TETRA TECH

RECEIVED
MAR 16 2012
NMOCD ARTESIA

February 20, 2012

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

Re: Closure Report for the SM Energy Company
Parkway Delaware Unit Tract 1 Tank Battery
Heater Treater Fire Tube Line Release and
Release from 750 barrel Steel Tank Bottom
Unit P, Section 35, Township 19 South, Range 29 East
Eddy County, New Mexico

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by SM Energy Company (SM Energy) to assess a heater treater fire tube line release at the Parkway Delaware Unit Tract 1 Tank Battery (PDU Tract 1 TB) located in Unit P, Section 35, Township 19 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.61531°, W 104.04324°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on May 14, 2009. Approximately 25 barrels of produced water and 250 barrels of crude oil were released from a hole in the heater treater fire tube line. Approximately 20 barrels of produced water and 240 barrels of crude oil were recovered. All fluids were contained within the facility dikes. The heater treater was emptied and the fire tube line was repaired.

A second leak was discovered at the site on May 16, 2011. Approximately 205 barrels of crude oil was released from a hole in the bottom of one of the 750 barrel steel tanks. An estimated 200 barrel of crude oil was recovered as part of the initial remedial effort and placed back into one of the onsite tanks. This tank was removed from service. The final C-141s for both releases are enclosed in Appendix A.

Hydrology

The New Mexico Office of the State Engineers (OSE) Website listed two water wells within 2 miles of the site. The closest well (identified by the OSE as CP 00739) had a depth to water at 110 feet below ground surface (bgs) in 1988. The second closest well (identified by the OSE as CP 00703) had a depth to water at 115 feet bgs in

Tetra Tech
19 0 North Big Spring Midland, TX 79705
Tel [illegible] Fax [illegible] www.tetratech.com

1986. These wells are shown on Figure 3.

The Geology and Ground-Water Resources of Eddy County, New Mexico (Report 3) showed the closest well to be in Section 3 of Township 20 South and Range 29 East. This well is approximately 1 mile south of the site and is reported to be completed in either the Rustler Formation or the Dockum Group. Depth to water for this well is not available. The New Mexico Oil Conservation Division (OCD) regional groundwater gradient map for Eddy County shows the depth to groundwater in this section at approximately 90 feet.

According to the Geology and Ground-Water Resources of Eddy County, New Mexico (Report 3), the Rustler Formation is present in most of the area east of the Pecos River. The Rustler Formation consists of anhydrite, gypsum, interbedded sandy clays and shales, and irregular beds of dolomite.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the OCD 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 Results

On May 28, 2009, Tetra Tech personnel collected soils samples up to 4.5 feet bgs, utilizing a hand auger at five locations within the spill area (identified as AH-1, AH-2, AH-3, AH-4 and AH-5). The spill area was estimated to cover approximately 12,600 square feet. Soil sampling stopped in each location when auger refusal occurred. Soil samples were submitted for laboratory analysis of TPH by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. The laboratory analytical data indicated that the soil samples had BTEX and TPH concentrations above their RRALs as well as chloride concentrations in excess of 1,000 mg/Kg.

On May 25, 2010, Tetra Tech personnel remobilized to the site with a drilling rig to advance soil borings in the areas previously assessed with a hand auger for the May 14, 2009 spill. SB-1, SB-2 and SB-3 were advanced to 40 feet bgs, 30 feet bgs and 45 feet bgs, respectively. Soil samples from the borings were submitted for laboratory analysis to evaluate the BTEX, TPH and chloride concentrations. The bottom sample in each boring did not exhibit chloride concentrations above the laboratory reporting limits.

Analytical results indicate the maximum extent of chloride impact greater than 1,000 mg/Kg extending to 1 foot (SB-1), 5 feet (SB-2) and 20 feet (SB-3). All sample locations had chloride concentrations that decreased with depth. TPH concentrations exceeded the RRALs in the vicinity of AH-2 and AH-4 to depths of 1 foot and 2 feet, respectively. In addition, Total BTEX concentrations in the vicinity of AH-4 and AH-5

exceeded the RRAL to depths of 2 feet. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix B. The results of the sampling are summarized in Table 1. The borehole locations are shown on Figure 3.

In addition, on June 1, 2011 Tetra Tech personnel remobilized to the site to collect soil samples with a hand auger in the vicinity of the May 16, 2011 spill area. Borings were advanced with a hand auger at five locations within the spill area (identified as AH-1, AH-2, AH-3, AH-4 and AH-5). Soil sampling stopped in each location when auger refusal occurred. Soil samples were submitted for laboratory analysis of TPH 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 B. The results of the sampling are summarized in Table 2.

Remedial Work and Closure Request

A work plan dated April 26, 2011, was submitted and approved by the OCD. Based on the approved work plan, Tetra Tech personnel supervised the excavation of the site. In addition, soils from the May 16, 2011 spill were excavated to the same depth as the May 14, 2009 spill. The final depths of the soil remediation for the entire spill met or exceeded the depths of the approved work plan for the May 14, 2009 spill area . The excavated depths for the May 16, 2011 spill removed all soils previously identified as exceeding the RRAL for BTEX/TPH with the exception of the soils in the vicinity of AH-5. Additional excavation in this area was not possible due to facility equipment. The excavation depths are highlighted in Table 1 and Table 2 and shown on Figure 4. Once excavated, the site (May 14, 2009 and May 16, 2001 spill areas) was sprayed with microblaze. The site was then backfilled with clean material to surface grade.

Based on the remedial activities performed at this site, SM Energy requests closure of this site. If you require any additional information or have any questions or comments concerning this report, please call at (432) 682-4559.

Sincerely,
TETRA TECH INC.

Aaron M. Hale
Senior Project Manager

cc: Chad McNeely – SM Energy Company
Don Riggs – SM Energy Company
Mark Bondy – SM Energy Company
BLM – Jim Amos

FIGURES

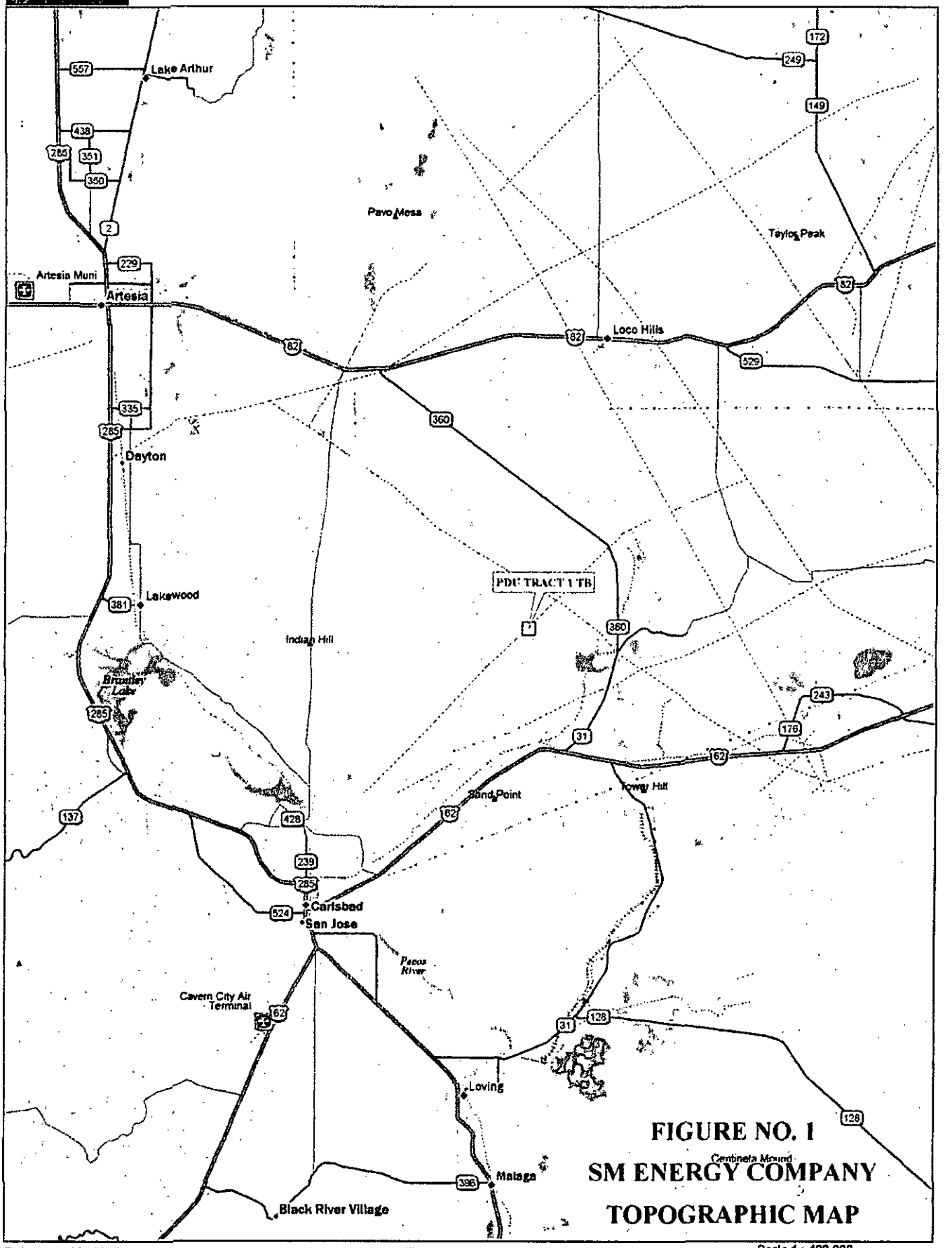


FIGURE NO. 1
SM ENERGY COMPANY
TOPOGRAPHIC MAP

TN

MN (7.9°E)

Scale 1 : 400,000

1" = 6.31 mi

Data Zoom 9-0

DELORME

Topo USA® 8

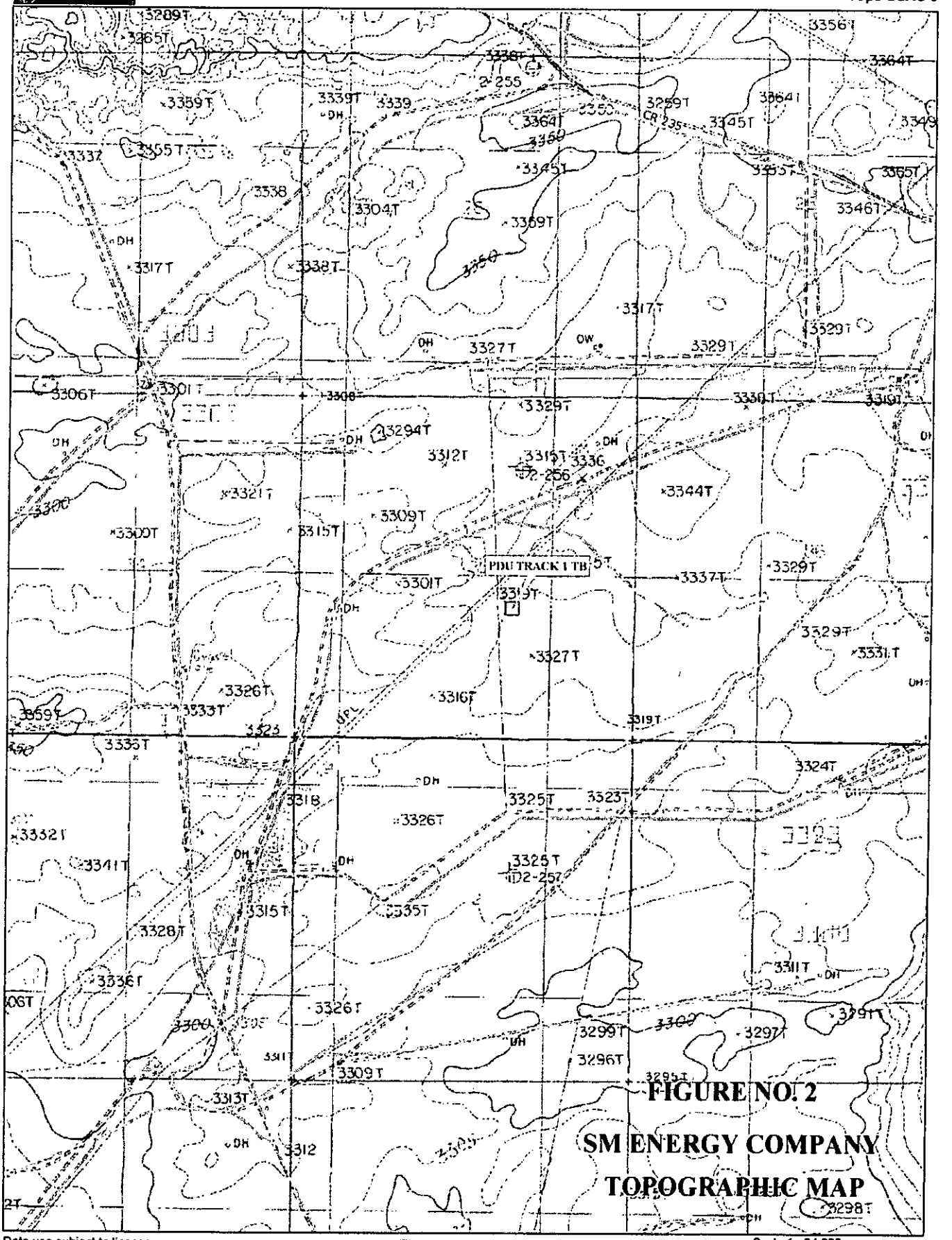


FIGURE NO. 2

SM ENERGY COMPANY

TOPOGRAPHIC MAP

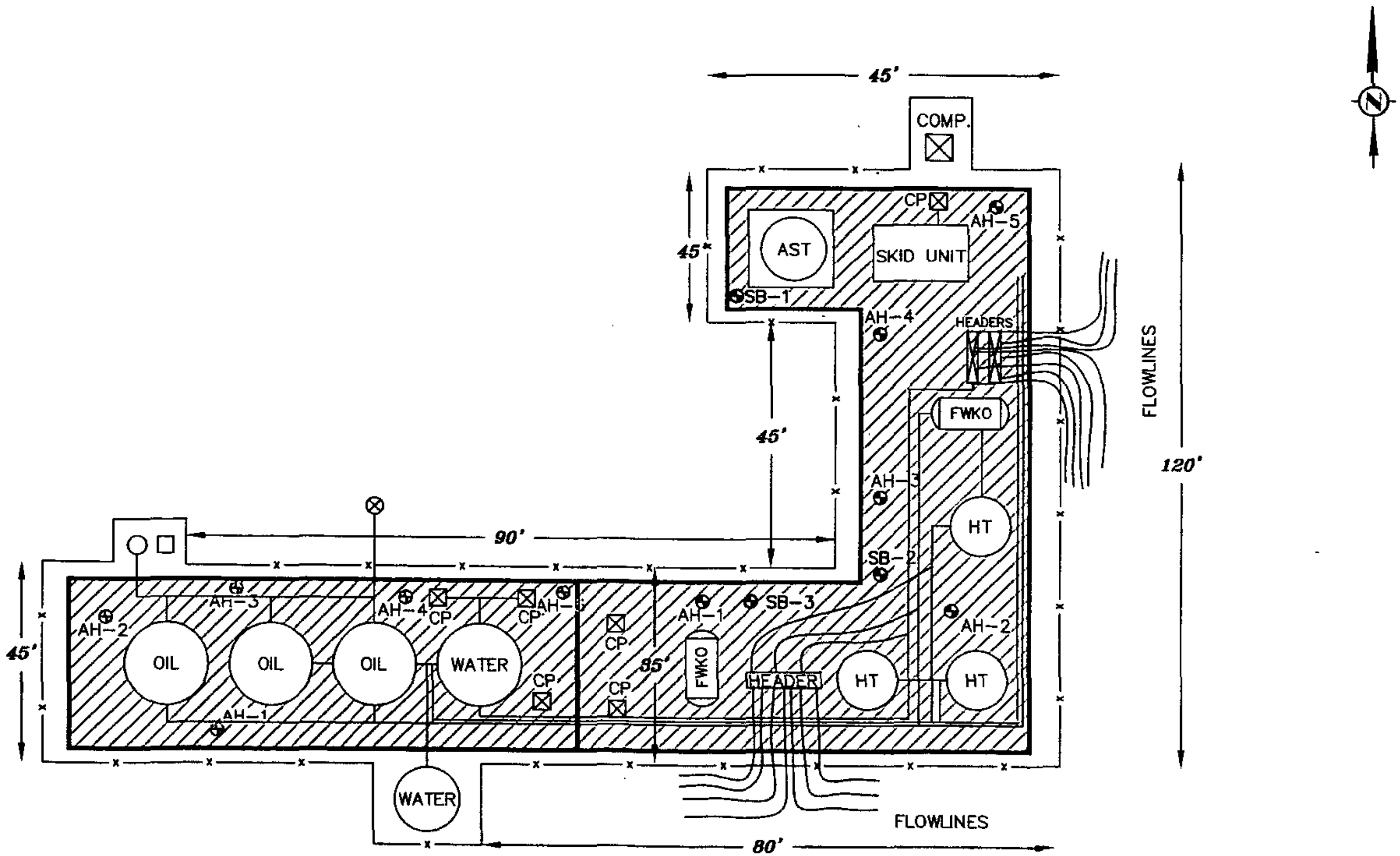
TN

MN (7.6°E)

Scale 1 : 24,000

1" = 2,000.0 ft

Data Zoom 13-0

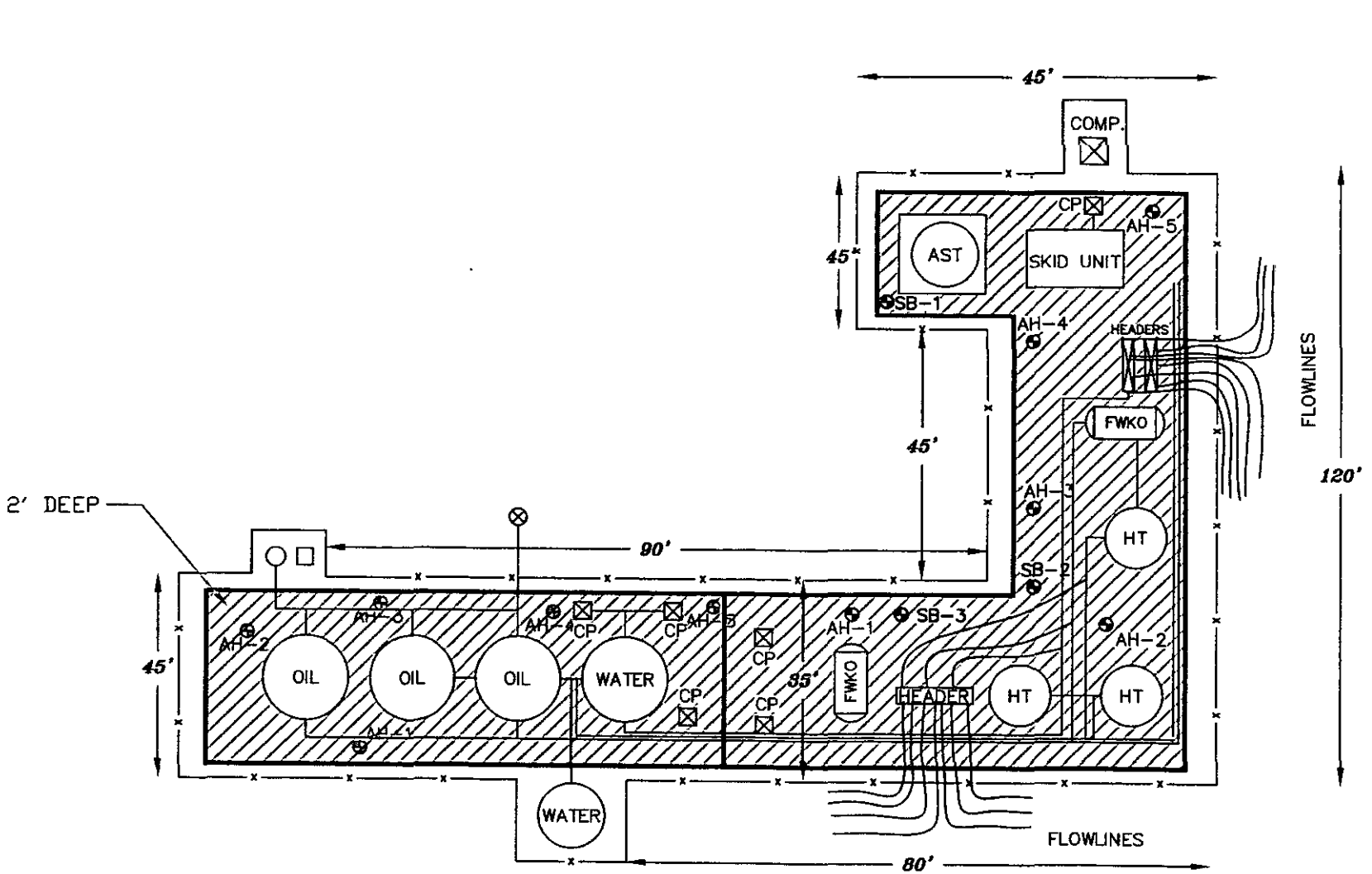


5/14/2009 SPILL AREA
5/16/2011 SPILL AREA
AUGER HOLE SAMPLE LOCATIONS(5/14/2009)
AUGER HOLE SAMPLE LOCATIONS(5/16/2011)
SOIL BORING SAMPLE LOCATIONS

NOT TO SCALE

FIGURE NO. 3

	EDDY COUNTY, NEW MEXCIO
	SM ENERGY COMPANY
DATE: 11/30/2011	PDU TRACT 1 TB
DWN. BY: IM	
FILE: M:\ST. MARY\9400203	TETRA TECH, INC. MIDLAND, TEXAS



- EXCAVATED AREA
- AUGER HOLE SAMPLE LOCATIONS 5/14/2009
- AUGER HOLE SAMPLE LOCATIONS 5/16/2011
- SOIL BORING SAMPLE LOCATIONS

NOT TO SCALE

FIGURE NO. 4

EDDY COUNTY, NEW MEXCIO

SM ENERGY COMPANY

PDU TRACT 1 TB

DATE: 11/30/2011

DWN. BY: IM

FILE: M:\ST. MARY\94002203

TETRA TECH, INC.
MIDLAND, TEXAS

TABLES

Table 1
SM Energy Company
Parkware Deleware Unit Tract #1 Tank Battery
Eddy County, New Mexico

Sample ID	Date Sampled	Sample Depth (ft)	Soil Status		TPH (mg/Kg)			Benzene (mg/Kg)	Toluene (mg/Kg)	Ethlybenzene (mg/Kg)	Xylene (mg/Kg)	Total BTEX (mg/Kg)	Chloride (mg/Kg)
			In-Situ	Removed	DRO	GRO	Total						
AH-1	5/28/2009	0-1		X	1,030	73.3	1,103						6,750
	5/28/2009	1-1.5		X	<50.0	50.0	50.0						8,760
	5/28/2009	2-2.5	X		-	-	-	-	-	-	-	-	9,070
	5/28/2009	3-3.5	X		-	-	-	-	-	-	-	-	7,730
SB-3	5/25/2010	1'		X	264	144	408	0.0622	0.747	0.900	3.51	5.22	3,740
	5/25/2010	3'	X		-	-	-	-	-	-	-	-	3,250
	5/25/2010	5'	X		-	-	-	-	-	-	-	-	6,500
	5/25/2010	7'	X		-	-	-	-	-	-	-	-	1,010
	5/25/2010	10'	X		-	-	-	-	-	-	-	-	6,460
	5/25/2010	15'	X		-	-	-	-	-	-	-	-	1,680
	5/25/2010	20'	X		-	-	-	-	-	-	-	-	1,080
	5/25/2010	25'	X		-	-	-	-	-	-	-	-	808
	5/25/2010	30'	X		-	-	-	-	-	-	-	-	974
	5/25/2010	40'	X		-	-	-	-	-	-	-	-	<200
	5/25/2010	45'	X		-	-	-	-	-	-	-	-	<200
AH-2	5/28/2009	0-1		X	13,000	1,130	14,130	2.49	6.81	3.26	11.1	23.7	3,580
	5/28/2009	1-1.5		X	311	74.3	385						1,340
	5/28/2009	2-2.5	X		-	-	-	-	-	-	-	-	1,200
	5/28/2009	3-3.5	X		-	-	-	-	-	-	-	-	1,480
	5/28/2009	4-4.5	X		-	-	-	-	-	-	-	-	1,360
AH-3	5/28/2009	0-1		X	2,770	970	3,740						486
	5/28/2009	1-1.5		X	116	126	242						374
	5/28/2009	2-2.5	X		-	-	-	-	-	-	-	-	276
	5/28/2009	3-3.5	X		-	-	-	-	-	-	-	-	314
	5/28/2009	4-4.5	X		-	-	-	-	-	-	-	-	303

Table 1
SM Energy Company
Parkware Deleware Unit Tract #1 Tank Battery
Eddy County, New Mexico

Sample ID	Date Sampled	Sample Depth (ft)	Soil Status		TPH (mg/Kg)			Benzene (mg/Kg)	Toluene (mg/Kg)	Ethlybenzene (mg/Kg)	Xylene (mg/Kg)	Total BTEX (mg/Kg)	Chloride (mg/Kg)
			In-Situ	Removed	DRO	GRO	Total						
SB-2	5/25/2010	1'		X	-	-	-	-	-	-	-	-	1,070
	5/25/2010	3'	X		-	-	-	-	-	-	-	-	514
	5/25/2010	5'	X		-	-	-	-	-	-	-	-	1,430
	5/25/2010	7'	X		-	-	-	-	-	-	-	-	414
	5/25/2010	10'	X		-	-	-	-	-	-	-	-	205
	5/25/2010	15'	X		-	-	-	-	-	-	-	-	341
	5/25/2010	20'	X		-	-	-	-	-	-	-	-	<200
	5/25/2010	30'	X		-	-	-	-	-	-	-	-	<200
AH-4	5/28/2009	0-1		X	11,800	5,490	17,290	4.96	68.2	41.5	144	259	238
	5/28/2009	1-1.5		X	9,330	4,250	13,580	-	-	-	-	-	200
AH-5	5/28/2009	0-1		X	1,410	1,810	3,220	<0.0500	14	12	47	73	845
	5/28/2009	1-1.5		X	2,110	362	2,472	-	-	-	-	-	449
SB-1	5/25/2010	1'		X	458	1,060	1,518	0.454	5.28	4.80	18.6	29.1	1,150
	5/25/2010	3'	X		-	-	-	-	-	-	-	-	675
	5/25/2010	5'	X		-	-	-	-	-	-	-	-	<200
	5/25/2010	7'	X		-	-	-	-	-	-	-	-	<200
	5/25/2010	10'	X		-	-	-	-	-	-	-	-	<200
	5/25/2010	15'	X		-	-	-	-	-	-	-	-	<200
	5/25/2010	20'	X		-	-	-	-	-	-	-	-	<200
	5/25/2010	25'	X		-	-	-	-	-	-	-	-	545
	5/25/2010	30'	X		-	-	-	-	-	-	-	-	<200
	5/25/2010	40'	X		-	-	-	-	-	-	-	-	<200

(-) Not Analyzed

Excavated Depths

Table 2
SM Energy Company
PDU TRACT #1 TANK BATTERY
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-1	6/1/2011	0-1'	1'		X	919	1,250	2,169	1.24	2.18	4.36	11.2	1,160
	"	1-1.5'	1'		X	-	-	-	-	-	-	-	496
	"	1.5-2'	1'		X	-	-	-	-	-	-	-	716
AH-2	6/1/2011	0-1'	2'		X	1,340	5,050	6,390	<0.400	2.45	2.97	8.33	<200
	"	1-1.5'	2'		X	209	4,400	4,609	<0.200	<0.200	0.749	2.38	578
	"	2-2.5'	2'		X	-	-	-	-	-	-	-	568
AH-3	6/1/2011	0-1'	1'		X	953	3,980	4,933	4.30	7.56	4.10	13.2	947
	"	1-1.5'	1'		X	-	-	-	-	-	-	-	358
	"	1.5-2'	1'		X	-	-	-	-	-	-	-	491
AH-4	6/1/2011	0-1'	1'		X	1,110	2,750	3,860	2.34	5.02	3.99	10.4	<200
AH-5	6/1/2011	0-1'	1'		X	3,140	2,310	5,450	12.3	48.0	19.4	62.8	1,610
	"	1-1.5'	1'		X	11,000	5,400	16,400	18.2	57.9	20.8	69.4	1,040
	"	2-2.5'	1'		X	7,560	3,460	11,020	9.32	29.2	13.8	43.9	1,880
	"	3-3.5'	1'	X		1,070	5,630	6,700	5.13	28.7	13.3	44.8	<200
	"	4-4.5'	1'	X		3,110	7,000	10,110	8.28	37.8	16.2	58.2	376
	"	5-5.5'	1'	X		3,200	10,200	13,400	5.56	37.0	18.7	69.9	238
	"	6-6.5'	1'	X		3,060	7,040	10,100	7.72	40.9	19.7	69.1	296
	"	7-7.5'	1'	X		1,360	1,130	2,490	3.67	21.5	10.1	33.5	2,090

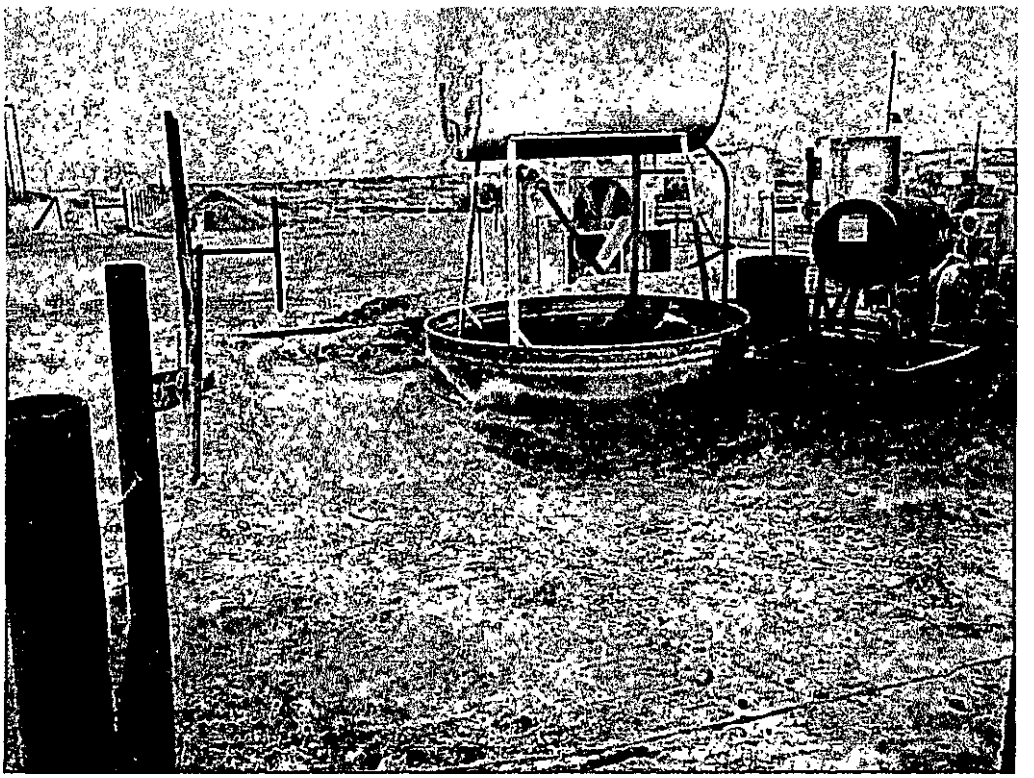
(-) Not Analyzed

Excavated Depths

PHOTOGRAPHS

SM Energy Company
PDU Tract 1 TB
Eddy County, New Mexico

TETRA TECH



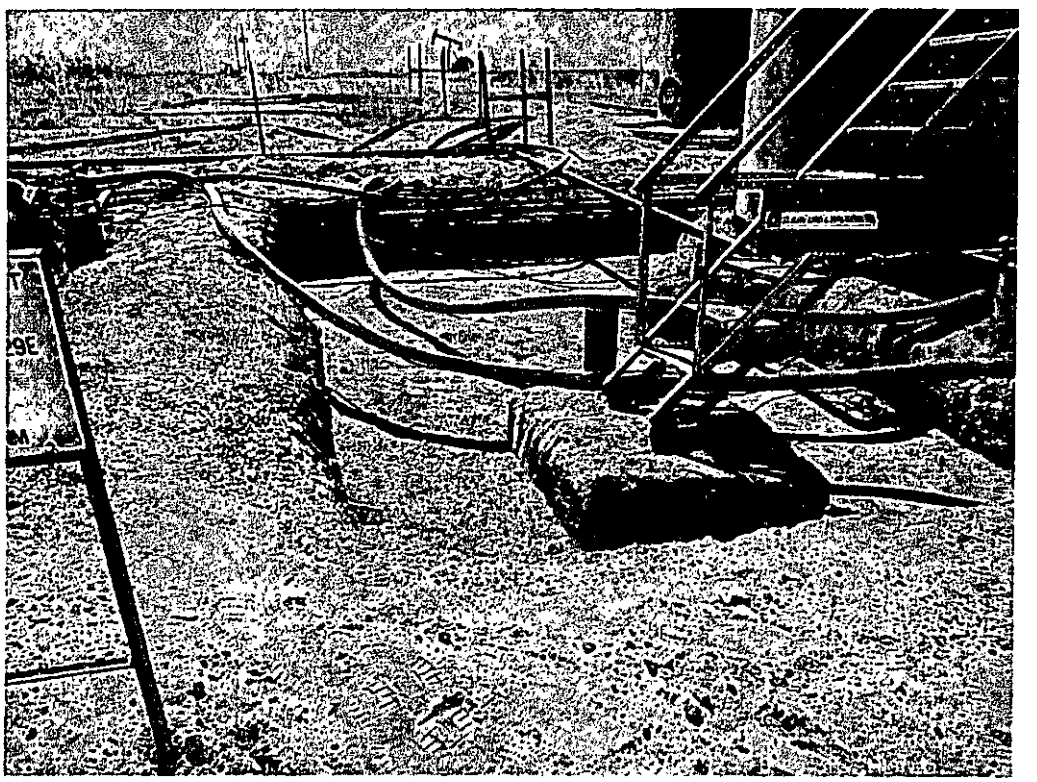
Site info and picture details

Site info and picture details

SM Energy Company
PDU Tract 1 TB
Eddy County, New Mexico

TETRA TECH

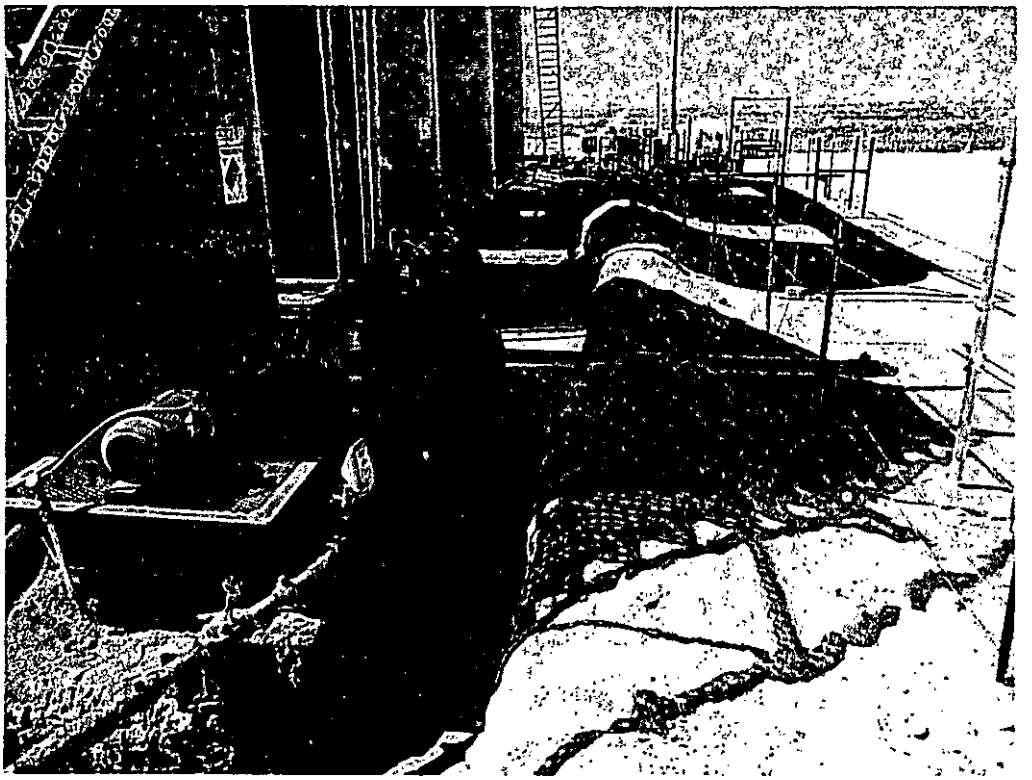
Site info and picture details



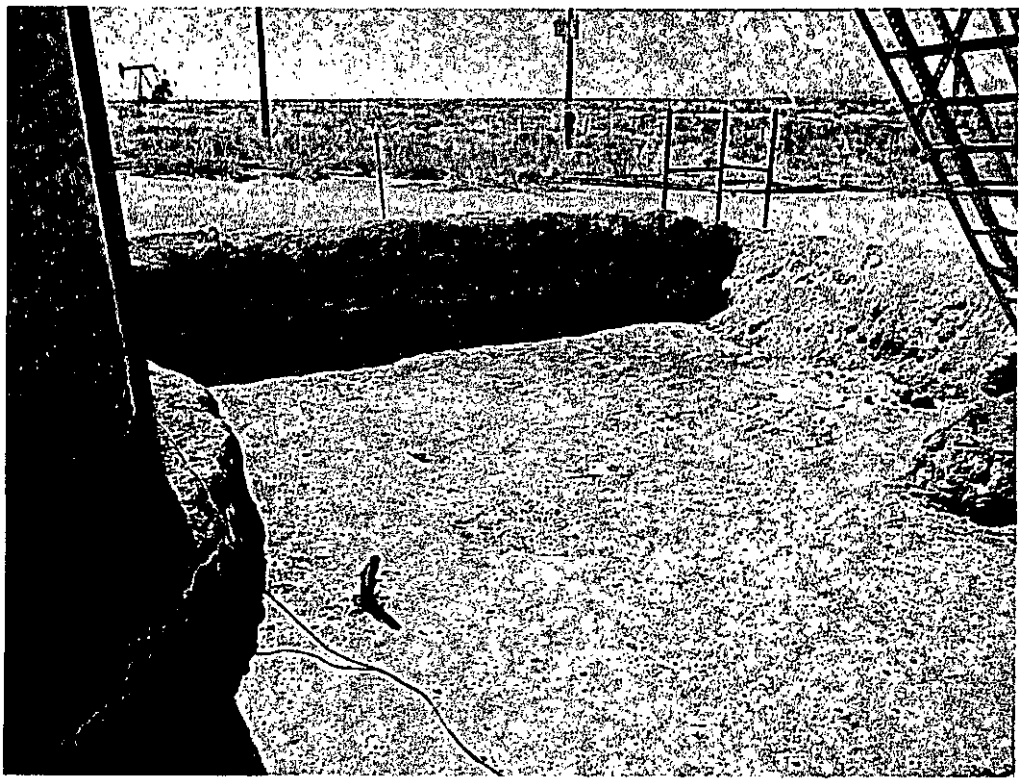
Site info and picture details

SM Energy Company
PDU Tract 1 TB
Eddy County, New Mexico

TETRA TECH



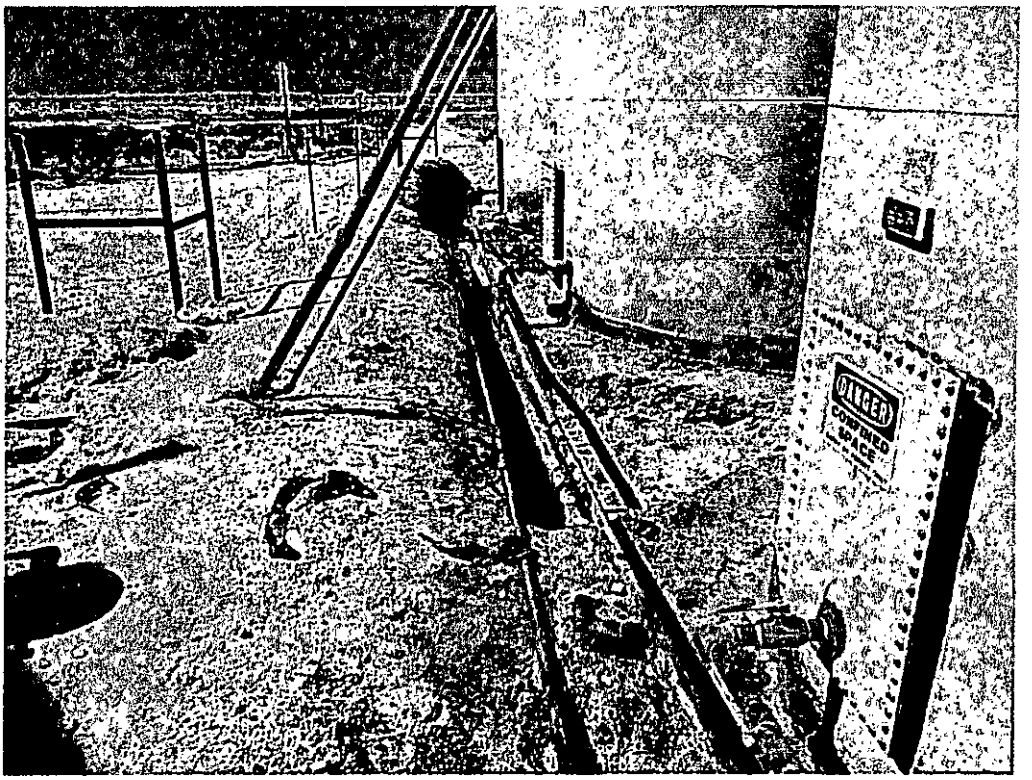
Site info and picture details



Site info and picture details

SM Energy Company
PDU Tract 1 TB
Eddy County, New Mexico

TETRA TECH



Site info and picture details

Site info and picture details

APPENDIX A

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company **SM Energy Company**	Contact **Donna Huddleston**
Address **3300 N. A Street, Bldg. 7, Ste. 200 Midland, Tx**	Telephone No. **(432) 688-1789**
Facility Name Parkway Delaware Tract 1 Battery	Facility Type **Tank Battery**

Surface Owner: BLM	Mineral Owner: BLM	Lease No. NMNM8849X

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	35	19S	29E					Eddy Co. NM

Latitude N 32.61531° **Longitude** W 104.04324°

NATURE OF RELEASE

Type of Release: Oil	Volume of Release 205 bbls	Volume Recovered 200 bbls
Source of Release: 750 Steel Tank	Date and Hour of Occurrence 05/16/2011	Date and Hour of Discovery 05/16/2011 @ 7:30 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? **Jim Amos with BLM**	
By Whom? Bill Hearne	Date and Hour 05/16/2011 9:57 am	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

750 Steel (Test Tank) discovered @ 7:30 am leaking oil from bottom of tank. Spill contained inside of diked area. Estimated 205 bbls. Oil spilled and recovered 200 bbls and transferred to empty stock tank. Net Loss: 5 bbls oil. Oil will be circulated back through heater treater.

Describe Area Affected and Cleanup Action Taken.*

85 ft x 60 ft area contained in dike. Dug out thop 1 foot of soil. Tetra Tech inspected site and collected samples to define spills extent. Soil that exceeded RRAL was removed and hauled away for proper disposal to the maximum extent practicable. Microblaze was applied to the excavated area prior to the site being brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD for review.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Aaron Hale agent for SM Energy	Approved by District Supervisor:
Title: Project Manager	Approval Date: / Expiration Date:
E-mail Address: aaron.hale@tetratech.com	Conditions of Approval: / Attached ☐
Date: 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 **St. Mary Land & Exploration Co.**	Contact **Donna Huddleston**
Address **3300 N. A Street, Bldg. 7, Ste. 200 Midland, Tx**	Telephone No. **(432) 688-1789**
Facility Name Parkway Delaware Tract 1 Battery	Facility Type **Tank Battery**

Surface Owner: BLM	Mineral Owner: BLM	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	35	19S	29E					Eddy Co. NM

Latitude N 32.61531° **Longitude** W 104.04324°

NATURE OF RELEASE

Type of Release: Produced water and Oil	Volume of Release 275 bbls	Volume Recovered 260 bbls
Source of Release: Heater Treater Fire Tube	Date and Hour of Occurrence 05/14/2009	Date and Hour of Discovery 05/14/2009
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? **Mike Bratcher with OCD & Jim Amos with BLM**	
By Whom? Bill Hearne	Date and Hour 05/14/2009 12:30 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.*

Hole in 8'X20' production heater treater fire tube. Spilled estimated 25bbls wtr/ 250bbls oil. All standing fluid contained in recently installed dike. Recovered 20bbls wtr/ 240bbls oil. Net Loss: 5bbls wtr/ 10bbls oil. Picked up all standing fluid contained in dike area of battery. Emptied remaining fluid from vessel, removed failed fire tube, and sent to welding shop for repairs and coating. Will coat 8'X 20' treater while open. Return vessel to operation when repairs are completed.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected site and collected samples to define spills extent. Soil that exceeded RRAL was removed and hauled away for proper disposal. Site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted 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: Aaron Hale agent for SM Energy	Approved by District Supervisor:
Title: Project Manager	Approval Date: / Expiration Date:
E-mail Address: aaron.hale@tetratech.com	Conditions of Approval: / Attached ☐
Date: Phone: (432) 682-4559	

* Attach Additional Sheets If Necessary

APPENDIX B

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
209 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: June 11, 2009

Work Order: 9052928

Project Name: St. Mary/PDU Tract #1 TB
Project Number: 114-6400203

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
197378	AH-1 0-1'	soil	2009-05-28	00:00	2009-05-29
197379	AH-1 1'-1.5'	soil	2009-05-28	00:00	2009-05-29
197380	AH-1 2'-2.5'	soil	2009-05-28	00:00	2009-05-29
197381	AH-1 3'-3.5'	soil	2009-05-28	00:00	2009-05-29
197382	AH-2 0-1'	soil	2009-05-28	00:00	2009-05-29
197383	AH-2 1'-1.5'	soil	2009-05-28	00:00	2009-05-29
197384	AH-2 2'-2.5'	soil	2009-05-28	00:00	2009-05-29
197385	AH-2 3'-3.5'	soil	2009-05-28	00:00	2009-05-29
197386	AH-2 4'-4.5'	soil	2009-05-28	00:00	2009-05-29
197387	AH-3 0-1'	soil	2009-05-28	00:00	2009-05-29
197388	AH-3 1'-1.5'	soil	2009-05-28	00:00	2009-05-29

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
197389	AH-3 2'-2.5'	soil	2009-05-28	00:00	2009-05-29
197390	AH-3 3'-3.5'	soil	2009-05-28	00:00	2009-05-29
197391	AH-3 4'-4.5'	soil	2009-05-28	00:00	2009-05-29
197392	AH-4 0-1'	soil	2009-05-28	00:00	2009-05-29
197393	AH-4 1'-1.5'	soil	2009-05-28	00:00	2009-05-29
197394	AH-5 0-1'	soil	2009-05-28	00:00	2009-05-29
197395	AH-5 1'-1.5'	soil	2009-05-28	00:00	2009-05-29

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

Standard Flags

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

Case Narrative

Samples for project St. Mary/PDU Tract #1 TB were received by TraceAnalysis, Inc. on 2009-05-29 and assigned to work order 9052928. Samples for work order 9052928 were received intact at a temperature of 7.8 deg. 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	51377	2009-06-08 at 10:09	60203	2009-06-08 at 10:09
BTEX	S 8021B	51454	2009-06-10 at 09:21	60299	2009-06-10 at 09:21
Chloride (Titration)	SM 4500-Cl B	51186	2009-06-01 at 10:21	60012	2009-06-02 at 10:17
Chloride (Titration)	SM 4500-Cl B	51187	2009-06-01 at 10:21	60013	2009-06-02 at 10:17
TPH DRO	Mod. 8015B	51212	2009-06-01 at 14:30	60003	2009-06-01 at 12:05
TPH GRO	S 8015B	51213	2009-06-01 at 10:33	59966	2009-06-01 at 10:33
TPH GRO	S 8015B	51248	2009-06-02 at 15:03	60032	2009-06-02 at 15:03

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 9052928 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: 197378 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	60012	Date Analyzed:	2009-06-02	Analyzed By:	AR
Prep Batch:	51186	Sample Preparation:	2009-06-01	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**6750**	mg/Kg	50	4.00

Sample: 197378 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	60003	Date Analyzed:	2009-06-01	Analyzed By:	AG
Prep Batch:	51212	Sample Preparation:	2009-06-01	Prepared By:	AG

Parameter	Flag	Result	RL Units	Dilution	RL
DRO		**1030**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		156	mg/Kg	1	100	156	13.2 - 219.3

Sample: 197378 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	59966	Date Analyzed:	2009-06-01	Analyzed By:	ME
Prep Batch:	51213	Sample Preparation:	2009-06-01	Prepared By:	ME

Parameter	Flag	Result	RL Units	Dilution	RL
GRO		**73.3**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.86	mg/Kg	1	2.00	93	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	[1]	4.37	mg/Kg	1	2.00	218	52 - 117

[1] High surrogate recovery due to peak interference.

Sample: 197379 - AH-1 1'-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	60012	Date Analyzed:	2009-06-02	Analyzed By:	AR
Prep Batch:	51186	Sample Preparation:	2009-06-01	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**8760**	mg/Kg	50	4.00

Sample: 197379 - AH-1 1'-1.5'

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	60003	Date Analyzed:	2009-06-01	Analyzed By:	AG
Prep Batch:	51212	Sample Preparation:	2009-06-01	Prepared By:	AG

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-Triacontane		73.9	mg/Kg	1	100	74	13.2 - 219.3

Sample: 197379 - AH-1 1'-1.5'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	59966	Date Analyzed:	2009-06-01	Analyzed By:	ME
Prep Batch:	51213	Sample Preparation:	2009-06-01	Prepared By:	ME

Parameter	Flag	Result	RL Units	Dilution	RL
GRO		**50.0**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.88	mg/Kg	1	2.00	94	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)		1.30	mg/Kg	1	2.00	65	52 - 117

Sample: 197380 - AH-1 2'-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	60012	Date Analyzed:	2009-06-02	Analyzed By:	AR
Prep Batch:	51186	Sample Preparation:	2009-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**9070**	mg/Kg	50	4.00

Sample: 197381 - AH-1 3'-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	60012	Date Analyzed:	2009-06-02	Analyzed By:	AR
Prep Batch:	51186	Sample Preparation:	2009-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**7730**	mg/Kg	50	4.00

Sample: 197382 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	60203	Date Analyzed:	2009-06-08	Analyzed By:	ME
Prep Batch:	51377	Sample Preparation:	2009-06-08	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**2.49**	mg/Kg	5	0.0100
Toluene		**6.81**	mg/Kg	5	0.0100
Ethylbenzene		**3.26**	mg/Kg	5	0.0100
Xylene		**11.1**	mg/Kg	5	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		9.17	mg/Kg	5	10.0	92	49 - 129.7
4-Bromofluorobenzene (4-BFB)		9.95	mg/Kg	5	10.0	100	45.2 - 144.3

Sample: 197382 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	60012	Date Analyzed:	2009-06-02	Analyzed By:	AR
Prep Batch:	51186	Sample Preparation:	2009-06-01	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**3580**		mg/Kg	50	4.00

Sample: 197382 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	60003	Date Analyzed:	2009-06-01	Analyzed By:	AG
Prep Batch:	51212	Sample Preparation:	2009-06-01	Prepared By:	AG

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		**13000**		mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	[2]	2130	mg/Kg	5	100	2130	13.2 - 219.3

Sample: 197382 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	59966	Date Analyzed:	2009-06-01	Analyzed By:	ME
Prep Batch:	51213	Sample Preparation:	2009-06-01	Prepared By:	ME

Parameter	Flag	Result	RL	Units	Dilution	RL
GRO		**1130**		mg/Kg	10	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		19.6	mg/Kg	10	20.0	98	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	[3]	29.0	mg/Kg	10	20.0	145	52 - 117

[2]High surrogate recovery due to peak interference.
[3]High surrogate recovery due to peak interference.

Sample: 197383 - AH-2 1'-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	60012	Date Analyzed:	2009-06-02	Analyzed By:	AR
Prep Batch:	51186	Sample Preparation:	2009-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1340**	mg/Kg	50	4.00

Sample: 197383 - AH-2 1'-1.5'

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	60003	Date Analyzed:	2009-06-01	Analyzed By:	AG
Prep Batch:	51212	Sample Preparation:	2009-06-01	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**311**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		187	mg/Kg	1	100	187	13.2 - 219.3

Sample: 197383 - AH-2 1'-1.5'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	59966	Date Analyzed:	2009-06-01	Analyzed By:	ME
Prep Batch:	51213	Sample Preparation:	2009-06-01	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**74.3**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.89	mg/Kg	1	2.00	94	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	[4]	4.15	mg/Kg	1	2.00	208	52 - 117

[4] High surrogate recovery due to peak interference.

Sample: 197384 - AH-2 2'-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	60012	Date Analyzed:	2009-06-02	Analyzed By:	AR
Prep Batch:	51186	Sample Preparation:	2009-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1200**	mg/Kg	50	4.00

Sample: 197385 - AH-2 3'-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	60012	Date Analyzed:	2009-06-02	Analyzed By:	AR
Prep Batch:	51186	Sample Preparation:	2009-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1480**	mg/Kg	50	4.00

Sample: 197386 - AH-2 4'-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	60012	Date Analyzed:	2009-06-02	Analyzed By:	AR
Prep Batch:	51186	Sample Preparation:	2009-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1360**	mg/Kg	50	4.00

Sample: 197387 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	60012	Date Analyzed:	2009-06-02	Analyzed By:	AR
Prep Batch:	51186	Sample Preparation:	2009-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**486**	mg/Kg	50	4.00

Sample: 197387 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	60003	Date Analyzed:	2009-06-01	Analyzed By:	AG
Prep Batch:	51212	Sample Preparation:	2009-06-01	Prepared By:	AG

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-Triacontane	[5]	368	mg/Kg	1	100	368	13.2 - 219.3

Sample: 197387 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	60032	Date Analyzed:	2009-06-02	Analyzed By:	ME
Prep Batch:	51248	Sample Preparation:	2009-06-02	Prepared By:	ME

Parameter	Flag	Result	RL	Units	Dilution	RL
GRO		**970**		mg/Kg	10	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		19.7	mg/Kg	10	20.0	98	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	[6]	49.0	mg/Kg	10	20.0	245	52 - 117

Sample: 197388 - AH-3 1'-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	60013	Date Analyzed:	2009-06-02	Analyzed By:	AR
Prep Batch:	51187	Sample Preparation:	2009-06-01	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**374**		mg/Kg	50	4.00

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

Sample: 197388 - AH-3 1'-1.5'

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	60003	Date Analyzed:	2009-06-01	Analyzed By:	AG
Prep Batch:	51212	Sample Preparation:	2009-06-01	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
DRO	B	**116**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		140	mg/Kg	1	100	140	13.2 - 219.3

Sample: 197388 - AH-3 1'-1.5'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	59966	Date Analyzed:	2009-06-01	Analyzed By:	ME
Prep Batch:	51213	Sample Preparation:	2009-06-01	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**126**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.97	mg/Kg	1	2.00	98	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	[7]	3.66	mg/Kg	1	2.00	183	52 - 117

Sample: 197389 - AH-3 2'-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	60013	Date Analyzed:	2009-06-02	Analyzed By:	AR
Prep Batch:	51187	Sample Preparation:	2009-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**276**	mg/Kg	50	4.00

[7] High surrogate recovery due to peak interference.

Sample: 197390 - AH-3 3'-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	60013	Date Analyzed:	2009-06-02	Analyzed By:	AR
Prep Batch:	51187	Sample Preparation:	2009-06-01	Prepared By:	AR

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

Sample: 197391 - AH-3 4'-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	60013	Date Analyzed:	2009-06-02	Analyzed By:	AR
Prep Batch:	51187	Sample Preparation:	2009-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**303**	mg/Kg	50	4.00

Sample: 197392 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	60203	Date Analyzed:	2009-06-08	Analyzed By:	ME
Prep Batch:	51377	Sample Preparation:	2009-06-08	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**4.96**	mg/Kg	5	0.0100
Toluene	[8]	**68.2**	mg/Kg	5	0.0100
Ethylbenzene	[9]	**41.5**	mg/Kg	5	0.0100
Xylene	[10]	**144**	mg/Kg	5	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		9.58	mg/Kg	5	10.0	96	49 - 129.7
4-Bromofluorobenzene (4-BFB)	[11]	19.0	mg/Kg	5	10.0	190	45.2 - 144.3

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

Sample: 197392 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	60013	Date Analyzed:	2009-06-02	Analyzed By:	AR
Prep Batch:	51187	Sample Preparation:	2009-06-01	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**238**	mg/Kg	50	4.00

Sample: 197392 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	60003	Date Analyzed:	2009-06-01	Analyzed By:	AG
Prep Batch:	51212	Sample Preparation:	2009-06-01	Prepared By:	AG

Parameter	Flag	Result	RL Units	Dilution	RL
DRO		**11800**	mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	[12]	1310	mg/Kg	5	100	1310	13.2 - 219.3

Sample: 197392 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	60032	Date Analyzed:	2009-06-02	Analyzed By:	ME
Prep Batch:	51248	Sample Preparation:	2009-06-02	Prepared By:	ME

Parameter	Flag	Result	RL Units	Dilution	RL
GRO		**5490**	mg/Kg	20	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		43.5	mg/Kg	20	40.0	109	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	[13]	253	mg/Kg	20	40.0	632	52 - 117

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

Sample: 197393 - AH-4 1'-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	60013	Date Analyzed:	2009-06-02	Analyzed By:	AR
Prep Batch:	51187	Sample Preparation:	2009-06-01	Prepared By:	AR

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

Sample: 197393 - AH-4 1'-1.5'

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	60003	Date Analyzed:	2009-06-01	Analyzed By:	AG
Prep Batch:	51212	Sample Preparation:	2009-06-01	Prepared By:	AG

Parameter	Flag	Result	RL Units	Dilution	RL
DRO		**9330**	mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	[14]	1050	mg/Kg	5	100	1050	13.2 - 219.3

Sample: 197393 - AH-4 1'-1.5'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	60032	Date Analyzed:	2009-06-02	Analyzed By:	ME
Prep Batch:	51248	Sample Preparation:	2009-06-02	Prepared By:	ME

Parameter	*Flag*	*Result*	RL *Units*	*Dilution*	*RL*
GRO		**4250**	mg/Kg	20	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		41.7	mg/Kg	20	40.0	104	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	[15]	185	mg/Kg	20	40.0	462	52 - 117

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

Sample: 197394 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	60299	Date Analyzed:	2009-06-10	Analyzed By:	ME
Prep Batch:	51454	Sample Preparation:	2009-06-10	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0500	mg/Kg	5	0.0100
Toluene		**14.0**	mg/Kg	5	0.0100
Ethylbenzene		**12.0**	mg/Kg	5	0.0100
Xylene		**47.4**	mg/Kg	5	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		9.72	mg/Kg	5	10.0	97	49 - 129.7
4-Bromofluorobenzene (4-BFB)		14.2	mg/Kg	5	10.0	142	45.2 - 144.3

Sample: 197394 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	60013	Date Analyzed:	2009-06-02	Analyzed By:	AR
Prep Batch:	51187	Sample Preparation:	2009-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**845**	mg/Kg	50	4.00

Sample: 197394 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	60003	Date Analyzed:	2009-06-01	Analyzed By:	AG
Prep Batch:	51212	Sample Preparation:	2009-06-01	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**1410**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	[16]	231	mg/Kg	1	100	231	13.2 - 219.3

[16] High surrogate recovery due to peak interference.

Sample: 197394 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	60032	Date Analyzed:	2009-06-02	Analyzed By:	ME
Prep Batch:	51248	Sample Preparation:	2009-06-02	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**1810**	mg/Kg	10	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		20.5	mg/Kg	10	20.0	102	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	[17]	80.3	mg/Kg	10	20.0	402	52 - 117

Sample: 197395 - AH-5 1'-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	60013	Date Analyzed:	2009-06-02	Analyzed By:	AR
Prep Batch:	51187	Sample Preparation:	2009-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**449**	mg/Kg	50	4.00

Sample: 197395 - AH-5 1'-1.5'

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	60003	Date Analyzed:	2009-06-01	Analyzed By:	AG
Prep Batch:	51212	Sample Preparation:	2009-06-01	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**2110**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	[18]	312	mg/Kg	1	100	312	13.2 - 219.3

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

Sample: 197395 - AH-5 1'-1.5'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	60032	Date Analyzed:	2009-06-02	Analyzed By:	ME
Prep Batch:	51248	Sample Preparation:	2009-06-02	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**362**	mg/Kg	5	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		9.75	mg/Kg	5	10.0	98	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	[19]	16.5	mg/Kg	5	10.0	165	52 - 117

Method Blank (1) QC Batch: 59966

QC Batch:	59966	Date Analyzed:	2009-06-01	Analyzed By:	ME
Prep Batch:	51213	QC Preparation:	2009-06-01	Prepared By:	ME

Parameter	Flag	MDL Result	Units	RL
GRO		<0.482	mg/Kg	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.88	mg/Kg	1	2.00	94	71.9 - 115
4-Bromofluorobenzene (4-BFB)		1.20	mg/Kg	1	2.00	60	45.7 - 118.9

Method Blank (1) QC Batch: 60003

QC Batch:	60003	Date Analyzed:	2009-06-01	Analyzed By:	AG
Prep Batch:	51212	QC Preparation:	2009-06-01	Prepared By:	AG

Parameter	Flag	MDL Result	Units	RL
DRO		20.2	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		66.6	mg/Kg	1	100	67	13 - 178.5

[19] High surrogate recovery due to peak interference.

Method Blank (1) QC Batch: 60012

QC Batch: 60012 | Date Analyzed: 2009-06-02 | Analyzed By: AR
Prep Batch: 51186 | QC Preparation: 2009-06-01 | Prepared By: AR

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

Method Blank (1) QC Batch: 60013

QC Batch: 60013 | Date Analyzed: 2009-06-02 | Analyzed By: AR
Prep Batch: 51187 | QC Preparation: 2009-06-01 | Prepared By: AR

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

Method Blank (1) QC Batch: 60032

QC Batch: 60032 | Date Analyzed: 2009-06-02 | Analyzed By: ME
Prep Batch: 51248 | QC Preparation: 2009-06-02 | Prepared By: ME

Parameter	Flag	MDL Result	Units	RL
GRO		<0.482	mg/Kg	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.97	mg/Kg	1	2.00	98	71.9 - 115
4-Bromofluorobenzene (4-BFB)		1.45	mg/Kg	1	2.00	72	45.7 - 118.9

Method Blank (1) QC Batch: 60203

QC Batch: 60203 | Date Analyzed: 2009-06-08 | Analyzed By: ME
Prep Batch: 51377 | QC Preparation: 2009-06-08 | Prepared By: ME

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.00100	mg/Kg	0.01
Toluene		<0.00100	mg/Kg	0.01
Ethylbenzene		<0.00110	mg/Kg	0.01
Xylene		<0.00360	mg/Kg	0.01

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.87	mg/Kg	1	2.00	94	65.6 - 130.6
4-Bromofluorobenzene (4-BFB)		1.66	mg/Kg	1	2.00	83	51.9 - 128.1

Method Blank (1) QC Batch: 60299

QC Batch: 60299 | Date Analyzed: 2009-06-10 | Analyzed By: ME
Prep Batch: 51454 | QC Preparation: 2009-06-10 | Prepared By: ME

Parameter	Flag	MDL Result	Units	RL
Benzene		*<0.00100*	mg/Kg	*0.01*
Toluene		<0.00100	mg/Kg	0.01
Ethylbenzene		<0.00110	mg/Kg	0.01
Xylene		<0.00360	mg/Kg	0.01

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.94	mg/Kg	1	2.00	97	65.6 - 130.6
4-Bromofluorobenzene (4-BFB)		1.84	mg/Kg	1	2.00	92	51.9 - 128.1

Laboratory Control Spike (LCS-1)

QC Batch: 59966 | Date Analyzed: 2009-06-01 | Analyzed By: ME
Prep Batch: 51213 | QC Preparation: 2009-06-01 | Prepared By: ME

Param		LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	[20]	12.6	mg/Kg	1	20.0	<0.482	63	60.5 - 100.1

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
GRO	13.2	mg/Kg	1	20.0	<0.482	66	60.5 - 100.1	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)	1.97	1.90	mg/Kg	1	2.00	98	95	78.8 - 104.7
4-Bromofluorobenzene (4-BFB)	1.36	1.37	mg/Kg	1	2.00	68	68	66.1 - 107.3

[20]SPECIAL - MS/MSD was run but not reported due to out of range. •

Laboratory Control Spike (LCS-1)

QC Batch: 60003 | Date Analyzed: 2009-06-01 | Analyzed By: AG
Prep Batch: 51212 | QC Preparation: 2009-06-01 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	211	mg/Kg	1	250	20.2	76	57.4 - 133.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	204	mg/Kg	1	250	20.2	74	57.4 - 133.4	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
n-Triacontane	77.3	75.2	mg/Kg	1	100	77	75	48.5 - 146.7

Laboratory Control Spike (LCS-1)

QC Batch: 60012 | Date Analyzed: 2009-06-02 | Analyzed By: AR
Prep Batch: 51186 | QC Preparation: 2009-06-01 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.0	mg/Kg	1	100	<2.18	98	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	99.8	mg/Kg	1	100	<2.18	100	85 - 115	2	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: 60013 | Date Analyzed: 2009-06-02 | Analyzed By: AR
Prep Batch: 51187 | QC Preparation: 2009-06-01 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	99.5	mg/Kg	1	100	<2.18	100	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	101	mg/Kg	1	100	<2.18	101	85 - 115	2	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: 60032 | Date Analyzed: 2009-06-02 | Analyzed By: ME
Prep Batch: 51248 | QC Preparation: 2009-06-02 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	13.4	mg/Kg	1	20.0	<0.482	67	60.5 - 100.1

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
GRO	14.4	mg/Kg	1	20.0	<0.482	72	60.5 - 100.1	7	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.02	2.00	mg/Kg	1	2.00	101	100	78.8 - 104.7
4-Bromofluorobenzene (4-BFB)	1.61	1.54	mg/Kg	1	2.00	80	77	66.1 - 107.3

Laboratory Control Spike (LCS-1)

QC Batch: 60203 | Date Analyzed: 2009-06-08 | Analyzed By: ME
Prep Batch: 51377 | QC Preparation: 2009-06-08 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.79	mg/Kg	1	2.00	<0.00100	90	72.7 - 129.8
Toluene	1.82	mg/Kg	1	2.00	<0.00100	91	71.6 - 129.6
Ethylbenzene	1.79	mg/Kg	1	2.00	<0.00110	90	70.8 - 129.7
Xylene	5.38	mg/Kg	1	6.00	<0.00360	90	70.9 - 129.4

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
Benzene	1.86	mg/Kg	1	2.00	<0.00100	93	72.7 - 129.8	4	20
Toluene	1.90	mg/Kg	1	2.00	<0.00100	95	71.6 - 129.6	4	20
Ethylbenzene	1.94	mg/Kg	1	2.00	<0.00110	97	70.8 - 129.7	8	20
Xylene	5.96	mg/Kg	1	6.00	<0.00360	99	70.9 - 129.4	10	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)	1.88	1.88	mg/Kg	1	2.00	94	94	65.9 - 132
4-Bromofluorobenzene (4-BFB)	1.62	1.75	mg/Kg	1	2.00	81	88	55.2 - 128.9

Laboratory Control Spike (LCS-1)

QC Batch: 60299 | Date Analyzed: 2009-06-10 | Analyzed By: ME
Prep Batch: 51454 | QC Preparation: 2009-06-10 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.04	mg/Kg	1	2.00	<0.00100	102	72.7 - 129.8
Toluene	2.09	mg/Kg	1	2.00	<0.00100	104	71.6 - 129.6
Ethylbenzene	2.04	mg/Kg	1	2.00	<0.00110	102	70.8 - 129.7
Xylene	6.29	mg/Kg	1	6.00	<0.00360	105	70.9 - 129.4

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
Benzene	2.16	mg/Kg	1	2.00	<0.00100	108	72.7 - 129.8	6	20
Toluene	2.25	mg/Kg	1	2.00	<0.00100	112	71.6 - 129.6	7	20
Ethylbenzene	2.31	mg/Kg	1	2.00	<0.00110	116	70.8 - 129.7	12	20
Xylene	7.13	mg/Kg	1	6.00	<0.00360	119	70.9 - 129.4	12	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)	1.92	1.96	mg/Kg	1	2.00	96	98	65.9 - 132
4-Bromofluorobenzene (4-BFB)	1.99	2.16	mg/Kg	1	2.00	100	108	55.2 - 128.9

Matrix Spike (MS-1) Spiked Sample: 197293

QC Batch: 60003 | Date Analyzed: 2009-06-01 | Analyzed By: AG
Prep Batch: 51212 | QC Preparation: 2009-06-01 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	199	mg/Kg	1	250	32.4	67	35.2 - 167.1

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	204	mg/Kg	1	250	32.4	69	35.2 - 167.1	2	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	65.1	68.9	mg/Kg	1	100	65	69	34.5 - 178.4

Matrix Spike (MS-1) Spiked Sample: 197387

QC Batch: 60012 | Date Analyzed: 2009-06-02 | Analyzed By: AR
Prep Batch: 51186 | QC Preparation: 2009-06-01 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	5300	mg/Kg	50	5000	486	96	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	5360	mg/Kg	50	5000	486	97	85 - 115	1	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: 197395

QC Batch: 60013 | Date Analyzed: 2009-06-02 | Analyzed By: AR
Prep Batch: 51187 | QC Preparation: 2009-06-01 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	5510	mg/Kg	50	5000	449	101	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	5560	mg/Kg	50	5000	449	102	85 - 115	1	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: 197395

QC Batch: 60032 | Date Analyzed: 2009-06-02 | Analyzed By: ME
Prep Batch: 51248 | QC Preparation: 2009-06-02 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	391	mg/Kg	5	100	361.95	29	12.8 - 175.2

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
GRO	478	mg/Kg	5	100	361.95	116	12.8 - 175.2	20	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)		10.0	10.1	mg/Kg	5	10	100	101	60.8 - 132.1
4-Bromofluorobenzene (4-BFB)	[21]	15.8	19.4	mg/Kg	5	10	158	194	31.3 - 161.7

Matrix Spike (MS-1) Spiked Sample: 198073

QC Batch: 60203 | Date Analyzed: 2009-06-08 | Analyzed By: ME
Prep Batch: 51377 | QC Preparation: 2009-06-08 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.07	mg/Kg	1	2.00	<0.00100	104	58.6 - 165.2
Toluene	2.04	mg/Kg	1	2.00	0.0585	99	64.2 - 153.8
Ethylbenzene	2.08	mg/Kg	1	2.00	0.0901	99	61.6 - 159.4
Xylene	6.28	mg/Kg	1	6.00	0.1727	102	64.4 - 155.3

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
Benzene	[22]	<0.00100	mg/Kg	1	2.00	<0.00100	0	58.6 - 165.2	200	20
Toluene	[23]	<0.00100	mg/Kg	1	2.00	0.0585	0	64.2 - 153.8	200	20
Ethylbenzene	[24]	0.129	mg/Kg	1	2.00	0.0901	2	61.6 - 159.4	177	20
Xylene	[25]	0.287	mg/Kg	1	6.00	0.1727	2	64.4 - 155.3	182	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	1.94	mg/Kg	1	2	94	97	76 - 127.9
4-Bromofluorobenzene (4-BFB)	1.76	1.66	mg/Kg	1	2	88	83	72 - 127.8

[21] High surrogate recovery due to peak interference.
[22] SPECIAL - MSD was not spiked •
[23] SPECIAL - MSD was not spiked •
[24] SPECIAL - MSD was not spiked •
[25] SPECIAL - MSD was not spiked •

Matrix Spike (MS-1) Spiked Sample: 197394

QC Batch: 60299 | Date Analyzed: 2009-06-10 | Analyzed By: ME
Prep Batch: 51454 | QC Preparation: 2009-06-10 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	12.1	mg/Kg	5	10.0	<0.00500	121	58.6 - 165.2
Toluene	21.8	mg/Kg	5	10.0	14.0265	78	64.2 - 153.8
Ethylbenzene	20.5	mg/Kg	5	10.0	12.0165	85	61.6 - 159.4
Xylene	72.4	mg/Kg	5	30.0	47.4302	83	64.4 - 155.3

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
Benzene	12.6	mg/Kg	5	10.0	<0.00500	126	58.6 - 165.2	4	20
Toluene	23.6	mg/Kg	5	10.0	14.0265	96	64.2 - 153.8	8	20
Ethylbenzene	22.6	mg/Kg	5	10.0	12.0165	106	61.6 - 159.4	10	20
Xylene	78.7	mg/Kg	5	30.0	47.4302	104	64.4 - 155.3	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)		9.89	9.89	mg/Kg	5	10	99	99	76 - 127.9
4-Bromofluorobenzene (4-BFB)	[26] [27]	13.1	14.0	mg/Kg	5	10	131	140	72 - 127.8

Standard (CCV-1)

QC Batch: 59966 | Date Analyzed: 2009-06-01 | 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	0.934	93	80 - 120	2009-06-01

Standard (CCV-2)

QC Batch: 59966 | Date Analyzed: 2009-06-01 | 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	0.894	89	80 - 120	2009-06-01

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

Standard (CCV-1)

QC Batch: 60003 Date Analyzed: 2009-06-01 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	242	97	80 - 120	2009-06-01

Standard (CCV-2)

QC Batch: 60003 Date Analyzed: 2009-06-01 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	234	94	80 - 120	2009-06-01

Standard (CCV-3)

QC Batch: 60003 Date Analyzed: 2009-06-01 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	257	103	80 - 120	2009-06-01

Standard (ICV-1)

QC Batch: 60012 Date Analyzed: 2009-06-02 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	103	103	85 - 115	2009-06-02

Standard (CCV-1)

QC Batch: 60012 Date Analyzed: 2009-06-02 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.0	97	85 - 115	2009-06-02

Standard (ICV-1)

QC Batch: 60013 | Date Analyzed: 2009-06-02 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2009-06-02

Standard (CCV-1)

QC Batch: 60013 | Date Analyzed: 2009-06-02 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.6	100	85 - 115	2009-06-02

Standard (CCV-1)

QC Batch: 60032 | Date Analyzed: 2009-06-02 | 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	0.899	90	80 - 120	2009-06-02

Standard (CCV-2)

QC Batch: 60032 | Date Analyzed: 2009-06-02 | 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	1.16	116	80 - 120	2009-06-02

Standard (CCV-2)

QC Batch: 60203 | Date Analyzed: 2009-06-08 | 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	0.106	106	80 - 120	2009-06-08
Toluene		mg/Kg	0.100	0.106	106	80 - 120	2009-06-08

continued ...

standard continued ...

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Ethylbenzene		mg/Kg	0.100	0.102	102	80 - 120	2009-06-08
Xylene		mg/Kg	0.300	0.311	104	80 - 120	2009-06-08

Standard (CCV-3)

QC Batch: 60203 Date Analyzed: 2009-06-08 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.102	102	80 - 120	2009-06-08
Toluene		mg/Kg	0.100	0.102	102	80 - 120	2009-06-08
Ethylbenzene		mg/Kg	0.100	0.0988	99	80 - 120	2009-06-08
Xylene		mg/Kg	0.300	0.305	102	80 - 120	2009-06-08

Standard (CCV-1)

QC Batch: 60299 Date Analyzed: 2009-06-10 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.102	102	80 - 120	2009-06-10
Toluene		mg/Kg	0.100	0.104	104	80 - 120	2009-06-10
Ethylbenzene		mg/Kg	0.100	0.110	110	80 - 120	2009-06-10
Xylene		mg/Kg	0.300	0.338	113	80 - 120	2009-06-10

Standard (CCV-2)

QC Batch: 60299 Date Analyzed: 2009-06-10 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	0.100	100	80 - 120	2009-06-10
Toluene		mg/Kg	0.100	0.106	106	80 - 120	2009-06-10
Ethylbenzene		mg/Kg	0.100	0.115	115	80 - 120	2009-06-10
Xylene		mg/Kg	0.300	0.356	119	80 - 120	2009-06-10

1052928

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 2

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: St Marys

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-1440203

PROJECT NAME: St. Marys / 2011 Tract #1 T13

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
19378	5/28/05		S		X	AH-1 0-1'	1				X			X											X				
379						AH-1 1'-1.5'									X											X				
380						AH-1 2'-2.5'																				X				
381						AH-1 3'-3.5'																				X				
382						AH-2 0-1'									X											X				
383						AH-2 1'-1.5'									X											X				
384						AH-2 2'-2.5'																				X				
385						AH-2 3'-3.5'																				X				
386						AH-2 4'-4.5'																				X				
387	↓		↓		↓	AH-3 0-1	↓				↓			X											X				

RELINQUISHED BY: (Signature)	Date: 5/28/05 Time: 1644	RECEIVED BY: (Signature)	Date: 5-29-05 Time: 16:40
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:

SAMPLED BY: (Print & Initial) Robert Gabb Jr. Date: 5/28/05 Time: 1456

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

RECEIVING LABORATORY: Trace

ADDRESS:

CITY: Midland STATE: Tx ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: TIME:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 7.8

REMARKS: If TPH exceed 1,000 mg/kg run Aliquot Sample.

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

Run (3) BTEX on highest TPH

4052928

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: St. Marys

SITE MANAGER:

PROJECT NO.: 114-6400203

PROJECT NAME: St. Marys / PDU Tract #1 TB Eddy Co. NM

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. 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
197388	5/28/05		S		X	AH-3 1-1.5'	1				X			X											X				
389	↓		↓		↓	AH-3 2-2.5'	↓				↓														X				
390	↓		↓		↓	AH-3 3-3.5'	↓				↓														X				
391	↓		↓		↓	AH-3 4-4.5'	↓				↓														X				
392	↓		↓		↓	AH-4 0-1'	↓				↓			X											X				
393	↓		↓		↓	AH-4 1-1.5'	↓				↓			X											X				
394	↓		↓		↓	AH-5 0-1'	↓				↓			X											X				
395	↓		↓		↓	AH-5 1-1.5'	↓				↓			X											X				

RELINQUISHED BY: (Signature) Robert Green Jr. Date: 5-28-09 Time: 1640
RECEIVED BY: (Signature) Lindsay Dale Date: 5/29/09 Time: 16:40

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

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

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

SAMPLED BY: (Print & Initial) Robert Grubbs Jr. Date: 5-28-05 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

SAMPLE CONDITION WHEN RECEIVED: 78

REMARKS: If TPH exceeds 6000 mg/kg run deeper sample

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

Run (3) ~~[illegible]~~ BTEX on highest TPH

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: June 7, 2010

Work Order: 10052812

Project Name: St. Mary/PDU Tract #1 TB
Project Number: 114-6400203

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
233081	SB-1 1'	soil	2010-05-25	00:00	2010-05-27
233082	SB-1 3'	soil	2010-05-25	00:00	2010-05-27
233083	SB-1 5'	soil	2010-05-25	00:00	2010-05-27
233084	SB-1 7'	soil	2010-05-25	00:00	2010-05-27
233085	SB-1 10'	soil	2010-05-25	00:00	2010-05-27
233086	SB-1 15'	soil	2010-05-25	00:00	2010-05-27
233087	SB-1 20'	soil	2010-05-25	00:00	2010-05-27
233088	SB-1 25'	soil	2010-05-25	00:00	2010-05-27
233089	SB-1 30'	soil	2010-05-25	00:00	2010-05-27
233090	SB-1 40'	soil	2010-05-25	00:00	2010-05-27
233091	SB-2 1'	soil	2010-05-25	00:00	2010-05-27

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
233092	SB-2 3'	soil	2010-05-25	00:00	2010-05-27
233093	SB-2 5'	soil	2010-05-25	00:00	2010-05-27
233094	SB-2 7'	soil	2010-05-25	00:00	2010-05-27
233095	SB-2 10'	soil	2010-05-25	00:00	2010-05-27
233096	SB-2 15'	soil	2010-05-25	00:00	2010-05-27
233097	SB-2 20'	soil	2010-05-25	00:00	2010-05-27
233098	SB-2 30'	soil	2010-05-25	00:00	2010-05-27
233099	SB-3 1'	soil	2010-05-25	00:00	2010-05-27
233100	SB-3 3'	soil	2010-05-25	00:00	2010-05-27
233101	SB-3 5'	soil	2010-05-25	00:00	2010-05-27
233102	SB-3 7'	soil	2010-05-25	00:00	2010-05-27
233103	SB-3 10'	soil	2010-05-25	00:00	2010-05-27
233104	SB-3 15'	soil	2010-05-25	00:00	2010-05-27
233105	SB-3 20'	soil	2010-05-25	00:00	2010-05-27
233106	SB-3 25'	soil	2010-05-25	00:00	2010-05-27
233107	SB-3 30'	soil	2010-05-25	00:00	2010-05-27
233108	SB-3 40'	soil	2010-05-25	00:00	2010-05-27
233109	SB-3 45'	soil	2010-05-25	00:00	2010-05-27

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 St. Mary/PDU Tract #1 TB were received by TraceAnalysis, Inc. on 2010-05-27 and assigned to work order 10052812. Samples for work order 10052812 were received intact at a temperature of 3.1 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	60437	2010-06-02 at 14:15	70573	2010-06-02 at 16:31
Chloride (Titration)	SM 4500-Cl B	60409	2010-06-01 at 12:03	70556	2010-06-02 at 13:04
Chloride (Titration)	SM 4500-Cl B	60410	2010-06-01 at 12:04	70557	2010-06-02 at 13:04
Chloride (Titration)	SM 4500-Cl B	60411	2010-06-01 at 12:04	70558	2010-06-02 at 13:05
Chloride (Titration)	SM 4500-Cl B	60412	2010-06-01 at 12:05	70559	2010-06-02 at 13:06
TPH DRO - NEW	S 8015 D	60419	2010-06-01 at 13:52	70544	2010-06-01 at 13:52
TPH GRO	S 8015 D	60437	2010-06-02 at 14:15	70574	2010-06-02 at 16:59

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 10052812 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: 233081 - SB-1 1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	70573	Date Analyzed:	2010-06-02	Analyzed By:	AG
Prep Batch:	60437	Sample Preparation:	2010-06-02	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**0.454**	mg/Kg	5	0.0100
Toluene		**5.28**	mg/Kg	5	0.0100
Ethylbenzene		**4.80**	mg/Kg	5	0.0100
Xylene		**18.6**	mg/Kg	5	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5.10	mg/Kg	5	5.00	102	60.4 - 141.2
4-Bromofluorobenzene (4-BFB)	[1]	9.49	mg/Kg	5	5.00	190	43.1 - 158.4

Sample: 233081 - SB-1 1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70556	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60409	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1150**	mg/Kg	100	4.00

Sample: 233081 - SB-1 1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	70544	Date Analyzed:	2010-06-01	Analyzed By:	kg
Prep Batch:	60419	Sample Preparation:	2010-06-01	Prepared By:	kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**458**	mg/Kg	1	50.0

[1] High surrogate recovery due to peak interference.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	[2]	157	mg/Kg	1	100	157	70 - 130

Sample: 233081 - SB-1 1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	70574	Date Analyzed:	2010-06-02	Analyzed By:	AG
Prep Batch:	60437	Sample Preparation:	2010-06-02	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**1060**	mg/Kg	5	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5.57	mg/Kg	5	5.00	111	50.3 - 155
4-Bromofluorobenzene (4-BFB)	[3]	8.63	mg/Kg	5	5.00	173	51.7 - 131.1

Sample: 233082 - SB-1 3'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	70573	Date Analyzed:	2010-06-02	Analyzed By:	AG
Prep Batch:	60437	Sample Preparation:	2010-06-02	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**0.0622**	mg/Kg	5	0.0100
Toluene		**0.747**	mg/Kg	5	0.0100
Ethylbenzene		**0.900**	mg/Kg	5	0.0100
Xylene		**3.51**	mg/Kg	5	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		4.75	mg/Kg	5	5.00	95	60.4 - 141.2
4-Bromofluorobenzene (4-BFB)		5.68	mg/Kg	5	5.00	114	43.1 - 158.4

Sample: 233082 - SB-1 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70556	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60409	Sample Preparation:	2010-06-01	Prepared By:	AR

[2] High surrogate recovery due to peak interference.
[3] High surrogate recovery due to peak interference.

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**675**		mg/Kg	50	4.00

Sample: 233082 - SB-1 3'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	70544	Date Analyzed:	2010-06-01	Analyzed By:	kg
Prep Batch:	60419	Sample Preparation:	2010-06-01	Prepared By:	kg

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		**144**		mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		122	mg/Kg	1	100	122	70 - 130

Sample: 233082 - SB-1 3'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	70574	Date Analyzed:	2010-06-02	Analyzed By:	AG
Prep Batch:	60437	Sample Preparation:	2010-06-02	Prepared By:	AG

Parameter	Flag	Result	RL	Units	Dilution	RL
GRO		**264**		mg/Kg	5	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5.27	mg/Kg	5	5.00	105	50.3 - 155
4-Bromofluorobenzene (4-BFB)		6.00	mg/Kg	5	5.00	120	51.7 - 131.1

Sample: 233083 - SB-1 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70556	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60409	Sample Preparation:	2010-06-01	Prepared By:	AR

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

Sample: 233084 - SB-1 7'

Laboratory:	Midland				
Analysis:	*Chloride (Titration)*	*Analytical Method:*	*SM 4500-Cl B*	*Prep Method:*	*N/A*
QC Batch:	70556	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60409	Sample Preparation:	2010-06-01	Prepared By:	AR

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

Sample: 233085 - SB-1 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70556	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60409	Sample Preparation:	2010-06-01	Prepared By:	AR

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

Sample: 233086 - SB-1 15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70556	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60409	Sample Preparation:	2010-06-01	Prepared By:	AR

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

Sample: 233087 - SB-1 20'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70556	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60409	Sample Preparation:	2010-06-01	Prepared By:	AR

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

Sample: 233088 - SB-1 25'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70556	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60409	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**545**	mg/Kg	50	4.00

Sample: 233089 - SB-1 30'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70557	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60410	Sample Preparation:	2010-06-01	Prepared By:	AR

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

Sample: 233090 - SB-1 40'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70557	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60410	Sample Preparation:	2010-06-01	Prepared By:	AR

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

Sample: 233091 - SB-2 1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70557	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60410	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1070**	mg/Kg	100	4.00

Sample: 233092 - SB-2 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70557	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60410	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**514**	mg/Kg	50	4.00

Sample: 233093 - SB-2 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70557	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60410	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1430**	mg/Kg	100	4.00

Sample: 233094 - SB-2 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70557	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60410	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**414**	mg/Kg	50	4.00

Sample: 233095 - SB-2 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70557	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60410	Sample Preparation:	2010-06-01	Prepared By:	AR

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

Sample: 233096 - SB-2 15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70557	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60410	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**341**	mg/Kg	50	4.00

Sample: 233097 - SB-2 20'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70557	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60410	Sample Preparation:	2010-06-01	Prepared By:	AR

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

Sample: 233098 - SB-2 30'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70557	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60410	Sample Preparation:	2010-06-01	Prepared By:	AR

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

Sample: 233099 - SB-3 1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70558	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60411	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**3740**	mg/Kg	100	4.00

Sample: 233100 - SB-3 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70558	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60411	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**3250**	mg/Kg	100	4.00

Sample: 233101 - SB-3 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70558	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60411	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**6500**	mg/Kg	100	4.00

Sample: 233102 - SB-3 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70558	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60411	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1010**	mg/Kg	50	4.00

Sample: 233103 - SB-3 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70558	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60411	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**6460**	mg/Kg	100	4.00

Sample: 233104 - SB-3 15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70558	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60411	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1680**	mg/Kg	100	4.00

Sample: 233105 - SB-3 20'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70558	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60411	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1080**	mg/Kg	100	4.00

Sample: 233106 - SB-3 25'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70558	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60411	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**808**	mg/Kg	100	4.00

Sample: 233107 - SB-3 30'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70558	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60411	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**974**	mg/Kg	100	4.00

Sample: 233108 - SB-3 40'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70558	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60411	Sample Preparation:	2010-06-01	Prepared By:	AR

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

Sample: 233109 - SB-3 45'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70559	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60412	Sample Preparation:	2010-06-01	Prepared By:	AR

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

Method Blank (1) QC Batch: 70544

QC Batch:	70544	Date Analyzed:	2010-06-01	Analyzed By:	kg
Prep Batch:	60419	QC Preparation:	2010-06-01	Prepared By:	kg

Parameter	Flag	MDL Result	Units	RL
DRO		<5.86	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		95.4	mg/Kg	1	100	95	70 - 130

Method Blank (1) QC Batch: 70556

QC Batch:	70556	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60409	QC Preparation:	2010-06-01	Prepared By:	AR

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

Method Blank (1) QC Batch: 70557

QC Batch:	70557	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60410	QC Preparation:	2010-06-01	Prepared By:	AR

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

Method Blank (1) QC Batch: 70558

QC Batch:	70558	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60411	QC Preparation:	2010-06-01	Prepared By:	AR

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

Method Blank (1) QC Batch: 70559

QC Batch:	70559	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60412	QC Preparation:	2010-06-01	Prepared By:	AR

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

Method Blank (1) QC Batch: 70573

QC Batch:	70573	Date Analyzed:	2010-06-02	Analyzed By:	AG
Prep Batch:	60437	QC Preparation:	2010-06-02	Prepared By:	AG

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.00410	mg/Kg	0.01
Toluene		<0.00310	mg/Kg	0.01
Ethylbenzene		<0.00240	mg/Kg	0.01
Xylene		<0.00650	mg/Kg	0.01

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.83	mg/Kg	1	2.00	92	64.9 - 142.7
4-Bromofluorobenzene (4-BFB)		1.50	mg/Kg	1	2.00	75	43.9 - 141.9

Method Blank (1) *QC Batch: 70574*

QC Batch: 70574 | Date Analyzed: 2010-06-02 | Analyzed By: AG
Prep Batch: 60437 | QC Preparation: 2010-06-02 | Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
GRO		<0.396	mg/Kg	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.06	mg/Kg	1	2.00	103	66.2 - 145
4-Bromofluorobenzene (4-BFB)		1.60	mg/Kg	1	2.00	80	62 - 120.5

Laboratory Control Spike (LCS-1)

QC Batch: 70544 | Date Analyzed: 2010-06-01 | Analyzed By: kg
Prep Batch: 60419 | QC Preparation: 2010-06-01 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	265	mg/Kg	1	250	<5.86	106	57.4 - 133.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	277	mg/Kg	1	250	<5.86	111	57.4 - 133.4	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*
n-Tricosane	98.0	99.8	mg/Kg	1	100	98	100	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 70556 | Date Analyzed: 2010-06-02 | Analyzed By: AR
Prep Batch: 60409 | QC Preparation: 2010-06-01 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.6	mg/Kg	1	100	<2.18	99	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	100	mg/Kg	1	100	<2.18	100	85 - 115	1	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: 70557 | Date Analyzed: 2010-06-02 | Analyzed By: AR
Prep Batch: 60410 | QC Preparation: 2010-06-01 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.1	mg/Kg	1	100	<2.18	98	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	100	mg/Kg	1	100	<2.18	100	85 - 115	2	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: 70558 | Date Analyzed: 2010-06-02 | Analyzed By: AR
Prep Batch: 60411 | QC Preparation: 2010-06-01 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	99.1	mg/Kg	1	100	<2.18	99	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	101	mg/Kg	1	100	<2.18	101	85 - 115	2	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: 70559 | Date Analyzed: 2010-06-02 | Analyzed By: AR
Prep Batch: 60412 | QC Preparation: 2010-06-01 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.6	mg/Kg	1	100	<2.18	99	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	100	mg/Kg	1	100	<2.18	100	85 - 115	1	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: 70573 | Date Analyzed: 2010-06-02 | Analyzed By: AG
Prep Batch: 60437 | QC Preparation: 2010-06-02 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.83	mg/Kg	1	2.00	<0.00410	92	75.4 - 115.7
Toluene	1.84	mg/Kg	1	2.00	<0.00310	92	78.4 - 113.6
Ethylbenzene	1.80	mg/Kg	1	2.00	<0.00240	90	76 - 114.2
Xylene	5.44	mg/Kg	1	6.00	<0.00650	91	76.9 - 113.6

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	1.90	mg/Kg	1	2.00	<0.00410	95	75.4 - 115.7	4	20
Toluene	1.91	mg/Kg	1	2.00	<0.00310	96	78.4 - 113.6	4	20
Ethylbenzene	1.87	mg/Kg	1	2.00	<0.00240	94	76 - 114.2	4	20
Xylene	5.64	mg/Kg	1	6.00	<0.00650	94	76.9 - 113.6	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)	1.86	1.82	mg/Kg	1	2.00	93	91	65 - 142.9
4-Bromofluorobenzene (4-BFB)	1.76	1.76	mg/Kg	1	2.00	88	88	43.8 - 144.9

Laboratory Control Spike (LCS-1)

QC Batch: 70574 | Date Analyzed: 2010-06-02 | Analyzed By: AG
Prep Batch: 60437 | QC Preparation: 2010-06-02 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	15.4	mg/Kg	1	20.0	<0.396	77	52.5 - 114.3

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	16.0	mg/Kg	1	20.0	<0.396	80	52.5 - 114.3	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)	2.08	1.89	mg/Kg	1	2.00	104	94	66.2 - 148.7
4-Bromofluorobenzene (4-BFB)	1.83	1.66	mg/Kg	1	2.00	92	83	64.1 - 127.4

Matrix Spike (MS-1) Spiked Sample: 233169

QC Batch: 70544 | Date Analyzed: 2010-06-01 | Analyzed By: kg
Prep Batch: 60419 | QC Preparation: 2010-06-01 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	334	mg/Kg	1	250	37.7	118	35.2 - 167.1

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	298	mg/Kg	1	250	37.7	104	35.2 - 167.1	11	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	115	112	mg/Kg	1	100	115	112	70 - 130

Matrix Spike (MS-1) Spiked Sample: 233088

QC Batch: 70556 | Date Analyzed: 2010-06-02 | Analyzed By: AR
Prep Batch: 60409 | QC Preparation: 2010-06-01 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	9670	mg/Kg	100	10000	545	91	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	9830	mg/Kg	100	10000	545	93	85 - 115	2	20

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

Matrix Spike (MS-1) Spiked Sample: 233098

QC Batch: 70557 | Date Analyzed: 2010-06-02 | Analyzed By: AR
Prep Batch: 60410 | QC Preparation: 2010-06-01 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10200	mg/Kg	100	10000	<218	100	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10400	mg/Kg	100	10000	<218	102	85 - 115	2	20

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

Matrix Spike (MS-1) Spiked Sample: 233108

QC Batch: 70558 | Date Analyzed: 2010-06-02 | Analyzed By: AR
Prep Batch: 60411 | QC Preparation: 2010-06-01 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10400	mg/Kg	100	10000	<218	104	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10600	mg/Kg	100	10000	<218	106	85 - 115	2	20

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

Matrix Spike (MS-1) Spiked Sample: 233121

QC Batch: 70559 | Date Analyzed: 2010-06-02 | Analyzed By: AR
Prep Batch: 60412 | QC Preparation: 2010-06-01 | Prepared By: AR

continued ...

matrix spikes continued ...

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	16400	mg/Kg	100	10000	6000	104	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	16500	mg/Kg	100	10000	6000	105	85 - 115	1	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: 233018

QC Batch: 70573 | Date Analyzed: 2010-06-02 | Analyzed By: AG
Prep Batch: 60437 | QC Preparation: 2010-06-02 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.82	mg/Kg	1	2.00	<0.00410	91	57.7 - 140.7
Toluene	1.88	mg/Kg	1	2.00	<0.00310	94	53.4 - 146.6
Ethylbenzene	1.90	mg/Kg	1	2.00	<0.00240	95	62.1 - 141.6
Xylene	5.72	mg/Kg	1	6.00	<0.00650	95	61.2 - 142.7

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	1.86	mg/Kg	1	2.00	<0.00410	93	57.7 - 140.7	2	20
Toluene	1.92	mg/Kg	1	2.00	<0.00310	96	53.4 - 146.6	2	20
Ethylbenzene	1.94	mg/Kg	1	2.00	<0.00240	97	62.1 - 141.6	2	20
Xylene	5.82	mg/Kg	1	6.00	<0.00650	97	61.2 - 142.7	2	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.48	1.54	mg/Kg	1	2	74	77	61.7 - 139.6
4-Bromofluorobenzene (4-BFB)	1.44	1.48	mg/Kg	1	2	72	74	49.6 - 146.7

Matrix Spike (MS-1) Spiked Sample: 233165

QC Batch: 70574 | Date Analyzed: 2010-06-02 | Analyzed By: AG
Prep Batch: 60437 | QC Preparation: 2010-06-02 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	25.1	mg/Kg	1	20.0	5.5866	98	10 - 198.3

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
GRO	26.8	mg/Kg	1	20.0	5.5866	106	10 - 198.3	7	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.28	2.37	mg/Kg	1	2	114	118	65.5 - 143
4-Bromofluorobenzene (4-BFB)	2.42	2.38	mg/Kg	1	2	121	119	58.6 - 140

Standard (CCV-1)

QC Batch: 70544 Date Analyzed: 2010-06-01 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	291	116	80 - 120	2010-06-01

Standard (CCV-2)

QC Batch: 70544 Date Analyzed: 2010-06-01 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	290	116	80 - 120	2010-06-01

Standard (ICV-1)

QC Batch: 70556 Date Analyzed: 2010-06-02 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-06-02

Standard (CCV-1)

QC Batch: 70556 Date Analyzed: 2010-06-02 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.0	99	85 - 115	2010-06-02

Standard (ICV-1)

QC Batch: 70557 Date Analyzed: 2010-06-02 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-06-02

Standard (CCV-1)

QC Batch: 70557 Date Analyzed: 2010-06-02 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.9	100	85 - 115	2010-06-02

Standard (ICV-1)

QC Batch: 70558 Date Analyzed: 2010-06-02 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.7	99	85 - 115	2010-06-02

Standard (CCV-1)

QC Batch: 70558 Date Analyzed: 2010-06-02 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-06-02

Standard (ICV-1)

QC Batch: 70559 Date Analyzed: 2010-06-02 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.6	100	85 - 115	2010-06-02

Standard (CCV-1)

QC Batch: 70559 Date Analyzed: 2010-06-02 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	2010-06-02

Standard (CCV-1)

QC Batch: 70573 Date Analyzed: 2010-06-02 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0918	92	80 - 120	2010-06-02
Toluene		mg/Kg	0.100	0.0925	92	80 - 120	2010-06-02
Ethylbenzene		mg/Kg	0.100	0.0910	91	80 - 120	2010-06-02
Xylene		mg/Kg	0.300	0.274	91	80 - 120	2010-06-02

Standard (CCV-2)

QC Batch: 70573 Date Analyzed: 2010-06-02 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0906	91	80 - 120	2010-06-02
Toluene		mg/Kg	0.100	0.0911	91	80 - 120	2010-06-02
Ethylbenzene		mg/Kg	0.100	0.0879	88	80 - 120	2010-06-02
Xylene		mg/Kg	0.300	0.264	88	80 - 120	2010-06-02

Standard (CCV-1)

QC Batch: 70574 Date Analyzed: 2010-06-02 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.949	95	80 - 120	2010-06-02

Standard (CCV-2)

QC Batch: 70574 Date Analyzed: 2010-06-02 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.01	101	80 - 120	2010-06-02

WO# 10052912

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: St Mary

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400203

PROJECT NAME: St Mary / PDU Tract #1 TB
Eddy Co., NM

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH TX1005 (Ext. to C35)	TPH 8015 MOD.	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/824	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
239081	5/25		S		X	SB-1 1'	1				X		X	X												X				
082						SB-1 3'	1				X		X	X												X				
083						SB-1 5'	1				X															X				
084						SB-1 7'	1				X															X				
085						SB-1 10'	1				X															X				
086						SB-1 15'	1				X															X				
087						SB-1 20'	1				X															X				
088						SB-1 25'	1				X															X				
089						SB-1 30'	1				X															X				
090						SB-1 40'	1				X															X				

RELINQUISHED BY: (Signature) Ike Tavarez — Date: 5-27-10 Time: 11:05
RECEIVED BY: (Signature) — Date: — Time:
SAMPLED BY: (Print & Initial) Kim — Date: 5/25/10 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: 5-27-10 TIME: 16:05
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: Iced
REMARKS: All tests - Midland

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

W1# 10052812

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: 3

CLIENT NAME: St Mary

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400203

PROJECT NAME: St. Mary / PDU Tract #1 TB

Eddy Co, NM

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
223091	5/25		S		X	SB-2 1'	1				X	
092						SB-2 3'	1				X	
093						SB-2 5'	1				X	
094						SB-2 7'	1				X	
095						SB-2 10'	1				X	
096						SB-2 15'	1				X	
097						SB-2 20'	1				X	
098						SB-2 30'	1				X	
099						SB-3 1'	1				X	
100						SB-3 3'	1				X	

ANALYSIS REQUEST (Circle or Specify Method No.)

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

RELINQUISHED BY: (Signature) Date: 5-27-10 Time: 11:05
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) Kim Date: 5/25/10 Time:

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

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: TRACE
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: 5.27.10 TIME: 11:05

SAMPLE CONDITION WHEN RECEIVED: 3.1°C on ice

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.

WO # 10052812

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: 3 OF: 3

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: St. Mary

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-640 0203

PROJECT NAME: St. Mary / PDU Tract #1 TB

Eddy Co., NM

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
235101	5/25		S		X	SB-3 5'	1				X													X				
102			S		X	SB-3 7'	1				X													X				
103			S		X	SB-3 10'	1				X													X				
104			S		X	SB-3 15'	1				X													X				
105			S		X	SB-3 20'	1				X													X				
106			S		X	SB-3 25'	1				X													X				
107			S		X	SB-3 30'	1				X													X				
108			S		X	SB-3 40'	1				X													X				
109			S		X	SB-3 45'	1				X													X				

RELINQUISHED BY: (Signature) — Date: 5-27-10 Time: 1605 — 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) Kim — Date: 5/25/10 Time:

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

TETRA TECH CONTACT PERSON: Ike Tavarez — Results by:

RECEIVING LABORATORY: TRACE — RECEIVED BY: (Signature)

ADDRESS: — CITY: Midland — STATE: TX — ZIP: — CONTACT: — PHONE: — DATE: 5.27.10 — TIME: 16:05

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 3.1° Cintact

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.