-19
286961	T-3 2' (AH-8)	soil	2012-01-13	00:00	2012-01-19
286962	T-3 4' (AH-8)	soil	2012-01-13	00:00	2012-01-19
286964	CS-4 North (AH-9)	soil	2012-01-13	00:00	2012-01-19
286965	CS-4 South (AH-9)	soil	2012-01-13	00:00	2012-01-19
286966	CS-4 West (AH-9)	soil	2012-01-13	00:00	2012-01-19
286967	CS-4 Bottom Hole 2' (AH-9)	soil	2012-01-13	00:00	2012-01-19

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

This report consists of a total of 43 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

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

Report Contents

Case Narrative

Samples for project COG/Moose Fed. #23 TB were received by TraceAnalysis, Inc. on 2012-01-19 and assigned to work order 12012003. Samples for work order 12012003 were received intact at a temperature of 4.1 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	74695	2012-01-20 at 09:00	87963	2012-01-23 at 10:00
BTEX	S 8021B	74696	2012-01-20 at 09:00	87979	2012-01-23 at 10:23
BTEX	S 8021B	74757	2012-01-24 at 09:00	88045	2012-01-24 at 15:55
Chloride (Titration)	SM 4500-Cl B	74739	2012-01-24 at 08:56	88083	2012-01-25 at 16:03
Chloride (Titration)	SM 4500-Cl B	74793	2012-01-24 at 10:05	88084	2012-01-26 at 12:06
TPH DRO - NEW	S 8015 D	74693	2012-01-20 at 09:00	87961	2012-01-21 at 01:08
TPH GRO	S 8015 D	74695	2012-01-20 at 09:00	87964	2012-01-23 at 10:00
TPH GRO	S 8015 D	74696	2012-01-20 at 09:00	87980	2012-01-23 at 10:26

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 12012003 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: 286946 - CS-1 North (AH-1)

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.05	mg/Kg	1	2.00	102	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			1.83	mg/Kg	1	2.00	92	70.6 - 179

Sample: 286946 - CS-1 North (AH-1)

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			85.8	mg/Kg	1	100	86	53.5 - 147.1

Sample: 286946 - CS-1 North (AH-1)

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**2.84**	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.12	mg/Kg	1	2.00	106	30 - 134.6
4-Bromofluorobenzene (4-BFB)			1.79	mg/Kg	1	2.00	90	22.4 - 149

Sample: 286947 - CS-1 South (AH-1)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87979	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1	<0.100	mg/Kg	5	0.0200
Toluene		1	**2.05**	mg/Kg	5	0.0200
Ethylbenzene		1	**5.78**	mg/Kg	5	0.0200
Xylene		1	**21.5**	mg/Kg	5	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.96	mg/Kg	5	5.00	99	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	9.40	mg/Kg	5	5.00	188	70.6 - 179

Sample: 286947 - CS-1 South (AH-1)

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	**607**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			111	mg/Kg	1	100	111	53.5 - 147.1

Sample: 286947 - CS-1 South (AH-1)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87980	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
GRO		1	**727**	mg/Kg	5	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			5.09	mg/Kg	5	5.00	102	30 - 134.6
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	8.96	mg/Kg	5	5.00	179	22.4 - 149

Sample: 286948 - CS-1 East (AH-1)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87979	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	1	<0.100	mg/Kg	5	0.0200
Toluene	U	1	<0.100	mg/Kg	5	0.0200
Ethylbenzene	U	1	<0.100	mg/Kg	5	0.0200
Xylene		1	**0.221**	mg/Kg	5	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.63	mg/Kg	5	5.00	93	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			4.51	mg/Kg	5	5.00	90	70.6 - 179

Sample: 286948 - CS-1 East (AH-1)

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	**2780**	mg/Kg	1	50.0

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr		192	mg/Kg	1	100	192	53.5 - 147.1

Sample: 286948 - CS-1 East (AH-1)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87980	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**101**	mg/Kg	5	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.86	mg/Kg	5	5.00	97	30 - 134.6
4-Bromofluorobenzene (4-BFB)			4.45	mg/Kg	5	5.00	89	22.4 - 149

Sample: 286949 - CS-1 Bottom Hole 1' (AH-1)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87979	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1	<0.100	mg/Kg	5	0.0200
Toluene		1	**1.07**	mg/Kg	5	0.0200
Ethylbenzene		1	**6.31**	mg/Kg	5	0.0200
Xylene		1	**16.7**	mg/Kg	5	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.51	mg/Kg	5	5.00	90	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			7.91	mg/Kg	5	5.00	158	70.6 - 179

Sample: 286949 - CS-1 Bottom Hole 1' (AH-1)

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

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
DRO		1	**664**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			112	mg/Kg	1	100	112	53.5 - 147.1

Sample: 286949 - CS-1 Bottom Hole 1' (AH-1)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87980	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
GRO		1	**454**	mg/Kg	5	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.62	mg/Kg	5	5.00	92	30 - 134.6
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	10.6	mg/Kg	5	5.00	212	22.4 - 149

Sample: 286950 - T-1 2' (AH-1)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87979	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

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

continued ...

sample 286950 continued ...

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.10	mg/Kg	1	2.00	105	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			1.94	mg/Kg	1	2.00	97	70.6 - 179

Sample: 286950 - T-1 2' (AH-1)

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			93.6	mg/Kg	1	100	94	53.5 - 147.1

Sample: 286950 - T-1 2' (AH-1)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87980	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**5.09**	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.20	mg/Kg	1	2.00	110	30 - 134.6
4-Bromofluorobenzene (4-BFB)			1.96	mg/Kg	1	2.00	98	22.4 - 149

Sample: 286952 - CS-2 North (AH-5)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87979	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.99	mg/Kg	1	2.00	100	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			1.85	mg/Kg	1	2.00	92	70.6 - 179

Sample: 286952 - CS-2 North (AH-5)

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

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

Sample: 286952 - CS-2 North (AH-5)

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			89.9	mg/Kg	1	100	90	53.5 - 147.1

Sample: 286952 - CS-2 North (AH-5)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87980	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**3.64**	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.08	mg/Kg	1	2.00	104	30 - 134.6
4-Bromofluorobenzene (4-BFB)			1.84	mg/Kg	1	2.00	92	22.4 - 149

Sample: 286953 - CS-2 South (AH-5)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87979	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.98	mg/Kg	1	2.00	99	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			2.01	mg/Kg	1	2.00	100	70.6 - 179

Sample: 286953 - CS-2 South (AH-5)

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

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

Sample: 286953 - CS-2 South (AH-5)

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	**744**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			130	mg/Kg	1	100	130	53.5 - 147.1

Sample: 286953 - CS-2 South (AH-5)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87980	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**66.6**	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.09	mg/Kg	1	2.00	104	30 - 134.6
4-Bromofluorobenzene (4-BFB)			2.23	mg/Kg	1	2.00	112	22.4 - 149

Sample: 286954 - CS-2 Bottom Hole 3' (AH-5)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87979	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Benzene		1	**0.465**		mg/Kg	5	0.0200
Toluene		1	**12.3**		mg/Kg	5	0.0200
Ethylbenzene		1	**11.5**		mg/Kg	5	0.0200
Xylene		1	**24.8**		mg/Kg	5	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.65	mg/Kg	5	5.00	93	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			8.06	mg/Kg	5	5.00	161	70.6 - 179

Sample: 286954 - CS-2 Bottom Hole 3' (AH-5)

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

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Chloride			**222**		mg/Kg	50	4.00

Sample: 286954 - CS-2 Bottom Hole 3' (AH-5)

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

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
DRO		1	**951**		mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			117	mg/Kg	1	100	117	53.5 - 147.1

Sample: 286954 - CS-2 Bottom Hole 3' (AH-5)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87980	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**512**	mg/Kg	5	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.86	mg/Kg	5	5.00	97	30 - 134.6
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	10.2	mg/Kg	5	5.00	204	22.4 - 149

Sample: 286958 - CS-3 North (AH-8)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87979	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.98	mg/Kg	1	2.00	99	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			1.86	mg/Kg	1	2.00	93	70.6 - 179

Sample: 286958 - CS-3 North (AH-8)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88084	Date Analyzed:	2012-01-26	Analyzed By:	AR
Prep Batch:	74793	Sample Preparation:	2012-01-24	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**710**	mg/Kg	50	4.00

Sample: 286958 - CS-3 North (AH-8)

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

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
DRO		1	**112**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			97.4	mg/Kg	1	100	97	53.5 - 147.1

Sample: 286958 - CS-3 North (AH-8)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87980	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
GRO		1	**8.97**	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.09	mg/Kg	1	2.00	104	30 - 134.6
4-Bromofluorobenzene (4-BFB)			1.85	mg/Kg	1	2.00	92	22.4 - 149

Sample: 286959 - CS-3 South (AH-8)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87979	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

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

continued ...

sample 286959 continued ...

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.05	mg/Kg	1	2.00	102	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			1.91	mg/Kg	1	2.00	96	70.6 - 179

Sample: 286959 - CS-3 South (AH-8)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88084	Date Analyzed:	2012-01-26	Analyzed By:	AR
Prep Batch:	74793	Sample Preparation:	2012-01-24	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1310**	mg/Kg	100	4.00

Sample: 286959 - CS-3 South (AH-8)

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	**151**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			98.4	mg/Kg	1	100	98	53.5 - 147.1

Sample: 286959 - CS-3 South (AH-8)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87980	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**10.2**	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.14	mg/Kg	1	2.00	107	30 - 134.6
4-Bromofluorobenzene (4-BFB)			1.90	mg/Kg	1	2.00	95	22.4 - 149

Sample: 286960 - CS-3 Bottom Hole 1' (AH-8)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87979	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.07	mg/Kg	1	2.00	104	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			1.90	mg/Kg	1	2.00	95	70.6 - 179

Sample: 286960 - CS-3 Bottom Hole 1' (AH-8)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88084	Date Analyzed:	2012-01-26	Analyzed By:	AR
Prep Batch:	74793	Sample Preparation:	2012-01-24	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**573**	mg/Kg	50	4.00

Sample: 286960 - CS-3 Bottom Hole 1' (AH-8)

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

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
DRO		1	**65.8**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			99.0	mg/Kg	1	100	99	53.5 - 147.1

Sample: 286960 - CS-3 Bottom Hole 1' (AH-8)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87980	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
GRO		1	**9.78**	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.12	mg/Kg	1	2.00	106	30 - 134.6
4-Bromofluorobenzene (4-BFB)			1.90	mg/Kg	1	2.00	95	22.4 - 149

Sample: 286961 - T-3 2' (AH-8)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87979	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene		1	**3.39**	mg/Kg	5	0.0200
Toluene	Je	1	**48.8**	mg/Kg	5	0.0200
Ethylbenzene		1	**21.2**	mg/Kg	5	0.0200

continued ...

sample 286961 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Xylene		1	**64.5**	mg/Kg	5	0.0200

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	Qsr	Qsr		4.02	mg/Kg	5	5.00	80	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)				6.74	mg/Kg	5	5.00	135	70.6 - 179

Sample: 286961 - T-3 2' (AH-8)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	88084	Date Analyzed:	2012-01-26	Analyzed By:	AR
Prep Batch:	74793	Sample Preparation:	2012-01-24	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**375**	mg/Kg	50	4.00

Sample: 286961 - T-3 2' (AH-8)

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	**1420**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			146	mg/Kg	1	100	146	53.5 - 147.1

Sample: 286961 - T-3 2' (AH-8)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87980	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**697**	mg/Kg	5	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.28	mg/Kg	5	5.00	86	30 - 134.6
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	9.44	mg/Kg	5	5.00	189	22.4 - 149

Sample: 286962 - T-3 4' (AH-8)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	88045	Date Analyzed:	2012-01-24	Analyzed By:	tc
Prep Batch:	74757	Sample Preparation:	2012-01-24	Prepared By:	tc

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	**0.412**	mg/Kg	1	0.0200
Toluene		1	**4.27**	mg/Kg	1	0.0200
Ethylbenzene		1	**1.73**	mg/Kg	1	0.0200
Xylene		1	**5.45**	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.84	mg/Kg	1	2.00	92	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			2.31	mg/Kg	1	2.00	116	70.6 - 179

Sample: 286964 - CS-4 North (AH-9)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87979	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.05	mg/Kg	1	2.00	102	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			1.95	mg/Kg	1	2.00	98	70.6 - 179

Sample: 286965 - CS-4 South (AH-9)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87979	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.02	mg/Kg	1	2.00	101	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			1.87	mg/Kg	1	2.00	94	70.6 - 179

Sample: 286966 - CS-4 West (AH-9)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87979	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.02	mg/Kg	1	2.00	101	82.8 - 143.1

continued ...

sample continued ...

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-Bromofluorobenzene (4-BFB)			1.85	mg/Kg	1	2.00	92	70.6 - 179

Sample: 286967 - CS-4 Bottom Hole 2' (AH-9)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87979	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	Sample Preparation:	2012-01-21	Prepared By:	DA

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1	<0.100	mg/Kg	5	0.0200
Toluene		1	**0.381**	mg/Kg	5	0.0200
Ethylbenzene		1	**0.383**	mg/Kg	5	0.0200
Xylene		1	**1.46**	mg/Kg	5	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.60	mg/Kg	5	5.00	92	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			5.12	mg/Kg	5	5.00	102	70.6 - 179

Method Blanks

Method Blank (1) QC Batch: 87961

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

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

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

Method Blank (1) QC Batch: 87963

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.80	mg/Kg	1	2.00	90	65.9 - 111.8
4-Bromofluorobenzene (4-BFB)			1.37	mg/Kg	1	2.00	68	48.4 - 123.1

Method Blank (1) QC Batch: 87964

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

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	0.983	mg/Kg	2

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

Method Blank (1) QC Batch: 87979

QC Batch:	87979	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	QC Preparation:	2012-01-20	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.73	mg/Kg	1	2.00	86	65.9 - 111.8
4-Bromofluorobenzene (4-BFB)			1.41	mg/Kg	1	2.00	70	48.4 - 123.1

Method Blank (1) QC Batch: 87980

QC Batch:	87980	Date Analyzed:	2012-01-23	Analyzed By:	DA
Prep Batch:	74696	QC Preparation:	2012-01-20	Prepared By:	DA

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	2.04	mg/Kg	2

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.83	mg/Kg	1	2.00	92	67.6 - 150
4-Bromofluorobenzene (4-BFB)			1.46	mg/Kg	1	2.00	73	52.4 - 130

Method Blank (1) QC Batch: 88045

QC Batch: 88045 | Date Analyzed: 2012-01-24 | Analyzed By: tc
Prep Batch: 74757 | QC Preparation: 2012-01-24 | Prepared By: tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.83	mg/Kg	1	2.00	92	65.9 - 111.8
4-Bromofluorobenzene (4-BFB)			1.48	mg/Kg	1	2.00	74	48.4 - 123.1

Method Blank (1) QC Batch: 88083

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

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

Method Blank (1) QC Batch: 88084

QC Batch: 88084 | Date Analyzed: 2012-01-26 | Analyzed By: AR
Prep Batch: 74793 | QC Preparation: 2012-01-24 | Prepared By: AR

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

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

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

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

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	204	mg/Kg	1	250	<14.5	82	64.5 - 146.9	4	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	86.5	92.6	mg/Kg	1	100	86	93	65.3 - 135.8

Laboratory Control Spike (LCS-1)

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

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

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.95	mg/Kg	1	2.00	<0.0118	98	77.4 - 121.7	2	20
Toluene		1	1.87	mg/Kg	1	2.00	<0.00600	94	88.6 - 121.6	2	20
Ethylbenzene		1	1.75	mg/Kg	1	2.00	<0.00850	88	74.3 - 117.9	2	20
Xylene		1	5.24	mg/Kg	1	6.00	<0.00613	87	73.4 - 118.8	2	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.66	1.72	mg/Kg	1	2.00	83	86	65.5 - 116.7
4-Bromofluorobenzene (4-BFB)	1.56	1.57	mg/Kg	1	2.00	78	78	56.2 - 132.1

Laboratory Control Spike (LCS-1)

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

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

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	15.1	mg/Kg	1	20.0	<0.753	76	60.9 - 105.4	3	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.83	1.84	mg/Kg	1	2.00	92	92	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.40	1.45	mg/Kg	1	2.00	70	72	56.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 87979 | Date Analyzed: 2012-01-23 | Analyzed By: DA
Prep Batch: 74696 | QC Preparation: 2012-01-20 | Prepared By: DA

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.05	mg/Kg	1	2.00	<0.0118	102	77.4 - 121.7
Toluene		1	1.94	mg/Kg	1	2.00	<0.00600	97	88.6 - 121.6
Ethylbenzene		1	1.82	mg/Kg	1	2.00	<0.00850	91	74.3 - 117.9
Xylene		1	5.42	mg/Kg	1	6.00	<0.00613	90	73.4 - 118.8

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.12	mg/Kg	1	2.00	<0.0118	106	77.4 - 121.7	3	20

continued ...

control spikes continued ...

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Toluene		1	2.00	mg/Kg	1	2.00	<0.00600	100	88.6 - 121.6	3	20
Ethylbenzene		1	1.91	mg/Kg	1	2.00	<0.00850	96	74.3 - 117.9	5	20
Xylene		1	5.65	mg/Kg	1	6.00	<0.00613	94	73.4 - 118.8	4	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.99	1.98	mg/Kg	1	2.00	100	99	65.5 - 116.7
4-Bromofluorobenzene (4-BFB)	1.75	1.81	mg/Kg	1	2.00	88	90	56.2 - 132.1

Laboratory Control Spike (LCS-1)

QC Batch: 87980 | Date Analyzed: 2012-01-23 | Analyzed By: DA
Prep Batch: 74696 | QC Preparation: 2012-01-20 | Prepared By: DA

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	16.2	mg/Kg	1	20.0	<0.753	81	60.9 - 105.4

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	16.8	mg/Kg	1	20.0	<0.753	84	60.9 - 105.4	4	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.78	1.90	mg/Kg	1	2.00	89	95	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.54	1.59	mg/Kg	1	2.00	77	80	56.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 88045 | Date Analyzed: 2012-01-24 | Analyzed By: tc
Prep Batch: 74757 | QC Preparation: 2012-01-24 | Prepared By: tc

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.93	mg/Kg	1	2.00	<0.0118	96	77.4 - 121.7

continued ...

control spikes continued ...

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Toluene		1	1.81	mg/Kg	1	2.00	<0.00600	90	88.6 - 121.6
Ethylbenzene		1	1.68	mg/Kg	1	2.00	<0.00850	84	74.3 - 117.9
Xylene		1	4.99	mg/Kg	1	6.00	<0.00613	83	73.4 - 118.8

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.98	mg/Kg	1	2.00	<0.0118	99	77.4 - 121.7	3	20
Toluene		1	1.86	mg/Kg	1	2.00	<0.00600	93	88.6 - 121.6	3	20
Ethylbenzene		1	1.75	mg/Kg	1	2.00	<0.00850	88	74.3 - 117.9	4	20
Xylene		1	5.18	mg/Kg	1	6.00	<0.00613	86	73.4 - 118.8	4	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.75	1.93	mg/Kg	1	2.00	88	96	65.5 - 116.7
4-Bromofluorobenzene (4-BFB)	1.69	1.84	mg/Kg	1	2.00	84	92	56.2 - 132.1

Laboratory Control Spike (LCS-1)

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			94.8	mg/Kg	1	100	<3.85	95	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			104	mg/Kg	1	100	<3.85	104	85 - 115	9	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 88084 | Date Analyzed: 2012-01-26 | Analyzed By: AR
Prep Batch: 74793 | QC Preparation: 2012-01-24 | Prepared By: AR

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

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			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.

Matrix Spike (MS-1) Spiked Sample: 286958

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

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

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	281	mg/Kg	1	250	<14.5	112	38.8 - 153.3	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	86.5	90.1	mg/Kg	1	100	86	90	54.6 - 149.8

Matrix Spike (MS-1) Spiked Sample: 286864

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

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

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.04	mg/Kg	1	2.00	<0.0118	102	69.4 - 123.6	0	20
Toluene		1	1.99	mg/Kg	1	2.00	<0.00600	100	75.4 - 134.3	0	20
Ethylbenzene		1	2.05	mg/Kg	1	2.00	<0.00850	102	58.8 - 133.7	0	20
Xylene		1	6.12	mg/Kg	1	6.00	<0.00613	102	57 - 134.2	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.06	2.02	mg/Kg	1	2	103	101	79.4 - 141.1
4-Bromofluorobenzene (4-BFB)	1.96	1.93	mg/Kg	1	2	98	96	71 - 167

Matrix Spike (MS-1) Spiked Sample: 286946

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

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	18.1	mg/Kg	1	20.0	2.84	76	61.8 - 114

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	19.2	mg/Kg	1	20.0	2.84	82	61.8 - 114	6	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.11	2.18	mg/Kg	1	2	106	109	29.4 - 161.7
4-Bromofluorobenzene (4-BFB)	1.96	1.94	mg/Kg	1	2	98	97	37.3 - 162

Matrix Spike (MS-1) Spiked Sample: 286964

QC Batch: 87979 | Date Analyzed: 2012-01-23 | Analyzed By: DA
Prep Batch: 74696 | QC Preparation: 2012-01-20 | Prepared By: DA

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.97	mg/Kg	1	2.00	<0.0118	98	69.4 - 123.6

continued ...

matrix spikes continued ...

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Toluene		1	1.92	mg/Kg	1	2.00	<0.00600	96	75.4 - 134.3
Ethylbenzene		1	1.96	mg/Kg	1	2.00	<0.00850	98	58.8 - 133.7
Xylene		1	5.84	mg/Kg	1	6.00	<0.00613	97	57 - 134.2

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.02	mg/Kg	1	2.00	<0.0118	101	69.4 - 123.6	2	20
Toluene		1	1.96	mg/Kg	1	2.00	<0.00600	98	75.4 - 134.3	2	20
Ethylbenzene		1	1.99	mg/Kg	1	2.00	<0.00850	100	58.8 - 133.7	2	20
Xylene		1	5.88	mg/Kg	1	6.00	<0.00613	98	57 - 134.2	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.03	2.03	mg/Kg	1	2	102	102	79.4 - 141.1
4-Bromofluorobenzene (4-BFB)	2.01	1.93	mg/Kg	1	2	100	96	71 - 167

Matrix Spike (MS-1) Spiked Sample: 286952

QC Batch: 87980 | Date Analyzed: 2012-01-23 | Analyzed By: DA
Prep Batch: 74696 | QC Preparation: 2012-01-20 | Prepared By: DA

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	19.2	mg/Kg	1	20.0	3.64	78	61.8 - 114

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	20.4	mg/Kg	1	20.0	3.64	84	61.8 - 114	6	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.15	2.18	mg/Kg	1	2	108	109	29.4 - 161.7
4-Bromofluorobenzene (4-BFB)	1.99	2.02	mg/Kg	1	2	100	101	37.3 - 162

Matrix Spike (MS-1) Spiked Sample: 287112

QC Batch: 88045 | Date Analyzed: 2012-01-24 | Analyzed By: tc
Prep Batch: 74757 | QC Preparation: 2012-01-24 | Prepared By: tc

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.10	mg/Kg	1	2.00	<0.0118	105	69.4 - 123.6
Toluene		1	2.02	mg/Kg	1	2.00	<0.00600	101	75.4 - 134.3
Ethylbenzene		1	2.06	mg/Kg	1	2.00	<0.00850	103	58.8 - 133.7
Xylene		1	6.16	mg/Kg	1	6.00	<0.00613	103	57 - 134.2

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.06	mg/Kg	1	2.00	<0.0118	103	69.4 - 123.6	2	20
Toluene		1	1.97	mg/Kg	1	2.00	<0.00600	98	75.4 - 134.3	2	20
Ethylbenzene		1	2.01	mg/Kg	1	2.00	<0.00850	100	58.8 - 133.7	2	20
Xylene		1	5.98	mg/Kg	1	6.00	<0.00613	100	57 - 134.2	3	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.03	2.11	mg/Kg	1	2	102	106	79.4 - 141.1
4-Bromofluorobenzene (4-BFB)	2.03	2.04	mg/Kg	1	2	102	102	71 - 167

Matrix Spike (MS-1) Spiked Sample: 286954

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

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

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			10700	mg/Kg	100	10000	<385	105	79.4 - 120.6	4	20

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

Matrix Spike (MS-1) Spiked Sample: 286961

QC Batch: 88084 | Date Analyzed: 2012-01-26 | Analyzed By: AR
Prep Batch: 74793 | QC Preparation: 2012-01-24 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			11500	mg/Kg	100	10000	1530	100	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			12000	mg/Kg	100	10000	1530	105	79.4 - 120.6	4	20

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

Calibration Standards

Standard (CCV-1)

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

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

Standard (CCV-2)

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

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

Standard (CCV-3)

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

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	204	82	80 - 120	2012-01-21

Standard (CCV-4)

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

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	213	85	80 - 120	2012-01-21

Standard (CCV-2)

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

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

Standard (CCV-3)

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

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

Standard (CCV-2)

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

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

Standard (CCV-3)

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

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.18	118	80 - 120	2012-01-23

Standard (CCV-1)

QC Batch: 87979 | Date Analyzed: 2012-01-23 | Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.104	104	80 - 120	2012-01-23
Toluene		1	mg/Kg	0.100	0.100	100	80 - 120	2012-01-23
Ethylbenzene		1	mg/Kg	0.100	0.0958	96	80 - 120	2012-01-23
Xylene		1	mg/Kg	0.300	0.284	95	80 - 120	2012-01-23

Standard (CCV-2)

QC Batch: 87979 | Date Analyzed: 2012-01-23 | Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.105	105	80 - 120	2012-01-23
Toluene		1	mg/Kg	0.100	0.101	101	80 - 120	2012-01-23
Ethylbenzene		1	mg/Kg	0.100	0.0921	92	80 - 120	2012-01-23
Xylene		1	mg/Kg	0.300	0.275	92	80 - 120	2012-01-23

Standard (CCV-3)

QC Batch: 87979 | Date Analyzed: 2012-01-23 | Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.103	103	80 - 120	2012-01-23
Toluene		1	mg/Kg	0.100	0.0983	98	80 - 120	2012-01-23
Ethylbenzene		1	mg/Kg	0.100	0.0920	92	80 - 120	2012-01-23
Xylene		1	mg/Kg	0.300	0.274	91	80 - 120	2012-01-23

Standard (CCV-1)

QC Batch: 87980 | Date Analyzed: 2012-01-23 | Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.05	105	80 - 120	2012-01-23

Standard (CCV-2)

QC Batch: 87980 Date Analyzed: 2012-01-23 Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.886	89	80 - 120	2012-01-23

Standard (CCV-3)

QC Batch: 87980 Date Analyzed: 2012-01-23 Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.841	84	80 - 120	2012-01-23

Standard (CCV-2)

QC Batch: 88045 Date Analyzed: 2012-01-24 Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.100	100	80 - 120	2012-01-24
Toluene		1	mg/Kg	0.100	0.0951	95	80 - 120	2012-01-24
Ethylbenzene		1	mg/Kg	0.100	0.0867	87	80 - 120	2012-01-24
Xylene		1	mg/Kg	0.300	0.258	86	80 - 120	2012-01-24

Standard (CCV-3)

QC Batch: 88045 Date Analyzed: 2012-01-24 Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.101	101	80 - 120	2012-01-24
Toluene		1	mg/Kg	0.100	0.0941	94	80 - 120	2012-01-24
Ethylbenzene		1	mg/Kg	0.100	0.0880	88	80 - 120	2012-01-24
Xylene		1	mg/Kg	0.300	0.262	87	80 - 120	2012-01-24

Standard (ICV-1)

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

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.1	99	85 - 115	2012-01-25

Standard (CCV-1)

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

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2012-01-25

Standard (ICV-1)

QC Batch: 88084 Date Analyzed: 2012-01-26 Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2012-01-26

Standard (CCV-1)

QC Batch: 88084 Date Analyzed: 2012-01-26 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.4	99	85 - 115	2012-01-26

Appendix

Report Definitions

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

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-11-3	Midland

Standard Flags

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

Attachments

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

#1201200?

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 3

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.: 114-6400857

PROJECT NAME: COG / Mowry Fed #73 Eddy Co, NM

LAB I.D. NUMBER	DATE 2012	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
28946	1/13		S		X	CS-1 North (AH-1)	1				X	
947						CS-1 South (AH-1)						
948						CS-1 East (AH-1)						
949						CS-1 Bottom Hole 1' (AH-1)						
950						T-1 2' (AH-1)						
951						T-1 4' (AH-1)						
952						CS-2 North (AH-5)						
953						CS-2 South (AH-5)						
954						CS-2 Bottom Hole 3' (AH-5)						
955						T-2 4' (AH-5)						

ANALYSIS REQUEST (Circle or Specify Method No.)

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

RELINQUISHED BY: (Signature) Date: 1/15/12 Time: 1655 RECEIVED BY: (Signature) Date: 1/19/12 Time: 1657

SAMPLED BY: (Print & Initial) IKG Date: Time:

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

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

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

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RECEIVING LABORATORY: Trac RECEIVED BY: (Signature)

ADDRESS: CITY: Midland STATE: TX ZIP:

CONTACT: PHONE: DATE: TIME:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 4.1 Intact

REMARKS: If total TPH exceeds 5,000 mg/kg run chrysene samples | If total BTEX exceeds 50 mg/kg or Benzene exceeds 10 mg/kg run chrysene samples

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

all tests Midland

#12012003

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-C400857
PROJECT NAME: COG / Moose Fed #23 Eddy Co, NM

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE 2012	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
956	1/13		S		X	T-2 6' (AH-5)	1				X																		
957	1/13					T-2 8' (AH-5)																							
958	1/12					CS-3 North (AH-8)							X	X										X					
959	1/13					CS-3 South (AH-8)							X	X										X					
960						CS-3 Bottom hole 1' (AH-8)								X	X										X					
961						T-3 2' (AH-8)							X	X										X					
962						T-3 4' (AH-8)																							
963						T-3 10' (AH-5)																							
964						CS-4 North (AH-9)							X																
965	↓		↓		↓	CS-4 South (AH-9)	↓				↓		X																

RELINQUISHED BY: (Signature) — Date: 1/19/12 Time: 1655 — RECEIVED BY: (Signature) — Date: 1/19/12 Time: 1655
SAMPLED BY: (Print & Initial) RG — Date: — Time:
RELINQUISHED BY: (Signature) — Date: — Time: — RECEIVED BY: (Signature) — Date: — Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS — AIRBILL #: — OTHER:
RELINQUISHED BY: (Signature) — Date: — Time: — RECEIVED BY: (Signature) — Date: — Time:
TETRA TECH CONTACT PERSON: Ike Tavarez — Results by:
RECEIVING LABORATORY: Trace — RECEIVED BY: (Signature)
ADDRESS: — CITY: Midland — STATE: TX — ZIP: — CONTACT: — PHONE: — DATE: — TIME:
RUSH Charges Authorized: Yes No
SAMPLE CONDITION WHEN RECEIVED: 4° intact
REMARKS:

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

12012023

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.: 114-4100857

PROJECT NAME: COG Moose Fed #23 Eddy Co, NM

LAB I.D. NUMBER	DATE 2012	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
966	1/13					CS-4 West (AH-9)	1				X		X															
967	1/17					CS-4 Bottom Hole 2' (AH-9)							X															
968	1/13					T-4 4' (AH-9)																						
969						T-4 6' (AH-9)																						
970						T-4 8' (AH-9)																						
971						T-4 10' (AH-9)																						

RELINQUISHED BY: (Signature) Date: 1/19/12 Time: 1455

RECEIVED BY: (Signature) Date: 1/19/12 Time: 16:57

SAMPLED BY: (Print & Initial) RG Date: Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

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

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RECEIVING LABORATORY: Trace

ADDRESS:

CITY: Midland STATE: TX ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: TIME:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 4.1° intact

REMARKS:

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

Summary Report

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

Report Date: February 8, 2012

Work Order: 12013120

Project Location: Eddy Co., NM
Project Name: COG/Moose Fed. #23 TB
Project Number: 114-6400857

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
287910	CS-3 Bottomhole 2'	soil	2012-01-30	00:00	2012-01-31

	BTEX			
Sample - Field Code	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)
287910 - CS-3 Bottomhole 2'	<0.0200	<0.0200	<0.0200	<0.0200

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 79927 | 888•588•3443 | 915•585•3443 | FAX 915•585•4944
5002 Basin Street, Suite A1 | Midland, Texas 79703 | | 432•689•6301 | FAX 432•689•6313
6015 Harris Parkway, Suite 110 | Ft. Worth, Texas 76132 | | 817•201•5260 |
E-Mail: lab@traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: February 8, 2012

Work Order: 12013120

Project Location: Eddy Co., NM
Project Name: COG/Moose Fed. #23 TB
Project Number: 114-6400857

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
287910	CS-3 Bottomhole 2'	soil	2012-01-30	00:00	2012-01-31

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 9 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

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

Report Contents

Case Narrative

Samples for project COG/Moose Fed. #23 TB were received by TraceAnalysis, Inc. on 2012-01-31 and assigned to work order 12013120. Samples for work order 12013120 were received intact at a temperature of 6.0 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	74984	2012-02-03 at 09:15	88313	2012-02-03 at 16:56

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 12013120 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: 287910 - CS-3 Bottomhole 2'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	88313	Date Analyzed:	2012-02-03	Analyzed By:	tc
Prep Batch:	74984	Sample Preparation:	2012-02-03	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.08	mg/Kg	1	2.00	104	75 - 135.4
4-Bromofluorobenzene (4-BFB)			1.92	mg/Kg	1	2.00	96	63.6 - 158.9

Method Blanks

Method Blank (1) QC Batch: 88313

QC Batch: 88313 | Date Analyzed: 2012-02-03 | Analyzed By: tc
Prep Batch: 74984 | QC Preparation: 2012-02-03 | Prepared By: tc

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00470	mg/Kg	0.02
Toluene		1	<0.00980	mg/Kg	0.02
Ethylbenzene		1	<0.00500	mg/Kg	0.02
Xylene		1	<0.0170	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.97	mg/Kg	1	2.00	98	78 - 113.6
4-Bromofluorobenzene (4-BFB)			1.64	mg/Kg	1	2.00	82	55.9 - 112.4

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 88313 | Date Analyzed: 2012-02-03 | Analyzed By: tc
Prep Batch: 74984 | QC Preparation: 2012-02-03 | Prepared By: tc

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.27	mg/Kg	1	2.00	<0.00470	114	86.5 - 118.9
Toluene		1	2.19	mg/Kg	1	2.00	<0.00980	110	84.7 - 112.5
Ethylbenzene		1	2.10	mg/Kg	1	2.00	<0.00500	105	79.4 - 108.9
Xylene		1	6.28	mg/Kg	1	6.00	<0.0170	105	79.5 - 108.9

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.17	mg/Kg	1	2.00	<0.00470	108	86.5 - 118.9	4	20
Toluene		1	2.14	mg/Kg	1	2.00	<0.00980	107	84.7 - 112.5	2	20
Ethylbenzene		1	2.05	mg/Kg	1	2.00	<0.00500	102	79.4 - 108.9	2	20
Xylene		1	6.10	mg/Kg	1	6.00	<0.0170	102	79.5 - 108.9	3	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.10	2.03	mg/Kg	1	2.00	105	102	73.9 - 117
4-Bromofluorobenzene (4-BFB)	1.92	1.86	mg/Kg	1	2.00	96	93	70.4 - 119

Matrix Spike (MS-1) Spiked Sample: 288061

QC Batch: 88313 | Date Analyzed: 2012-02-03 | Analyzed By: tc
Prep Batch: 74984 | QC Preparation: 2012-02-03 | Prepared By: tc

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.38	mg/Kg	1	2.00	<0.00470	119	69.3 - 159.2
Toluene		1	2.40	mg/Kg	1	2.00	<0.00980	120	68.7 - 157
Ethylbenzene		1	2.48	mg/Kg	1	2.00	<0.00500	124	71.6 - 158.2
Xylene		1	7.41	mg/Kg	1	6.00	<0.0170	124	70.8 - 159.8

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.43	mg/Kg	1	2.00	<0.00470	122	69.3 - 159.2	2	20
Toluene		1	2.45	mg/Kg	1	2.00	<0.00980	122	68.7 - 157	2	20
Ethylbenzene		1	2.55	mg/Kg	1	2.00	<0.00500	128	71.6 - 158.2	3	20
Xylene		1	7.63	mg/Kg	1	6.00	<0.0170	127	70.8 - 159.8	3	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.11	2.10	mg/Kg	1	2	106	105	71.4 - 133.9
4-Bromofluorobenzene (4-BFB)	2.03	2.04	mg/Kg	1	2	102	102	72.6 - 144.1

Calibration Standards

Standard (CCV-1)

QC Batch: 88313 | Date Analyzed: 2012-02-03 | Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.0912	91	80 - 120	2012-02-03
Toluene		1	mg/Kg	0.100	0.0877	88	80 - 120	2012-02-03
Ethylbenzene		1	mg/Kg	0.100	0.0857	86	80 - 120	2012-02-03
Xylene		1	mg/Kg	0.300	0.256	85	80 - 120	2012-02-03

Standard (CCV-2)

QC Batch: 88313 | Date Analyzed: 2012-02-03 | Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.105	105	80 - 120	2012-02-03
Toluene		1	mg/Kg	0.100	0.102	102	80 - 120	2012-02-03
Ethylbenzene		1	mg/Kg	0.100	0.0985	98	80 - 120	2012-02-03
Xylene		1	mg/Kg	0.300	0.293	98	80 - 120	2012-02-03

Appendix

Report Definitions

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

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-11-3	Midland

Standard Flags

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

Attachments

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

Analysis Request of Chain of Custody Record

PAGE: 1 of 1

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400857

PROJECT NAME: COG / Morse Fed #23 Eddy Co, NM

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
287910	1/30/2012		S		X	CS3 Bottom Hole 2'	1				X		X															

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature)	Date:	Time:	RECEIVED BY: (Signature)	Date:	Time:
Robert Gubbels Jr.	1/30/12	1500		1/30/12	1600
RELINQUISHED BY: (Signature)	1/30/12	1510	RECEIVED BY: (Signature)	1/31/12	1510
RELINQUISHED BY: (Signature)	Date:	Time:	RECEIVED BY: (Signature)	Date:	Time:

SAMPLED BY: (Print & Initial) Robert Gubbels Jr. Date: 1/30/12 Time: 1500

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: T

ADDRESS:

CITY: STATE: ZIP:

CONTACT: PHONE: DATE: TIME:

RECEIVED BY: (Signature)

SAMPLE CONDITION WHEN RECEIVED: 4.0° Intact

REMARKS: All tests Midland Lab

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