

RECEIVED MAR 1.6 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



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-ofcustody 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 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.

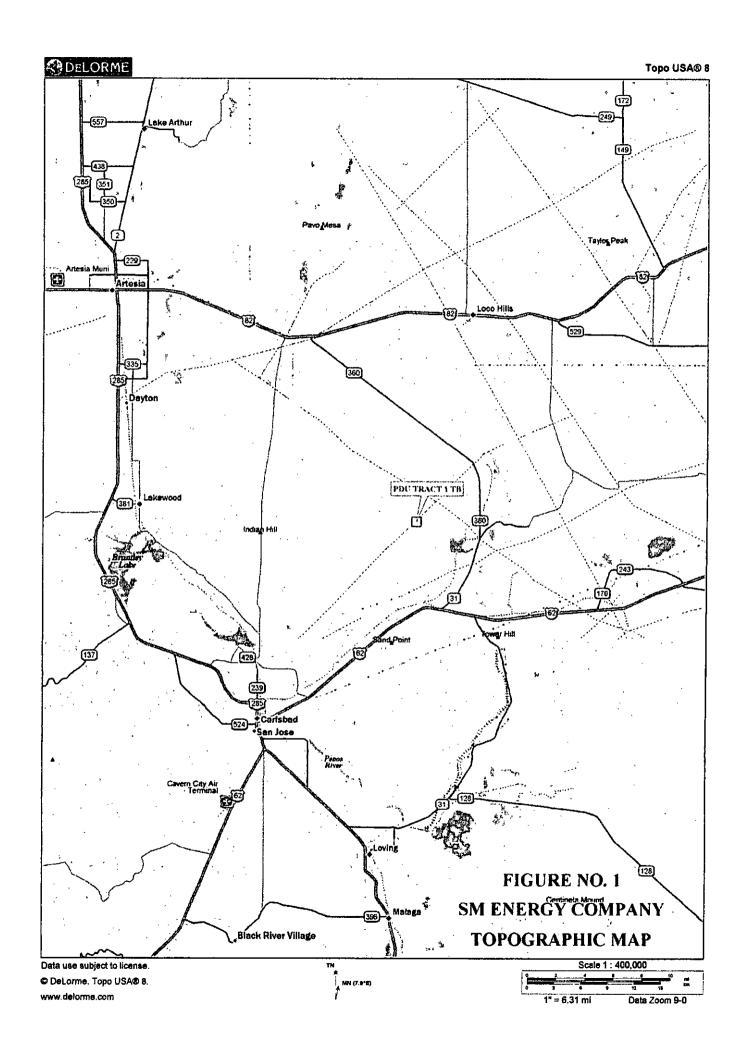
Based on the remedial activities performed at this site, SM Energy requests closure of this site. If you require any additional information or have any questions or comments concerning this report, please call at (432) 682-4559.

Sincerely, TETRA TECH INC.

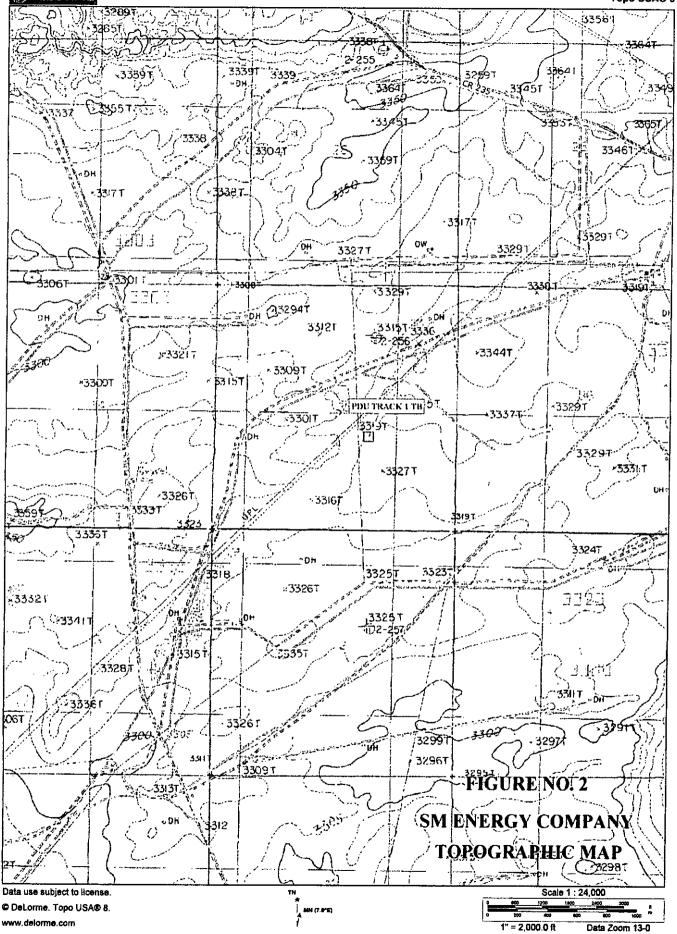
Aaron M. Hale Senior Project Manager

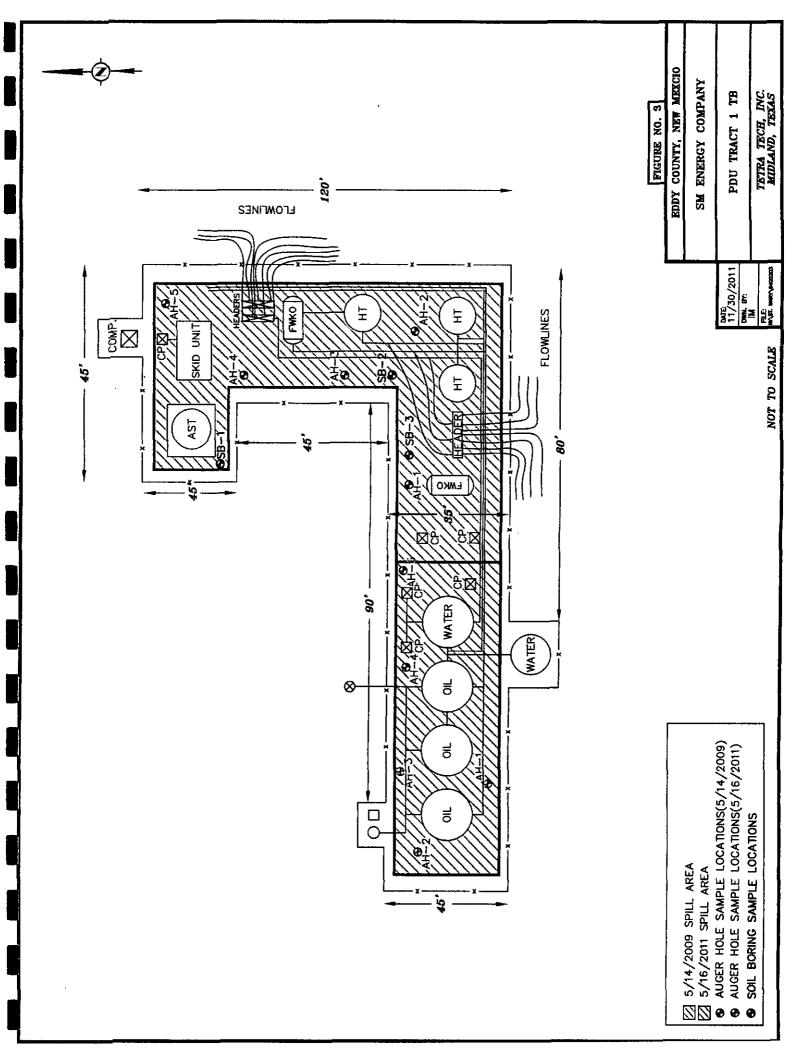
cc: Chad McNeely – SM Energy Company Don Riggs – SM Energy Company Mark Bondy – SM Energy Company BLM – Jim Amos

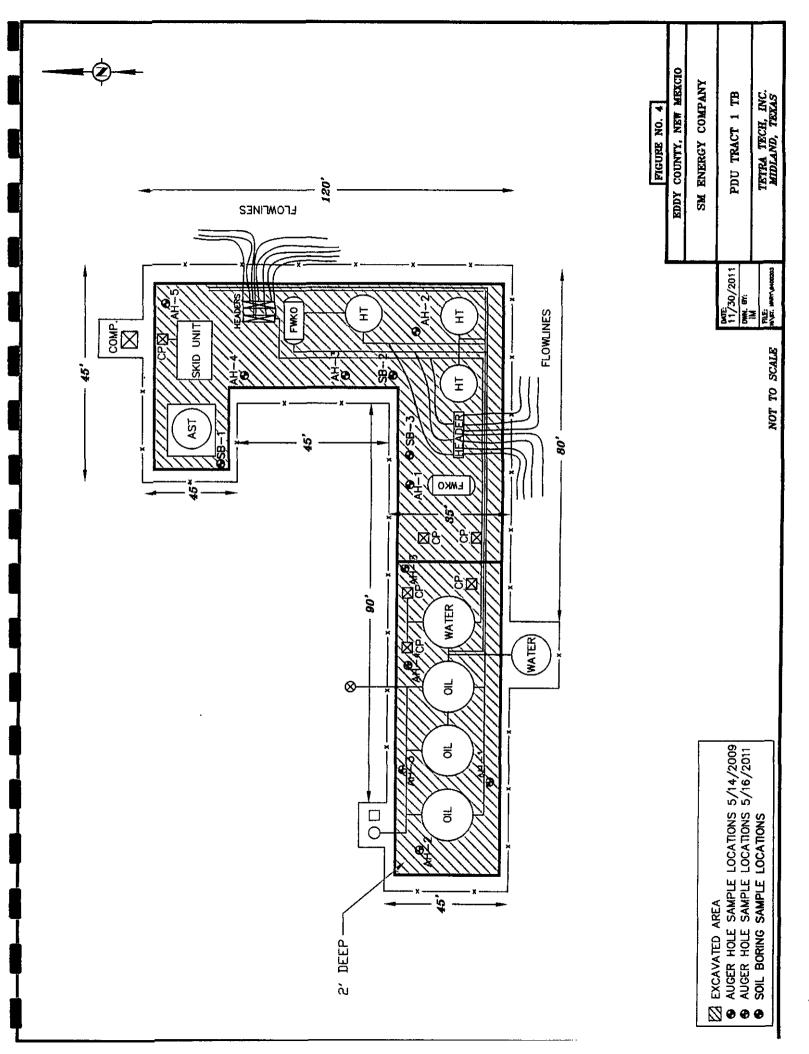
FIGURES











TABLES

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

6,750, 8,760, 3,740 486 374 Chloride (mg/Kg) 9,070 7,730 3,250 6,500 1,010 6,460 1,680 1,200 1,480 1,080 <200 1,360 280 808 276 314 303 974 24. 1 23.7 5.22 Total BTEX (mg/Kg) • 1111 S 4 ~ Τ. (mg/Kg) 3.51, Xylene . ••• ••• 0.900 Ethlybenzene 3.26 (mg/Kg) ۲ , L 0.747 6.81 ⁶ Toluene (mg/Kg) 0.0622 ę (mg/Kg) Benzene 2.49 214,130 285 285 1,103 1408 242 Total TPH (mg/Kg) 970 126 144 50.0 1,130° 74.3 ÷ 73.3 74.3 GRO 13,000. 311 1,030 <50.0 264 达 \$2,770 116 DRO ×× × XX X Removed Soil Status '5 ⁻t A • In-Situ È, $\times \times$ $\times \times$ × $\times \times$ \times $\times \times \times$ × \times × \times × × \times ê. J 01 1.1.1.2 1155 051 0-1-Depth (ft) Sample 2-2.5 3-3.5 40' 2-2.5 3-3.5 4-4.5 2-2.5 3-3.5 4-4.5 20' ດັ່ອ 10, 10, 1 ŝ 45 1 -5/25/2010 5/28/2009 5/28/2009 °5/28/2009 ℃ 5/28/2009-5/28/2009 Sampled 5/28/2009 5/28/2009 5/28/2009 5/25/2010 5/25/2010 5/25/2010 5/25/2010 5/25/2010 5/25/2010 5/25/2010 5/25/2010 5/25/2010 5/25/2010 5/28/2009 5/28/2009 5/28/2009 5/28/2009 5/28/2009 5/28/2009 Date ٩. Sample SB-3 AH-2 AH-1 AH-3 9

Page 1 of 2

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

Sample	Date	Sample	Soll S	Soll Status		TPH (mg/Kg		Benzene	Toluene	Ethlybenzene	Xvlene	Total BTEX	Chloride
٩	Sampled	Depth (ft)	In-Situ	Removed	DRO	GRO	Total	(mg/Kg)	(mg/Kg)	(mg/Kg)	\square	(mg/Kg)	(mg/Kg)
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	5/25/2010	20'	×		,		I	•	ı	ı		,	<200
	5/25/2010	30'	×		•	ŀ	ł		1		,		
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SB-1	5/25/2010	A State of the second	1		2.°458°	1,060	1,518	0.454	<u>.</u> .5.28	4.80	2.2.18.6	29.12	1,150 ⁵
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	Excavated Depths	S											

Table 2

SM Energy Company PDU TRACT #1 TANK BATTERY

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Sample	Sample	Sample	BEB	Soil	Soil Status	Ŧ	TPH (mg/kg)	g)	Benzene	Toluene	Ethlybenzene	Xylene	Chloride
₽	Date	Depth (ft)	Depth (ft)		Removed	GRO	DRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
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	н	3-3.5'		×		1,070	5,630	6,700	5.13	28.7	13.3	44.8	<200
	=	4-4.5'	-	×		3,110	7,000	10,110	8.28	37.8	16.2	58.2	376
	=	5-5.5'	-	×		3,200	10,200	13,400	5.56	37.0	18.7	6.69	238
	=	6-6.5'	-	Х		3,060	7,040	10,100	7.72	40.9	19.7	69.1	296
	H	7-7.5'		Х		1,360	1,130	2,490	3.67	21.5	10.1	33.5	2.090

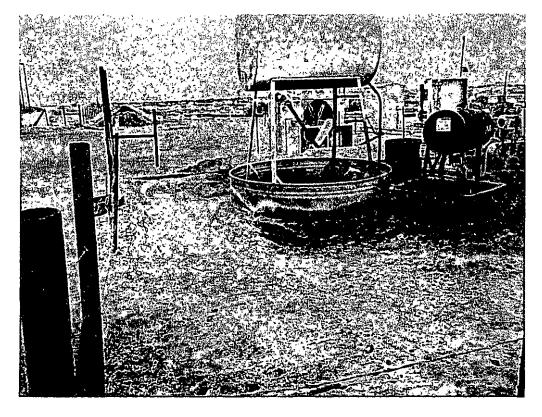
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PHOTOGRAPHS

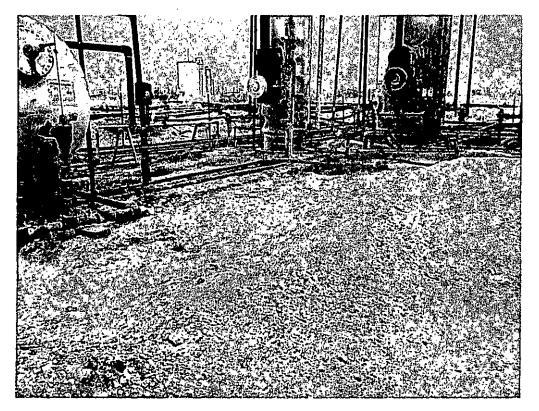
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Site info and picture details



Site info and picture details



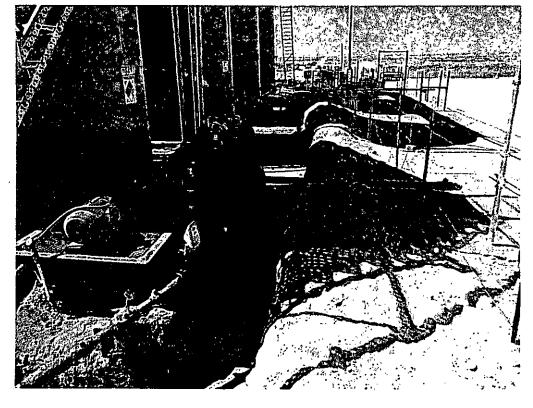
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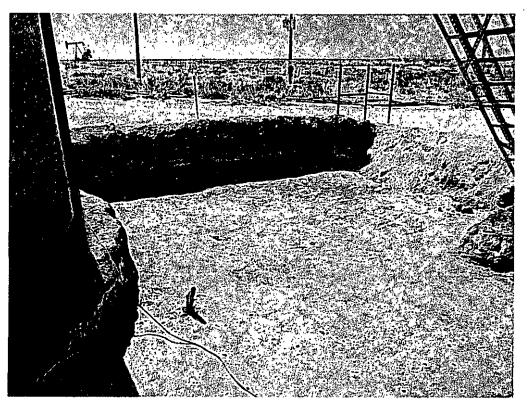
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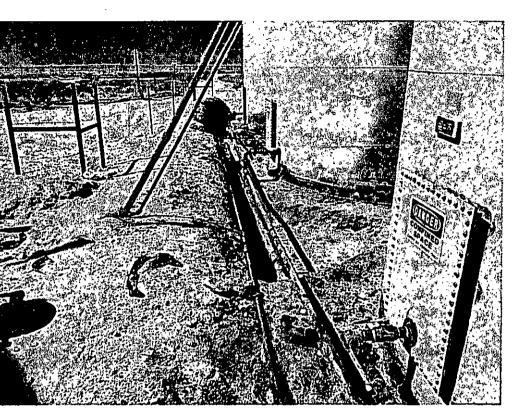
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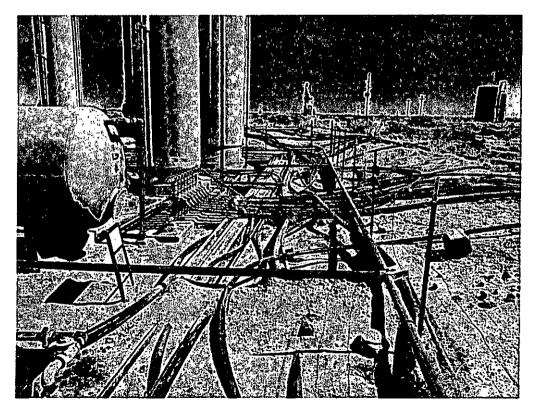
Site info and picture details

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TETRA TECH



Site info and picture details



Site info and picture details

APPENDIX A

District 1 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

Form C-141 Revised October 10, 2003

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

	,	,		Sa	inta F	e, NM 875	05				
[Rele	ease Notific	catio	n and Co	orrective A	ction			
						OPERA	FOR	🗍 Init	ial Report	\boxtimes	Final Report
Name of Co	mpany SN	M Energy C	Company	y			nna Huddlesto				
				00 Midland, Tx		Telephone 1	No. (432) 688-1	1789			
Facility Nar	ne Parkwa	y Delaware	Tract 1 I	Battery		Facility Typ	e Tank Batte	ry			
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By Whom? B				· · · ·			lour 05/16/2011				
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If a Watercou	rse was Impa	acted, Descri	be Fully.*	ŧ							
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Describe Area	a Affected ar	nd Cleanup A	ction Tak	(en.*							
85 ft x 60 ft a	rea contained	d in dike. Di	ig out tho	p 1 foot of soil. T	etra Te	ch inspected s	ite and collected	samples to define	spills extent.	Soil th	at exceeded
RRAL was re	moved and h	nauled away	for proper	r disposal to the m	ıaximur	n extent practi	icable. Microblaz	ze was applied to t	he excavated	area pi	rior to the
site being bro	ught up to su	irface grade v	with clean	i backfill material	. Tetra	l'ech prepared	closure report an	id submitted to NM	AOCD for re-	view.	
I hereby certi	fy that the in	formation giv	ven above	is true and comp	lete to t	he best of my	knowledge and u	inderstand that pur	suant to NM	OCD n	iles and
regulations al	l operators as	re required to) report ar	nd/or file certain r	elease n	otifications at	nd perform correc	tive actions for re	leases which	may er	ndanger
public health	or the enviro	nment. The	acceptanc	ce of a C-141 repo	ort by th	e NMOCD m	arked as "Final R	eport" does not re eat to ground wate	heve the oper	ator of ter hu	liability
or the environ	ment. In add	dition. NMO	CD accep	tance of a C-141	report d	loes not reliev	e the operator of	responsibility for a	compliance w	ith any	other
federal, state,	or local laws	s and/or regu	lations.								
							OIL CON	SERVATION	DIVISIC	<u>)N</u>	
Signature: (Lill	2									
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Printed Name	: Aaron Hale	Gaint.	for Sm	theray							
Title: Project		Ũ		/		Approval Dat	e:	Expiration	Date:		
								<u> </u>			
E-mail Addre	ss: aaron.hale	e@tetratech.	com			Conditions of	Approval:		Attached		
Date:			Phone:	(432) 682-4559						., .	
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Attach Additional Sheets If Necessary

State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

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	_		Rele	ease Notific	ation	and Co	orrective A	ction			
						OPERA	FOR	🗖 Init	ial Report	\boxtimes	Final Report
Name of Co	mpany St	. Mary La	nd & Exp	oloration Co.			nna Huddlesto				
				0 Midland, Tx			No. (432) 688-1				
Facility Nar	ne Parkwa	y Delaware	Tract 1 I	Battery		Facility Typ	e Tank Batter	ry			
Surface Ow	ner: BLM			Mineral O	wner: I	BLM	······	Lease	No.		
				LOCA	TION	NOF RE	LEASE				
Unit Letter	Section	Township	Range	Feet from the		South Line	Feet from the	East/West Line	County		
Р	35	198	29Ē							ddy Co.	. NM
1			 1	Latitude N 32.6	61531°	Longitud	e W 104 04324				
			-			-		•			
Type of Relea	se Produce	d water and (Oil	INAI	UKE	OF REL	Release 275 bbls	Volume	Recovered 2	60 hbl	
Source of Rel							lour of Occurrenc		Hour of Dis		,
						05/14/2009)	05/14/20			
Was Immedia	te Notice G		Yes 🗌	No 🗍 Not Re	quired	If YES, To Mike Brat	Whom? cher with OCD &	& Jim Amos witl	h BLM		
By Whom? B	ill Hearne	<u></u>				Date and H	lour 05/14/2009	12:30 p.m.			
Was a Watero	ourse Reach					If YES, Vo	lume Impacting t				
			Yes 🛛			N/A					
If a Watercou	rse was Imp	acted, Descri	ibe Fully.*	¢			······································				
N/A											
Describe Cause of Problem and Remedial Action Taken.*											
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.											
Hole in 8'X20 Recovered 20	bls wtr/ 24	n heater treat	er fire tube et Loss: 5h	bls wtr/ 10bbls oi	ed 25661 I Picker	s wtr/ 25066 d up all stand	is oil. All standin ling fluid containe	g fluid contained ed in dike area of	in recently in hattery Emr	nstalled	dike. maining
fluid from ves	sel, remove	d failed fire t	ube, and s	ent to welding sho	op for rep	pairs and coa	ting. Will coat 8'	X 20' treater whi	le open. Reti	irn vess	sel to
operation whe	en repairs are	e completed.									
Describe Area	Affected a	nd Cleanup A	ction Tak	en.*				<u> </u>			
		-			~				_		
Tetra Tech in: was then brou	spected site and site and site and the second se	and collected rface grade w	samples t with clean b	o define spills ext backfill material.	ent. Soil Tetra Te	that exceede	ed RRAL was rem closure report and	oved and hauled submitted to NM	away for pro	per disp iew	osal. Site
				is true and comple							
regulations all public health	operators a	re required to nment. The	accentanc	d/or file certain re e of a C-141 repor	tease no:	Unications an NMOCD ma	d perform correct irked as "Final Re	ive actions for re-	leases which lieve the oper	may en-	danger liability
should their o	perations ha	ve failed to a	dequately	investigate and re	mediate	contaminatio	on that pose a three	at to ground wate	r, surface wa	ter, hur	nan health
				ance of a C-141 n	eport do	es not relieve	e the operator of r	esponsibility for a	compliance w	ith any	other
federal, state,	or local law	s and/or regu	lations.		<u>-</u>		OIL CONS	EDVATION	DIVICIO		
	11	10					UIL CUNS	SERVATION		<u>un</u>	
Signature:	U.L.	<u>NR</u>	····-								
Printed Name	: Aaron Hale	agent to	or Sm	Energy	A	pproved by I	District Superviso	r:			
Title: Project		0		1	٨	pproval Date	».	Expiration	Date:		
								Lanpitation			
E-mail Addres	s: aaron.hal	e@tetrateCh.c	com	· · · · · · · · · · · · · · · · · · ·	C	onditions of	Approval:		Attached		
Date:				(432) 682-4559					<u> </u>		
Attach Addit	ional Sheet	s If Necessa	ILLA								

APPENDIX B

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S

THURSDAY	RACEANA	ALYSIS.	INC.		
6701 Aberdeen Averde, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1 6015 Harris Parkway, Suite 110	Lubbock, Texas 79424 El Paso, Texas 79922 Midland, Texas 79703 Ft Worth, Texas 76132 E-Mail: Tai@t	200 • 378 • 1296 889 • 583 • 3443 raceanalysis.com	806•794•1296 915=585•3443 432•689=6301 817=201•5260	FAX 806+794+1298 FAX 915+595+4944 FAX 432+689+6313	19
	Cert	tificatio	ons		
WBENC: 237019	HUB: NCTRCA	175243974 WFWB384	3100-86536 444Y0909	DBE:	VN 20657
Lubbock: T104704219-08-TX	NELAP El Paso:		cations	; Midlan	d: T104704392-08-TX

Analytical and Quality Control Report

LELAP-02002

fke 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

LELAP-02003

Kansas E-10317

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	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'	\mathbf{soil}	2009-05-28	00:00	2009-05-29
197388	AH-3 1'-1.5'	soil	2009-05-28	00:00	2009-05-29

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	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.

This report consists of a total of 28 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael abert

Dr. Blair Leftwich, Director

Standard Flags

 ${\bf B}\,$ - The sample contains less than ten times the concentration found in the method blank.

Page 2 of 28

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.

		Prep	Prep	\mathbf{QC}	Analysis
Test	Method	Batch	Date	Batch	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.

Report Date: June 11, 2009 114-6400203

Analytical Report

Sample: 197378 - AH-1 0-1'

Laboratory: Analysis: QC Batch: Prep Batch:	Chloride (Titration) 60012	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2009-06-02 2009-06-01	Prep Method: Analyzed By: Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		6750	mg/Kg	50	4.00

Sample: 197378 - AH-1 0-1'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH DRO 60003 51212		Analytical M Date Analyz Sample Prep	ed: 2009	l. 8015B 9-06-01 9-06-01	Anal	Method: N/A yzed By: AG ared By: AG
Parameter	Fla	ıe	RL Result	1	Jnits	Dilution	RL
DRO		· · ·	1030		g/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'

4-Bromofluor	obenzene (4-BFB)	1	4.37	mg/Kg	1	2.00	218	52 - 117
Trifluorotolue	ene (TFT)		1.86	mg/Kg	1	2.00	93	68.5 - 119.4
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
GRO			73.3		mg/Kg		1	1.00
Parameter	Flag		RL Result		Units		Dilution	RL
Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH GRO 59966 51213		Date Ana	l Method: Jyzed: reparation:	S 8015B 2009-06-01 2009-06-01		Prep Me Analyze Preparec	

¹lligh surrogate recovery due to peak interference.

Report Date 114-6400203	: June 11, 2009	Work Order: 905 St. Mary/PDU Trac	Page Number: 5 of 28		
Sample: 19	7379 - 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:	\mathbf{AR}
		\mathbf{RL}			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		8760	mg/Kg	50	4.00

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

n-Triacontane	5	73.9	mg/Kg	1	100	74	13.2 - 219.3
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
DRO	·		<50.0	mį	g/Kg	1	50.0
Parameter	Fla	g	RL Result	1	Units	Dilution	RL
Analysis: QC Batch: Prep Batch:	TPH DRO 60003 51212		Analytical M Date Analyz Sample Prep	ed: 2009	1. 8015B 9-06-01 9-06-01	Anal	Method: N/A yzed By: AG ared By: AG
Laboratory:	Midland		A	6.41 J. 3.6	00150	D	X (1) X (4

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

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH GRO 59966 51213		Date Ana	l Method: lyzed: reparation:	S 8015B 2009-06-01 2009-06-01		Prep Me Analyze Preparec	d By: ME
			RL					
Parameter	Flag		Result		Units		Dilution	RL
GRO			50.0		mg/Kg		1	1.00
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotolue	ene (TFT)		1.88	mg/Kg	1	2.00	94	68.5 - 119.4
4-Bromofluor	obenzene (4-BFB)		1.30	mg/Kg	1	2.00	65	52 - 117

Report Date: June 11, 2009 114-6400203			rder: 9052928 DU Tract #1 TB	Page Number: 6 of 28		
Sample: 19	7380 - AH-1 2'-2.5'					
Laboratory:	Midland					
Analysis:	Chloride (Titration)	Analytical M	Iethod: SM 4500-Cl B	Prep Method:	N/A	
QC Batch:	60012	Date Analyz	ed: 2009-06-02	Analyzed By:	AR.	
Prep Batch:	51186	Sample Prep	paration: 2009-06-01	Prepared By:	$\Lambda \mathbf{R}$	
		RL				
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}	
Chloride	······································	9070	mg/Kg	<u> </u>	4.00	

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

Laboratory: Analysis: QC Batch: Prep Batch:	Chloride (Titration) 60012	Analytical Method: Date Analyzed: Sample Preparation	SM 4500-Cl B 2009-06-02 2009-06-01	Prep Method: Analyzed By: Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		7730	mg/Kg	50	4.00

Sample: 197382 - AH-2 0-1'

Trifluorotolue	ne (TFT)			9.17	mg/Kg	5	10.0	92	49 - 129.7
Surrogate			Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Xylene		<u> </u>		11.1		mg/Kg		5	0.0100
Ethylbenzene				3.26		mg/Kg		5	0.0100
Toluene				6.81		mg/Kg		5	0.0100
Benzene			-	2.49		mg/Kg		5	0.0100
Parameter		Flag		Result		Units	Ľ	Dilution	\mathbf{RL}
				\mathbf{RL}	I				
Prep Batch:	51377			Sample Pr	eparation:	2009-06-08		Prepare	d By: ME
QC Batch:	60203			Date Anal	P .	2009-06-08		Analyze	d By: ME
Laboratory: Analysis:	Midland BTEX			Analytical		S 8021B		Prep Me	ethod: S 5035

Report Date: June 11, 2009 114-6400203		Work Order: 9052928 St. Mary/PDU Tract #1 TB		
Sample: 197382 - AH-2 0-1'				
Laboratory: Midland				
Analysis: Chloride (Titration	a) 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
	\mathbf{RL}			

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

Sample: 197382 - AH-2 0-1'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH DRO 60003 51212		Analytical M Date Analy: Sample Prej	zed: 200	d. 8015B 9-06-01 9-06-01	Anal	Method: N/A yzed By: AG ared By: AG
_			RL				
Parameter		Flag	\mathbf{Result}		Units	Dilution	\mathbf{RL}
DRO			13000	11	ıg/Kg	5	50.0
~					Spike	Percent	Recovery
Surrogate	Flag	Result	: Units	Dilution	Amount	Recovery	Limits
n-Triacontane	2	2130) mg/Kg	5	100	2130	13.2 - 219.3

Sample: 197382 - AH-2 0-1'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH GRO 59966 51213		Date Ana	l Method: lyzed: reparation:	S 8015B 2009-06-01 2009-06-01		Prep Me Analyze Prepare	d By: ME
			\mathbf{RL}					
Parameter	Flag		Result		Units		Dilution	\mathbf{RL}
GRO			1130		mg/Kg	······································	10	1.00
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotolue	mo (TET)	riag	<u>19.6</u>		10	20.0	98	68.5 - 119.4
		0		mg/Kg	-			
4-Bromofluor	obenzene (4-BFB)	3	29.0	mg/Kg	10	20.0	145	52 - 117

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

Report Date: June 11, 2009 114-6400203	Work Order: 905 St. Mary/PDU Traci	Page Number: 8 of 28		
Sample: 197383 - AH-2 1'-1.5' Laboratory: Midland				
Analysis: Chloride (Titration) QC Batch: 60012 Prep Batch: 51186	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2009-06-02 2009-06-01	Prep Method: Analyzed By: Prepared By:	ÁŔ

		\mathbf{RL}			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		1340	mg/Kg	50	4.00

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

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH DRO 60003 51212		Analytical M Date Analyz Sample Prep	ed: 2	fod. 8015B 009-06-01 009-06-01	Anal	Method: N/A yzed By: AG ared By: AG
Parameter	Fla	g	\mathbf{RL} Result		Units	Dilution	RL
DRO			311		mg/Kg	1	50.0
Surrogate	Flag	Result	Units	Dilution	Spike n Amount	Percent Recovery	Recovery Limits
n-Triacontan	e	187	mg/Kg	1	100	187	13.2 - 219.3

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

Laboratory: Analysis: QC Batch:	Midland TPH GRO 59966		Date Ana	•	S 8015B 2009-06-01		Prep Me Analyze	d By: ME
Prep Batch:	51213		Sample P	reparation:	2009-06-01		Prepare	d By: ME
			\mathbf{RL}					
Parameter	Flag		Result		Units		Dilution	\mathbf{RL}
GRO			74.3		mg/Kg		1	1.00
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotolue	ene (TFT)		1.89	mg/Kg	1	2.00	94	68.5 - 119.4
4-Bromofluor	obenzene (4-BFB)	4	4.15	mg/Kg	1	2.00	208	52 - 117

⁴High surrogate recovery due to peak interference.

Report Date 114-6400203	e: June 11, 2009	Work Order: 9052928 St. Mary/PDU Tract #1 TB		Page Number: 9 of 2	
Sample: 19	7384 - AH-2 2'-2.5'				
Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method	SM 4500-CI B	Prep Method:	N/A
QC Batch:	60012	Date Analyzed:	2009-06-02	Analyzed By:	AR
Prep Batch:	51186	Sample Preparation	n: 2009-06-01	Prepared By:	AR.
		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		1200	mg/Kg	50	4.00

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

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 60012 51186	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2009-06-02 2009-06-01	Prep Method: Analyzed By: Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{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
		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
	L 10g				
Chloride		1360 1	ng/Kg	50	4.00

Sample: 197387 - AH-3 0-1'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 60012 51186	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2009-06-02 2009-06-01	Prep Method: Analyzed By: Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		486)	mg/Kg	50	4.00

114-6400203	ne 11, 2009			Vork Order: lary/PDU 1	9052928 ract #1 TB		Page Nu	ımber: 10) of 2
Sample: 197387	' - AH-3 0-1	,							
•	lland					_			
<i>v</i>	H DRO		-	al Method:	Mod. 8015I	3	-	Method:	N/I
QC Batch: 600			Date Ana		2009-06-01			zed By:	AG
Prep Batch: 512	12		Sample r	reparation:	2009-06-01		Prepa	red By:	AG
			\mathbf{RL}						
Parameter	Flag		Result		Units		Dilution		\mathbf{R}
DRO			2770		mg/Kg		1		50.
					2	Spike	Percent	Reco	very
Surrogate	Flag	Result	Units	Dilu	tion A	mount	Recovery	Lim	-
n-Triacontane	5	368	mg/Kg	1		100	368	13.2 -	219.
	H GRO 32		Analytica Date Ana	d Method: dyzed:	S 8015B 2009-06-02		Prep Me Analyze		503 IE
QC Batch: 600 Prep Batch: 512	32 48		Date Ana Sample P RL		2009-06-02 2009-06-02		Analyze Prepared	d By: M	IE IE
QC Batch: 600 Prep Batch: 512 Parameter	32		Date Ana Sample P RL Result	lyzed:	2009-06-02 2009-06-02 Units		Analyze Prepared Dilution	d By: M	IE IE Ri
QC Batch: 600 Prep Batch: 512 Parameter	32 48		Date Ana Sample P RL	lyzed:	2009-06-02 2009-06-02		Analyze Prepared	d By: M	IE IE RI
QC Batch: 600 Prep Batch: 512 Parameter	32 48		Date Ana Sample P RL Result	lyzed:	2009-06-02 2009-06-02 Units	Spike	Analyze Prepared Dilution	d By: M	$\frac{ \mathbf{E} }{ \mathbf{R} }$
QC Batch: 600 Prep Batch: 512 Parameter GRO Surrogate	32 48 Flag	Flag	Date Ana Sample P RL Result 970 Result	lyzed: reparation: Units	2009-06-02 2009-06-02 <u>Units</u> mg/Kg Dilution	Amount	Analyze Prepared Dilution 10	d By: M d By: M Recov Limi	IE IE <u>RI</u> 1.0 very its
QC Batch: 600 Prep Batch: 512 Parameter GRO Surrogate Frifluorotoluene (7	32 48 Flag FFT)		Date Ana Sample P RL Result 970 Result 19.7	lyzed: reparation: Units mg/Kg	2009-06-02 2009-06-02 <u>Units</u> mg/Kg Dilution 10	Amount 20.0	Analyze Prepared Dilution 10 Percent Recovery 98	d By: M i By: M Recov Limi 68.5 - 1	IE IE 1.0 very its 119.4
QC Batch: 600 Prep Batch: 512 Parameter GRO Surrogate Trifluorotoluene (7	32 48 Flag FFT)	Flag 6	Date Ana Sample P RL Result 970 Result	lyzed: reparation: Units	2009-06-02 2009-06-02 <u>Units</u> mg/Kg Dilution	Amount	Analyzed Prepared Dilution 10 Percent Recovery	d By: M d By: M Recov Limi	IE IE 1.0 very its 119.4
QC Batch: 600 Prep Batch: 512 Parameter GRO Surrogate Trifluorotoluene (7 4-Bromofluoroben Sample: 197388 Laboratory: Mid Analysis: Chic QC Batch: 6001	32 48 Flag FFT) zene (4-BFB) - AH-3 1'-1 land oride (Titratio .3	6 5'	Date Ana Sample P RL Result 970 Result 19.7 49.0 Analy Date Samp	lyzed: reparation: Units mg/Kg	2009-06-02 2009-06-02 Units mg/Kg Dilution 10 10 d: SM 4500 2009-06-	Amount 20.0 20.0	Analyzed Prepared Dilution 10 Percent Recovery 98 245 Prep M Analyze	d By: M d By: M Recov Limi 68.5 - 1 52 - 1 52 - 1	IE IE <u>RI</u> 1.00 very its 119.4 117
QC Batch: 600 Prep Batch: 512 Parameter GRO Surrogate Trifluorotoluene (7 4-Bromofluoroben Sample: 197388 Laboratory: Mid Analysis: Chic QC Batch: 6001	32 48 Flag FFT) zene (4-BFB) - AH-3 1'-1 land oride (Titratio .3	6 5'	Date Ana Sample P RL Result 970 Result 19.7 49.0 Analy Date	Units mg/Kg mg/Kg tical Metho	2009-06-02 2009-06-02 Units mg/Kg Dilution 10 10 d: SM 4500 2009-06-	Amount 20.0 20.0	Analyzed Prepared Dilution 10 Percent Recovery 98 245 Prep M Analyze	d By: M d By: M Recov Limi 68.5 - 1 52 - 1 52 - 1	IE RI 1.00 very its 119.4 117 N/A AR

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

114-6400203			St. M	lary/PDU T	ract #1 TI	3		
Sample: 19'	7388 - AH-3 1'-1	.5'						
Laboratory:	Midland							
Analysis:	TPH DRO		Analytics	al Method:	Mod. 801	15B	Prep	Method: N/
QC Batch:	60003		Date Ana	ilyzed:	2009-06-0)1	Analy	zed By: AC
Prep Batch:	51212		Sample P	Preparation:	2009-06-0)1	Prepa	red By: AC
			RL					
Parameter	Flag		Result		Units		Dilution	R
DRO	B		116		mg/Kg		1	50
		· · · · · · · · · · · · · · · · · · ·				C	Descent	
C	El a m	Docult	T1	D 9	tion	Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilut		Amount	Recovery	Limits
n-Triacontane	e	140	mg/Kg	1		100	140	13.2 - 219
Analysis: QC Batch: Prep Batch:	TPH GRO 59966 51213		Date Ana	ll Method: Ilyzed: 'reparation:	S 8015B 2009-06-0 2009-06-0		Prep Me Analyze Prepare	d By: ME
			\mathbf{RL}					
Parameter	Flag		Result		Units		Dilution	R
			126	<u> </u>	mg/Kg		1	1.(
<u></u>								-
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Surrogate Trifluorotolue			1.97	mg/Kg	1	Amount 2.00	Recovery 98	Limits 68.5 - 119
Surrogate Trifluorotolue	ene (TFT) robenzene (4-BFB)	Flag 7				Amount	Recovery	Limits
Surrogate Trifluorotolue 4-Bromofluor		7	1.97	mg/Kg	1	Amount 2.00	Recovery 98	Limits 68.5 - 119
Surrogate Trifluorotolue 4-Bromofluor Sample: 197	robenzene (4-BFB) 7389 - AH-3 2'-2.	7	1.97	mg/Kg	1	Amount 2.00	Recovery 98	Limits 68.5 - 119
Surrogate Trifluorotolue 4-Bromofluor Sample: 19 7 Laboratory:	robenzene (4-BFB) 7389 - AH-3 2'-2.	7 .5'	1.97 3.66	mg/Kg	1	Amount 2.00	Recovery 98 183	Limits 68.5 - 119
Surrogate Trifluorotolue 4-Bromofluor Sample: 197 Laboratory: Analysis:	robenzene (4-BFB) 7389 - AH-3 2'-2. Midland	7 .5'	1.97 3.66 Analy	mg/Kg mg/Kg	1	Amount 2.00 2.00	Recovery 98 183 Prep M	Limits 68.5 - 119 52 - 117
Surrogate Trifluorotolue 4-Bromofluor Sample: 197 Laboratory: Analysis: QC Batch:	7389 - AH-3 2'-2. Midland Chloride (Titration	7 .5'	1.97 3.66 Analy Date 4	mg/Kg mg/Kg tical Method	1 1 d: SM 45 2009-0	Amount 2.00 2.00 500-C1 B 06-02	Recovery 98 183 Prep M Analyz	Limits 68.5 - 119 52 - 117 Method: N/J
	7389 - AH-3 2'-2. Midland Chloride (Titration 60013	7 .5'	1.97 3.66 Analy Date 4	mg/Kg mg/Kg tical Methoo Analyzed:	1 1 d: SM 45 2009-0	Amount 2.00 2.00 500-C1 B 06-02	Recovery 98 183 Prep M Analyz	Limits 68.5 - 119 52 - 117 Method: N/J zed By: AR
Surrogate Trifluorotolue 4-Bromofluor Sample: 197 Laboratory: Analysis: QC Batch:	7389 - AH-3 2'-2. Midland Chloride (Titration 60013	7 .5'	1.97 3.66 Analy Date A Sampl	mg/Kg mg/Kg tical Methoo Analyzed:	1 1 d: SM 45 2009-0	Amount 2.00 2.00 500-C1 B 06-02	Recovery 98 183 Prep M Analyz	Limits 68.5 - 119 52 - 117 Method: N/J zed By: AR

Work Order: 9052928

Page Number: 11 of 28

⁷High surrogate recovery due to peak interference.

Report Date: June 11, 2009

Report Date 114-6400203	e: June 11, 2009	Work Order: 9052 St. Mary/PDU Tract		Page Number: 1	2 of 28
- Laboratory:					N ()
Analysis: QC Batch: Prep Batch:	Chloride (Titration) 60013 51187	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2009-06-02 2009-06-01	Prep Method: Analyzed By: Prepared By:	AR.

		\mathbf{RL}			
Parameter	\mathbf{Flag}	Result	Units	Dilution	\mathbf{RL}
Chloride		314	mg/Kg	50	4.00

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

Laboratory: Analysis: QC Batch: Prep Batch:	Chloride (Titration) 60013	Analytical Method: Date Analyzed: Sample Preparation	2009-06-02	Prep Method: Analyzed By: Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		303	mg/Kg	50	4.00

Sample: 197392 - AH-4 0-1'

Xylene	10	144		mg/Kg		5	0.010
Ethylbenzene	9 10	41.5		mg/Kg		5	0.010
Toluene	8	68.2		mg/Kg		5	0.010
Benzene		 4.96		mg/Kg		5	0.010
Parameter	Flag	RL Result		Units	D	Dilution	RI
Prep Batch:	51377	Sample Pr	eparation:	2009-06-08		Prepared	l By: ME
QC Batch:	60203	Date Anal		2009-06-08		Analyzeo	5
Laboratory: Analysis:	Midland BTEX	Analytical	Method:	S 8021B		Prep Me	ethod: S 503

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

Report Date: June 11, 2009 114-6400203		Work Order: 905 St. Mary/PDU Tract		Page Number: 13 of 28		
Sample: 19	7392 - 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.	
		RL				
Parameter	\mathbf{Flag}	Result	Units	Dilution	\mathbf{RL}	
Chloride		238 1	ng/Kg	50	4.00	

Sample: 197392 - AH-4 0-1'

Analysis: QC Batch: Prep Batch:	TPH DRO 60003 51212		Date Analyzed:		l. 8015B 9-06-01 9-06-01	Anal	Method: N/A yzed By: AG ared By: AG
			\mathbf{RL}				
Parameter	Fla	g	Result	ĩ	Units	Dilution	RL
DRO			11800	mį	g/Kg	5	50.0
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
n-Triacontane	12	1310	mg/Kg	5	100	1310	13.2 - 219.3

Sample: 197392 - AH-4 0-1'

Laboratory: Analysis: QC Batch: Prep Batch:	TPH GRO 60032		Analytical Method: Date Analyzed: Sample Preparation:		S 8015B 2009-06-02 2009-06-02		Prep Me Analyze Prepared	d By: ME
			RL					
Parameter	Flag		Result		Units		Dilution	RL
GRO			5490		mg/Kg		20	1.00
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotolue	me (TFT)		43.5	mg/Kg	20	40.0	109	68.5 - 119.4
4-Bromofluor	obenzene (4-BFB)	13	253	mg/Kg	20	40.0	632	52 - 117

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

Report Date: June 11, 2009 114-6400203		Work Order: 9 St. Mary/PDU Tra		Page Number: 14 of 28		
Sample: 19	97393 - 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 Preparatio	n: 2009-06-01	Prepared By:	AR	
		RL				
Parameter	\mathbf{Flag}	Result	Units	Dilution	\mathbf{RL}	
Chloride	······································	200	mg/Kg	50	4.00	

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

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH DRO 60003 51212		Date Analyzed:		od. 8015B 09-06-01 09-06-01	Anal	Method: N/A yzed By: AG ared By: AG
_			RL				
Parameter	Fla	g	Result		Units	Dilution	RL
DRO			9330]	mg/Kg	5	50.0
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
n-Triacontane	3 14	1050	mg/Kg	5	100	1050	13.2 - 219.3

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

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH GRO 60032 51248		Date Ana	l Method: lyzed: reparation:	S 8015B 2009-06-02 2009-06-02		Prep Me Analyze Prepare	d By: ME
			\mathbf{RL}					
Parameter	Flag		Result		Units		Dilution	\mathbf{RL}
GRO		· · · · · · · · · · · · · · · · · · ·	4250		mg/Kg		20	1.00
~			_			Spike	Percent	Recovery
Surrogate		$\mathbf{F}\mathbf{lag}$	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotolue	me (TFT)		41.7	mg/Kg	20	$\overline{40.0}$	104	68.5 - 119.4
4-Bromofluor	obenzene (4-BFB)	15	185	mg/Kg	20	40.0	462	52 - 117

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

Report Date: June 11, 2009	Work Order: 9052928	Page Number: 15 of 28
114-6400203	St. Mary/PDU Tract #1 TB	

Sample: 197394 - AH-5 0-1'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 60299 51454		Analytical Date Anal Sample Pr	yzed:	S 8021B 2009-06-10 2009-06-10		Prep Me Analyze Prepare	d By: ME	135
			RJ	L					
Parameter	\mathbf{Flag}		Resul	t	\mathbf{Units}	1	Dilution	R	RL
Benzene			< 0.050	0	mg/Kg		5	0.01	00
Toluene			14.	D	mg/Kg		5	0.010	00
Ethylbenzene			12.	D	mg/Kg		5	0.01	00
Xylene			47	4	mg/Kg		5	0.010	00
						Spike	Percent	Recovery	у
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits	
Trifluorotolue	me (TFT)		9.72	mg/Kg	5	10.0	97	49 - 129.	7
4-Bromofluor	obenzene (4-BFB)		14.2	mg/Kg	5	10.0	142	45.2 - 144	1.3

Sample: 197394 - AH-5 0-1'

Laboratory: Analysis: QC Batch: Prep Batch:	Chloride (Titration) 60013	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2009-06-02 2009-06-01	Prep Method: Analyzed By: Prepared By:	ÁR
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		845	mg/Kg	50	4.00

Sample: 197394 - AH-5 0-1'

n-Triacontane	e 16	231	mg/Kg	1	100	231	13.2 - 219.3
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
DRO			1410		mg/Kg	1	50.0
Parameter	Fla	g	RL Result		Units	Dilution	RL
Prep Batch:	51212		Sample Prep	paration: 20	009-06-01	Prep	ared By: AG
QC Batch:	60003		Date Analyz	ed: 20	009-06-01	Anal	yzed By: AG
Laboratory: Analysis:	Midland TPH DRO		Analytical M	fethod: M	lod. 8015B	Prep	Method: N/A

¹⁶High surrogate recovery due to peak interference.

80.3

Sample: 197394 - AH-5 0-1'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH GRO 60032 51248	Date Ana	l Method: lyzed: reparation:	S 8015B 2009-06-02 2009-06-02		Prep Me Analyze Prepare	d By: ME	
			\mathbf{RL}					
Parameter	Flag		Result		Units		Dilution	\mathbf{RL}
GRO	_		1810		mg/Kg		10	1.00
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotolu	ene (TFT)		20.5	mg/Kg	10	20.0	102	68.5 - 119.4
	obenzene (4-BFB)	17	80.3	mg/Kg	10	20.0	402	52 - 117

mg/Kg

10

20.0

402

52 - 117

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

4-Bromofluorobenzene (4-BFB)

Laboratory: Analysis: QC Batch: Prep Batch:	Chloride (Titration) 60013	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2009-06-02 2009-06-01	Prep Method: Analyzed By: Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		449	mg/Kg	50	4.00

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

Laboratory:MidlandAnalysis:TPH DROQC Batch:60003Prep Batch:51212			Analytical M Date Analyz Sample Prep	ed: 20	od. 8015B)09-06-01)09-06-01	Anal	Method: N/A yzed By: AG ared By: AG
Parameter	Fla	g	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.

Report Date: June 11, 26 114-6400203	<u></u>		ork Order: ary/PDU T	9052928 Fract #1 TB	,,,,,,.	Page N	imber: 17 of 28
Sample: 197395 - AH-	5 1'-1.5'						
Laboratory: Midland Analysis: TPH GRO QC Batch: 60032 Prep Batch: 51248		Date Ana	l Method: lyzed: reparation:	S 8015B 2009-06-02 2009-06-02		Prep Me Analyze Prepare	d By: ME
Parameter	Flag	RL Result		Units		Dilution	\mathbf{RL}
GRO		362		mg/Kg		5	1.00
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-	·BFB) 19	9.75 16.5	mg/Kg mg/Kg	5 5	10.0 10.0	98 165	68.5 - 119.4 52 - 117
-		Date Ana QC Prepa		0 09-06- 01 009-06-01			vzed By: ME ured By: ME
Prep Batch: 51213 Parameter	Flag			009-06-01	Un ing/	Prepa	ared By: ME
Prep Batch: 51213 Parameter GRO Surrogate	Flag	QC Prepa	aration: 20 MDL Result <0.482 Units	009-06-01		Prepa	red By: ME RL 1 Recovery Limits
Prep Batch: 51213 Parameter GRO Surrogate Trifluorotoluene (TFT)	Flag	QC Prep	aration: 20 MDL Result <0.482	009-06-01	ıng/ Spike	Prepa its /Kg Percent	red By: ME RL 1 Recovery Limits 71.9 - 115
Prep Batch: 51213 Parameter GRO Surrogate Trifluorotoluene (TFT) 4-Bromoffuorobenzene (4- Method Blank (1)	Flag	QC Prepa Result 1.88 1.20	aration: 20 MDL Result <0.482 Units mg/Kg mg/Kg	009-06-01 Dilution	Ing/ Spike Amount 2.00	Prepa its /Kg Percent Recovery 94 60	RE RL Recovery Limits 71.9 - 115 45.7 - 118.9
Prep Batch: 51213 Parameter GRO Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4- Method Blank (1) QC Batch: 60003	Flag BFB)	QC Prepa Result 1.88 1.20 B Date Ana	aration: 20 MDL Result <0.482 Units mg/Kg mg/Kg mg/Kg allyzed: 20 aration: 20	009-06-01 Dilution 1 1	Ing/ Spike Amount 2.00	Prepa its /Kg Percent Recovery 94 60 Analy	red By: ME RL Recovery Limits 71.9 - 115
Prep Batch: 51213 Parameter GRO Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4- Method Blank (1) QC Batch: 60003 Prep Batch: 51212 Parameter	Flag BFB)	QC Prepa Result 1.88 1.20 B Date Ana	aration: 20 MDL Result <0.482 Units mg/Kg mg/Kg alyzed: 20 aration: 20 MDL Result	009-06-01 Dilution 1 1	Ing/ Spike Amount 2.00 2.00 Uni	Prepa its /Kg Percent Recovery 94 60 Analy Prepa	red By: ME RL Recovery Limits 71.9 - 115 45.7 - 118.9 red By: AG red By: AG RL
Prep Batch: 51213 Parameter GRO Surrogate Trifluorotoluene (TFT) 4-Bromoffuorobenzene (4- Method Blank (1) QC Batch: 60003 Prep Batch: 51212 Parameter DRO	Flag BFB) QC Batch: 60003 Flag	QC Prepa Result 1.88 1.20 B Date Ana QC Prepa	aration: 20 MDL Result <0.482 Units mg/Kg mg/Kg alyzed: 20 aration: 20 MDL Result 20.2	Dilution 1 1 009-06-01 009-06-01	Ing/ Spike Amount 2.00 2.00 Uni mg/ Spike	Prepa its /Kg Percent Recovery 94 60 Analy Prepa its Kg Percent	red By: ME RL Recovery Limits 71.9 - 115 45.7 - 118.9 zed By: AG red By: AG RL 50 Recovery
Prep Batch: 51213 Parameter GRO Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4- Method Blank (1) QC Batch: 60003 Prep Batch: 51212 Parameter	Flag BFB) QC Batch: 60003 Flag	QC Prepa Result 1.88 1.20 B Date Ana	aration: 20 MDL Result <0.482 Units mg/Kg mg/Kg Mg/Kg alyzed: 20 aration: 20 MDL Result 20.2 Dilu	Dilution 1 1 009-06-01 009-06-01	Ing/ Spike Amount 2.00 2.00 Uni mg/	Prepa its /Kg Percent Recovery 94 60 Analy Prepa its Kg	red By: ME RI Recovery Limits 71.9 - 115 45.7 - 118.9 red By: AG red By: AG RL 50

¹⁹High surrogate recovery due to peak interference.

Report Date: June 11, 114-6400203	2009	Work St. Mary	Page N	umber: 18	3 of 2			
Method Blank (1)	QC Batch: 60012							
QC Batch: 60012 Prep Batch: 51186		Date Analyz QC Prepara		009-06-02 009-06-01			yzed By: ared By:	AR AR
			MDL					
Parameter	Flag		Result		Uni	ts		RI
Chloride			<2.18		mg/l	Kg		4
Method Blank (1)	QC Batch: 60013							
QC Batch: 60013		Date Analyz	zed: 20	09-06-02		Anal	yzed By:	AR.
Prep Batch: 51187		QC Prepara		009-06-01			ared By:	AR
Parameter	Flag		MDL Result		Uni	ta		RI
Chloride	r lag		<2.18		mg/l			4
Method Blank (1) QC Batch: 60032 Prep Batch: 51248	QC Batch: 60032	Date Analyz QC Prepara		09-06-02 09-06-02			yzed By: ared By:	ME ME
			MDL					
Parameter	Flag		Result		Uni			
Parameter GRO	Flag				Uni ^r mg/l			RI 1
GRO Surrogate	Flag		Result <0.482 Units	Dilution	mg/l Spike Amount	Kg Percent Recovery	Reco	1 very uits
GRO Surrogate Trifluorotoluene (TFT)	Flag	1.97 n	Result <0.482 Units ng/Kg	1	mg/I Spike Amount 2.00	Kg Percent Recovery 98	Lim 71.9 -	very iits 115
GRO	Flag	1.97 n	Result <0.482 Units		mg/l Spike Amount	Kg Percent Recovery	Lim	1 very iits 115
GRO Surrogate Trifluorotoluene (TFT)	Flag	1.97 n	Result <0.482 Units ng/Kg	1	mg/I Spike Amount 2.00	Kg Percent Recovery 98	Lim 71.9 -	1 very iits 115
GRO Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (Method Blank (1) QC Batch: 60203	Flag (4-BFB)	1.97 n 1.45 n Date Analyz	Result <0.482 Units ng/Kg ng/Kg ed: 20	1 1 09-06-08	mg/I Spike Amount 2.00	Kg Percent Recovery 98 72 Analy	Lim 71.9 - 45.7 -	1 very iits 115 118.9 ME
GRO Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (Method Blank (1) QC Batch: 60203	Flag (4-BFB)	1.97 n 1.45 n	Result <0.482 Units ng/Kg ng/Kg ed: 20 tion: 20	1 1 09-06-08 09-06-08	mg/I Spike Amount 2.00	Kg Percent Recovery 98 72 Analy	Lim 71.9 - 45.7 -	1 very iits 115 118.9
GRO Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (Method Blank (1) QC Batch: 60203 Prep Batch: 51377	Flag (4-BFB)	1.97 n 1.45 n Date Analyz	Result <0.482 Units ng/Kg ng/Kg ed: 20	1 1 09-06-08 09-06-08 L	mg/I Spike Amount 2.00	Kg Percent Recovery 98 72 72 Analy Prepa	Lim 71.9 - 45.7 -	1 very iits 115 118.9 ME ME
GRO Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (Method Blank (1) QC Batch: 60203 Prep Batch: 51377 Parameter	Flag (4-BFB) QC Batch: 60203	1.97 n 1.45 n Date Analyz	Result <0.482 Units ng/Kg ng/Kg ed: 20 tion: 20 MD	1 1 09-06-08 09-06-08 L L	mg/J Spike Amount 2.00 2.00	Kg Percent Recovery 98 72 72 Analy Prepa	Lim 71.9 - 45.7 -	1 very iits 115 118.9 ME
GRO Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (Method Blank (1) QC Batch: 60203 Prep Batch: 51377 Parameter Benzene Toluene	Flag (4-BFB) QC Batch: 60203	1.97 n 1.45 n Date Analyz	Result <0.482 Units ng/Kg ng/Kg ed: 20 tion: 20 MD Resu <0.0010 <0.0010	1 1 09-06-08 09-06-08 L lt 00 00	mg/J Spike Amount 2.00 2.00 Uni mg/ mg/	Kg Percent Recovery 98 72 Analy Prepa ts Kg Kg	Lim 71.9 - 45.7 -	1 very 115 115 118.9 ME ME ME RL 0.01 0.01
GRO Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (Method Blank (1) QC Batch: 60203 Prep Batch: 51377 Parameter Benzene	Flag (4-BFB) QC Batch: 60203	1.97 n 1.45 n Date Analyz	Result <0.482 Units ng/Kg ng/Kg ed: 20 tion: 20 MD Resu <0.0010	1 1 09-06-08 09-06-08 L lt 00 00 .0	mg/J Spike Amount 2.00 2.00 Uni mg/	Kg Percent Recovery 98 72 Analy Prepa ts Kg Kg Kg	Lim 71.9 - 45.7 -	1 very 115 115 118.9 ME ME ME RL 0.01

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114-6400203			/ork Order: lary/PDU /	9052928 Fract #1 TB	ł	Page Numbe			
Surrogate	Flag	Result	Units	Dilution	Spike Amour		ercent covery		overy mits
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 Ba	atch: 60299	•							
QC Batch: 60299		Date An	alvzed: 2	009-06-10			Anal	yzed By:	ME
Prep Batch: 51454		QC Prep	•	009-06-10				ared By:	
			M	DL					
Parameter	Flag		Res			Units			RL
Benzene			<0.00			mg/Kg			0.01
Toluene			<0.00			mg/Kg			0.01
Ethylbenzene Xylene			<0.003 <0.003			mg/Kg mg/Kg			$\begin{array}{c} 0.01 \\ 0.01 \end{array}$
Aylene		,	<0.00	500		mg/ ng			0.01
a .		D	TT I		Spike		ercent		overy
Surrogate	Flag_	Result	Units	Dilution	Amoun	t Re	covery		mits
		1.04		1	0.00		07	CTC	120 6
		1.94 1.84	mg/Kg mg/Kg	1 1	2.00 2.00		97 92		- 130.6 - 128.1
1-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 59966	CS-1)		mg/Kg alyzed: 2				92 Analy		- <u>128.1</u> ME
4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 59966	·	1.84 Date Ana	mg/Kg alyzed: 2	1 009-06-01 009-06-01	2.00	atrix	92 Analy	51.9 yzed By: ared By:	- 128.1 ME
Prep Batch: 51213 Param	I	1.84 Date Ana QC Prep CCS esult U	mg/Kg alyzed: 2 aration: 2 Jnits	1 009-06-01 009-06-01 Sp Dil. Am	2.00 ike M ount R	atrix esult	92 Analy Prepa Rec.	51.9 yzed By: ared By: R Li	- 128.1 ME ME ec. mit
1-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 59966 Prep Batch: 51213 Param GRO	I R 20 1	1.84 Date Ana QC Prep .CS esult U 2.6 m	mg/Kg alyzed: 2 aration: 2 Jnits 1 g/Kg	1 009-06-01 009-06-01 Dil. Am 1 20	ike M ount R 0.0 <	atrix esult 0.482	92 Anal <u>y</u> Prepa	51.9 yzed By: ared By: R Li	- 128.1 ME ME ec.
1-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 59966 Prep Batch: 51213 Param GRO	I R 20 1	1.84 Date Ana QC Prep .CS esult U 2.6 m	mg/Kg alyzed: 2 aration: 2 Jnits 1 g/Kg	1 009-06-01 009-06-01 Dil. Am 1 20	ike M ount R 0.0 <	atrix esult 0.482	92 Analy Prepa Rec.	51.9 yzed By: ared By: R Li	- 128.1 ME ME ec. mit
4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 59966 Prep Batch: 51213	I R 20 1 spike resul	1.84 Date Ana QC Prep .CS esult U 2.6 m	mg/Kg alyzed: 2 aration: 2 Jnits 1 g/Kg ased on the	1 009-06-01 009-06-01 Dil. Am 1 20 e spike and s	ike M ount R D.0 < pike duplica	atrix esult 0.482 te result.	92 Analy Prepa Rec. 63	51.9 yzed By: ared By: R Li	- 128.1 ME ME ec. mit - 100.1
1-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 59966 Prep Batch: 51213 Param GRO Percent recovery is based on the	I R 20 1	1.84 Date Ana QC Prep .CS esult U 2.6 m	mg/Kg alyzed: 2 aration: 2 Juits 1 g/Kg ased on the S	1 009-06-01 009-06-01 Dil. Am 1 20 e spike and s	ike M ount R D.0 < pike duplica	atrix esult 0.482	92 Analy Prepa Rec. 63 c.	51.9 yzed By: ared By: R Li	- 128.1 ME ME ec. mit
1-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 59966 Prep Batch: 51213 Param GRO Percent recovery is based on the Param	I R 20 I spike resul LCSD	1.84 Date Ana QC Prep .CS esult U 2.6 m t. RPD is b	mg/Kg alyzed: 2 aration: 2 Juits 1 g/Kg ased on the S Dil. An	1 009-06-01 009-06-01 Dil. Am 1 20 e spike and sp pike Ma nount Res	ike M ount R D.0 < pike duplica	atrix esult 0.482 të result. Re	92 Analy Prepa <u>Rec.</u> 63 c. nit	51.9 yzed By: ared By: R Li 60.5 -	- 128.1 ME ME ec. mit 100.1 RPD
4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 59966 Prep Batch: 51213 Param GRO Percent recovery is based on the Param GRO	I 20 spike result LCSD Result 13.2	1.84 Date Ana QC Prep .CS esult U 2.6 m t. RPD is b Units mg/Kg	mg/Kg alyzed: 2 aration: 2 Juits 1 g/Kg ased on the S Dil. An 1 2	1 009-06-01 009-06-01 Dil. Am 1 20 e spike and sp pike Ma nount Res 20.0 <0.	ike M ount R D.0 < pike duplica trix sult Rec. 482 66	atrix esult 0.482 te result. Re Lin 60.5 -	92 Analy Prepa <u>Rec.</u> 63 c. nit	51.9 yzed By: ared By: R Li 60.5 - R.PD	ME ME ME ec. mit 100.1 RPD Limit
4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 59966 Prep Batch: 51213 Param GRO Percent recovery is based on the Param GRO	I 20 spike resul LCSD Result 13.2 spike resul	1.84 Date Ana QC Prep .CS esult U 2.6 m t. RPD is b Units mg/Kg t. RPD is b	mg/Kg alyzed: 2 aration: 2 Juits 1 g/Kg ased on the Dil. An 1 2 ased on the	1 009-06-01 009-06-01 Dil. Am 1 20 e spike and sp pike Ma nount Res 20.0 <0.	ike M ount R 0.0 < pike duplica trix sult Rec. 482 66 pike duplica	atrix esult 0.482 te result. Re Lin 60.5 - te result.	92 Analy Prepa Rec. 63 c. nit 100.1	51.9 yzed By: ared By: R Li 60.5 - <u>R.PD</u> 5	- 128.1 ME ME ec. mit 100.1 RPD Limit 20
1-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 59966 Prep Batch: 51213 Param GRO Percent recovery is based on the Param GRO Percent recovery is based on the	I 20 spike result LCSD Result 13.2	1.84 Date Ana QC Prep CCS esult U 2.6 m t. RPD is b Units mg/Kg t. RPD is b CS LCS	mg/Kg alyzed: 2 aration: 2 Jnits 1 g/Kg ased on the Dil. An 1 2 ased on the D	1 009-06-01 009-06-01 Dil. Am 1 20 pike Ma nount Res 20.0 <0.	ike M ount R D.0 < pike duplica trix sult Rec. 482 66 pike duplica Spike	atrix esult 0.482 te result. Re Lin 60.5 -	92 Analy Prepa Rec. 63 c. nit 100.1	51.9 yzed By: ared By: R Li 60.5 - RPD 5 R	ME ME ME ec. mit 100.1 RPD Limit
4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 59966 Prep Batch: 51213 Param GRO	I 20 spike resul LCSD Result 13.2 spike resul LO	1.84 Date Ana QC Prep CCS esult U 2.6 m t. RPD is b Units mg/Kg t. RPD is b CS LCS ault Resu	mg/Kg alyzed: 2 aration: 2 Juits 1 g/Kg ased on the Dil. An 1 2 ased on the D	1 009-06-01 009-06-01 Dil. Am 1 20 pike Ma nount Res 20.0 <0.	ike M ount R 0.0 < pike duplica trix sult Rec. 482 66 pike duplica	atrix esult 0.482 te result. Re Lin 60.5 - te result. LCS	92 Analy Prepa Rec. 63 c. nit 100.1	51.9 yzed By: ared By: R Li 60.5 - RPD 5 R Li	- 128.1 ME ME ec. mit 100.1 RPD Limit 20 ec.

Report Date: June 11, 2009 Page Number: 20 of 28 Work Order: 9052928 114-6400203 St. Mary/PDU Tract #1 TB Laboratory Control Spike (LCS-1) QC Batch: 60003 Analyzed By: AG Date Analyzed: 2009-06-01 Prep Batch: 51212 Prepared By: QC Preparation: 2009-06-01 \mathbf{AG} LCS Rec. Spike Matrix Limit. Param Dil. Result Result Units Amount Rec. DRO 57.4 - 133.4 211mg/Kg 1 25020.276 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. RPD LCSD Spike Matrix Rec. RPD Limit Param Result Units Dil. Amount Result Rec. Limit DRO 20425020.274 57.4 - 133.4 3 20mg/Kg 1 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. LCS LCS LCSD Rec. LCSD Spike Surrogate Result Units Dil. Amount Rec. Rec. Limit Result n-Triacontane 77.3 75.2 100 77 75 48.5 - 146.7 mg/Kg 1 Laboratory Control Spike (LCS-1) QC Batch: 60012 Analyzed By: AR Date Analyzed: 2009-06-02 Prep Batch: 51186 2009-06-01 Prepared By: AR QC Preparation: LCS Spike Matrix Rec. Param Rec. Limit Result Units Dil. Amount Result. Chloride 98.0 mg/Kg 100 <2.18 98 85 - 115 1 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. RPD LCSD Spike Matrix Rec. RPD Param Result Dil. Amount Result Limit Limit Units Rec. 20 Chloride <2.18 100 85 - 115 99.8 mg/Kg 1 1002 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 2009-06-02 Analyzed By: AR Date Analyzed: Prep Batch: 51187 Prepared By: AR QC Preparation: 2009-06-01 LCS Spike Matrix Rec. Param Result Result Units Dil. Amount Rec. Limit Chloride <2.18 100 85 - 115 99.5 100 mg/Kg 1 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Report Date: June 11, 2009 114-6400203		Work Order: 9052928 St. Mary/PDU Tract #1 TB							Page N	umber:	21 of 28
	LCSD			Spil	e M	latrix			Rec.		RPD
Param	Result	Units	Dil	-		Result.	Rec		Limit	RPD	Limit
Chloride	101	mg/Kg	g 1	100) <	<2.18	10	1 8	35 - 115	2	20
Percent recovery is based on the	spike result.	RPD is	based o	n the spil	e and s	pike d	uplicat	e resu	lt.		
Laboratory Control Spike (L	2CS-1)										
QC Batch: 60032		Date Ar	nalvzed:	2009-0)6-02				Anal	yzed By	: ME
Prep Batch: 51248		QC Pre								ared By	
		4 0 .	p	2000					1.10b		
	\mathbf{LC}	S			Spi		Ma	trix		1	Rec.
Param	Resu		Units	Dil.	Amo		_	sult	Rec.		.imit
GRO	13.4	4 n	1g/Kg	1	20	.0	<0	482	67	60.5	- 100.1
Percent recovery is based on the	spike result.	RPD is	based o	n the spik	e and sp	pike di	uplicat	e resu	lt.		
	LCSD			Spike	Mat	triv			Rec.		RPD
Param	Result	Units	Dil.	Amoun			Rec.		Limit	RPD	Limit
GRO	14.4	mg/Kg	1	20.0	<0.4		72		- 100.1	7	20
	LCS	S LC				- opu	ĸe	LCS	LCSD	1	nec.
Trifluorotoluene (TFT)	Resul 2.02	t Res	ult101	Units ng/Kg ng/Kg	Dil. 1 1	Spil Amor 2.0 2.0	unt O	Rec. 101 80	Rec. 100 77	L 78.8	
Surrogate Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 60203	Resul 2.02 1.61	lt Res	ult 00 1 54 1	ng/Kg ng/Kg	1 1	Amo 2.0	unt O	Rec. 101	Rec. 100 77	L 78.8	imit - 104.7 - 107.3
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L	Resul 2.02 1.61	lt Res 2.0 1.5	ult 00 1 54 1 1alyzed:	ng/Kg ng/Kg 2009-0	1 1 106-08	Amo 2.0	unt O	Rec. 101	Rec. 100 77 Anal	L 78.8 66.1	imit - 104.7 - 107.3 : ME
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 60203 Prep Batch: 51377	Resul 2.02 1.61 CS-1)	lt Res 2.0 1.5 Date Ar QC Prej	ult 00 1 54 1 nalyzed: paration	ng/Kg mg/Kg 2009-0 1: 2009-0	1 1 16-08 16-08 Spike	Amoo 2.0 2.0	unt 0 0 Mat	Rec. 101 80	Rec. 100 77 Analy Prepa	L 78.8 66.1 yzed By ared By	imit - 104.7 - 107.3 : ME : ME Rec.
Irifluorotoluene (TFT) 1-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 60203 Prep Batch: 51377 Param	Resul 2.02 1.61 CS-1) LCS Resul	t Res 2.0 1.5 Date Ar QC Prej	ult 00 1 154 1 nalyzed: paration	ng/Kg ng/Kg 2009-0 1: 2009-0 Dił.	1 1 16-08 66-08 Spike Amou	Amoo 2.0 2.0	unt 0 0 Mat Res	Rec. 101 80 rix ult	Rec. 100 77 Anal Prep. Rec.	L 78.8 66.1 yzed By ared By H	imit - 104.7 - 107.3 : ME : ME Rec. imit
Irifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 60203 Prep Batch: 51377 Param Benzene	Resul 2.02 1.61 CS-1) LCS Resul 1.79	lt Res 2.0 1.5 Date Ar QC Prej	ult 10 1 154 1 nalyzed: paration <u>nits</u> g/Kg	ng/Kg mg/Kg 2009-0 n: 2009-0 Dil. 1	1 1 16-08 16-08 Spike Amou 2.00	Amoo 2.0 2.0	unt 0 0 Mat Ress <0.00	Rec. 101 80 rix ult 0100	Rec. 100 77 Analy Prepa Rec. 90	L 78.8 66.1 yzed By ared By L L 72.7	imit - 104.7 - 107.3 : ME : ME Rec. imit - 129.8
Irifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 60203 Prep Batch: 51377 Param Benzene Toluene	Resul 2.02 1.61 CS-1) LCS Resul 1.79 1.82	lt Res 2.0 1.5 Date An QC Prej	ult 10 1 154 1 1alyzed: paration mits g/Kg g/Kg	ng/Kg mg/Kg 2009-0 n: 2009-0 Dil. 1 1	1 1 1 6-08 6-08 Spike Amout 2.00 2.00	Amoo 2.0 2.0	unt 0 0 Mat Ress <0.00 <0.00	Rec. 101 80 rix ult 0100 0100	Rec. 100 77 Analy Prepa Rec. 90 91	L 78.8 66.1 yzed By ared By L L 72.7 71.6	imit - 104.7 - 107.3 : ME : ME : ME Rec. imit - 129.8 - 129.6
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 60203 Prep Batch: 51377 Param Benzene Toluene Ethylbenzene	Resul 2.02 1.61 (CS-1) LCS Resul 1.79 1.82 1.79	t Res 2.0 1.5 Date Ar QC Prej	ult 100 1 154 1 154 1 154 1 154 1 1 1 1 1 1 1 1 1 1 1 1 1	ng/Kg mg/Kg 2009-0 n: 2009-0 Dil. 1	1 1 1 06-08 06-08 Spike Amou 2.00 2.00 2.00	Amo 2.0 2.0	unt 0 0 Mat Ress <0.00 <0.00 <0.00	Rec. 101 80 rix ult 0100 0100 0110	Rec. 100 77 Analy Prepa Rec. 90	L 78.8 66.1 yzed By ared By L 1 72.7 71.6 70.8	imit - 104.7 - 107.3 : ME : ME Rec. imit - 129.8 - 129.6 - 129.7
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 60203 Prep Batch: 51377 Param Benzene Toluene Ethylbenzene Xylene	Resul 2.02 1.61 (CS-1) (CS-1) LCS Resul 1.79 1.82 1.79 5.38	t Res 2.0 1.1 Date An QC Prep	ult 100 1 154 1 1alyzed: paration mits 3/Kg 3/Kg 3/Kg 3/Kg 3/Kg	ng/Kg mg/Kg 2009-0 1: 2009-0 Dil. 1 1 1 1 1	1 1 1 6-08 6-08 5pike Amout 2.00 2.00 6.00	Amo 2.0 2.0	unt 0 0 0 8 8 8 8 8 8 8 9 0.00 0 0.00 0 0.00 0 0.00 0 0.00	Rec. 101 80 rix ult 0100 0100 0110 0360	Rec. 100 77 Anal; Prep; Rec. 90 91 90 90	L 78.8 66.1 yzed By ared By L 1 72.7 71.6 70.8	imit - 104.7 - 107.3 : ME : ME Rec. imit - 129.8 - 129.6
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 60203	Resul 2.02 1.61 (CS-1) (CS-1) LCS Resul 1.79 1.82 1.79 5.38 spike result.	t Res 2.0 1.1 Date An QC Prep	ult 100 1 154 1 1alyzed: paration mits 3/Kg 3/Kg 3/Kg 3/Kg 3/Kg	ng/Kg mg/Kg 2009-0 1: 2009-0 Dil. 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 06-08 06-08 06-08 Spike Amout 2.00 2.00 2.00 6.00 e and sp	Amou 2.0 2.0 2.0 nt	unt 0 0 0 8 8 8 8 8 8 8 9 0.00 0 0.00 0 0.00 0 0.00 0 0.00	Rec. 101 80 rix ult 0100 0100 0110 0360 e resul	Rec. 100 77 Anal Prepa Rec. 90 91 90 90	L 78.8 66.1 yzed By ared By L 1 72.7 71.6 70.8	imit - 104.7 - 107.3 : ME : ME : ME : ME : ME : ME : 129.8 - 129.6 - 129.7 - 129.4
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 60203 Prep Batch: 51377 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the	Resul 2.02 1.61 (CS-1) (CS-1) LCS Resul 1.79 5.38 spike result. LCSD	t Res 2.0 1.5 Date Ar QC Prej t U mg mg mg RPD is	ult 100 1 154 1 155	ng/Kg mg/Kg 2009-0 1: 2009-0 Dil. 1 1 1 1 1 1 1 1 5 pike	1 1 1 1 26-08 5pike Amout 2.00 2.00 2.00 6.00 e and sp Mate	Amou 2.0 2.0 2.0 nt	unt 0 0 0 8 8 8 8 8 8 8 9 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Rec. 101 80 rix ult 0100 0100 0110 0360 e resul	Rec. 100 77 Anal; Prep; Rec. 90 91 90 90 lt. Rec.	L 78.8 66.1 yzed By ared By I L 72.7 71.6 70.8 70.9	imit - 104.7 - 107.3 : ME : ME : ME : ME : ME : 129.8 - 129.7 - 129.4 RPD
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 60203 Prep Batch: 51377 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the Param	Resul 2.02 1.61 (CS-1) (CS-1) (LCS Resul 1.79 5.38 spike result. LCSD Result	lt Res 2.0 1.5 Date Ar QC Prej It U mg mg RPD is 1 Units	ult 100 1 154 1 1alyzed: paration nits g/Kg g/Kg g/Kg g/Kg based of Dil.	ng/Kg mg/Kg 2009-0 1: 2009-0 Dil. 1 1 1 1 1 1 1 1 5 pike Amount	1 1 1 1 26-08 5pike Amout 2.00 2.00 2.00 6.00 e and sp Matt Resu	Amou 2.0 2.0 2.0 nt	unt 0 0 0 8 8 8 8 8 9 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Rec. 101 80 rix ult 0100 0100 0110 0360 resul	Rec. 100 77 Analy Preps Rec. 90 91 90 90 lt. Rec. Limit	L 78.8 66.1 yzed By ared By L 1 72.7 71.6 70.8	imit - 104.7 - 107.3 - 107.3 - 107.3 - 107.3 - ME : ME : ME : ME : ME : ME : 129.8 - 129.7 - 129.4 RPD Limit
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 60203 Prep Batch: 51377 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is based on the Param Benzene	Resul 2.02 1.61 CS-1) LCS Resul 1.79 1.82 1.79 5.38 spike result. LCSD Result 1.86	t Res 2.0 1.1 Date Ar QC Prej t Units mg Mg mg Mg Mg Mg Mg Mg Mg Mg Mg Mg Mg Mg Mg Mg	ult 100 1 154 1 154 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ng/Kg mg/Kg 2009-0 n: 2009-0 Dił. 1 1 1 1 1 n the spik Spike Amount 2.00	1 1 1 1 26-08 5pike Amout 2.00 2.00 2.00 6.00 e and sp Matt Rest Co.00	Amoo 2.0 2.0 2.0 sike du rix ult)100	unt 0 0 0 Mat Ress <0.00 <0.00 <0.00 <0.00 <0.00 uplicate Rec. 93	Rec. 101 80 rix ult 0100 0100 0100 0110 0360 result 10 72.7	Rec. 100 77 Analy Prepa Rec. 90 91 90 90 91 57 - 129.8	L 78.8 66.1 yzed By ared By T2.7 71.6 70.8 70.9 RPD 4	imit - 104.7 - 107.3 - 107.3 : ME : ME : ME : ME : ME : 129.8 - 129.7 - 129.4 RPD Limit 20
Trifluorotoluene (TFT) 4-Bromofluorobenzene (4-BFB) Laboratory Control Spike (L QC Batch: 60203 Prep Batch: 51377 Param Benzene Toluene Ethylbenzene Xylene	Resul 2.02 1.61 CS-1) CS-1) LCS Resul 1.79 5.38 spike result. LCSD Result 1.86 1.90	lt Res 2.0 1.5 Date Ar QC Prej It U mg mg RPD is 1 Units	ult 100 1 154 1 1alyzed: paration nits g/Kg g/Kg g/Kg g/Kg based of Dil.	ng/Kg mg/Kg 2009-0 1: 2009-0 Dil. 1 1 1 1 1 1 1 1 5 pike Amount	1 1 1 1 26-08 5pike Amout 2.00 2.00 2.00 6.00 e and sp Matt Resu	Amou 2.0 2.0 2.0 2.0 it nt	unt 0 0 0 8 8 8 8 8 9 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Rec. 101 80 rix ult 100 100 100 100 100 100 100 10	Rec. 100 77 Analy Preps Rec. 90 91 90 90 lt. Rec. Limit	L 78.8 66.1 yzed By ared By I L 72.7 71.6 70.8 70.9 RPD	imit - 104.7 - 107.3 - 107.3 - 107.3 - 107.3 - ME : ME : ME : ME : ME : ME : 129.8 - 129.7 - 129.4 RPD Limit

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Report Date: June 11, 2009	Work Order: 9052928	Page Number: 22 of 28
114-6400203	St. Mary/PDU Tract #1 TB	
<u> </u>		

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

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	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)

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QC Batch:	60299	Date Analyzed:	2009-06-10	Analyzed By:	\mathbf{ME}
Prep Batch:	51454	QC Preparation:	2009-06-10	Prepared By:	ME

Param	$\begin{array}{c} { m LCS} \\ { m Result} \end{array}$	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.

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

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	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: Prep Batch:	60003 51212		e Analyzed: Preparation:	2009-0 2009-0			-	yzed By: AG ared 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.

Report Date: June 11, 2 114-6400203	:009				ler: 905292 U Tract #			Page	Number:	23 of 2
Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limi
DRO		204	mg/Kg	1	250	32.4	69	35.2 - 167.1	1 2	20
Percent recovery is based	l on the sp	oike result.	RPD is	based on	the spike	and spike d	uplicate	result.		
	MS	MSD				Calles	MS	MOD		D
Surrogate	Result	Result	T	nits	Dil.	Spike Amount	Rec			Rec. Limit
n-Triacontane	65.1	68.9		g/Kg	1	100	65	<u>. 1000.</u> 69		5 - 178.
	00.1	00.5		5/118	I	100	00	03) - 170.
Matrix Spike (MS-1)	Spiked	Sample: 19	7387							
QC Batch: 60012			Date Ai	alvzed:	2009-06-	-02		A r	nalyzed Bj	v: AR
Prep Batch: 51186				paration:					epared By	,
<u>.</u>			v 20			_				
		146	•			C 11		·		D
Param		MS Resu		Units	Dil.	Spike Amount		atrix esult H	204	Rec. Limit
Chloride	, <u></u>	530		mg/Kg	50	5000			tec. 96	85 - 11
					- -	· · · ·				00 - 11
Percent recovery is based	l on the sp	oike result.	RPD is	based on	the spike a	and spike di	uplicate	result.		
		MSD			Spike	Matrix		Rec.		RPI
Param		Result	Units	Dil.	Amount		Rec.	Limit	RPD	Limi
Chloride		5360	mg/Kg	50	5000	486	97	85 - 115	1	20
Percent recovery is based	on the sp	oike result.	RPD is	based on	the spike a	and spike d	uplicate	result.		
Matrix Spike (MS-1)	Spiked	Sample: 19	7395							
QC Batch: 60013			Data 1-	aluadi	2009-06-	00		٩	almod D-	
Prep Batch: 51187			Date Ar	paration:					alyzed By epared By	
rep Daten. 51167				paration.	2009-00-	01			epared by	. AN
		MS	5			Spike	М	atrix		Rec.
Param		Resu		Units	Dil.	Amount	R	esult R	lec.	Limit
Chloride		551	0 1	mg/Kg	50	5000	2	149 1	01 8	35 - 115
Percent recovery is based	on the sp	ike result.	RPD is l	based on	the spike a	and spike di	iplicate	result.		
		MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount		Rec.	Limit	RPD	Limit
Chloride		5560	mg/Kg	50	5000	449	102	85 - 115	1	20
Percent recovery is based	on the sp	ike result.	RPD is l	based on	the spike a	and spike di	plicate	result.		
Matrix Spike (MS-1)	Spiked	Sample: 19	7395							
QC Batch: 60032	-	~	Date An	alvzed:	2009-06-	02		An	alyzed By	: ME
Pren Batch 51248				naration					nared By	

.

QC Batch:	60032	Date Analyzed:	2009-06-02	Analyzed By:	${\rm ME}$
Prep Batch:	51248	QC Preparation:	2009-06-02	Prepared By:	ME

					DU Tract #	τι τD					
-		MS		•		Spik		latrix	-		Rec.
Param		Result		nits	Dil.	Amou		lesult	Rec.		imit
GRO		391		/Kg	5	100		61.95	29	12.8	- 175.
Percent recovery is based on	the sr	oike result. I	RPD is ba	ased c	on the spike	and spi	ike duplic	ate resul	t.		
		MSD			Spike	Matr	ix	F	Rec.		RPD
Param		Result	Units	Dil.	Amount	Resu	lt Rec.	. L	imit	RPD	Limi
GRO		478 r	ng/Kg	5	100	361.9	95 116	12.8	- 175.2	20	20
Percent recovery is based on	the sr	oike result. I	RPD is ba	ased c	on the spike	and spi	ke duplic	ate resul	t.		
		MS	MS	п			Spike	MS	MSD	-	Rec.
Surrogate		Resul			Units	Dil.	Amount	Rec.	Rec.		imit
Trifluorotoluene (TFT)	<u></u>	10.0			mg/Kg	5	10	100	101		- 132.1
4-Bromofluorobenzene (4-BF	B)	²¹ 15.8	10.		mg/Kg	5	10	158	101		- 161.
Prep Batch: 51377			QC Prepa		n: 2009-06				1 tope	ared By	
		MS				Spike	м	atrix		1	Rec.
Param		Result	Uni	its	Dil.	Amoun		esult	Rec.		imit
Benzene		2.07	mg/	Kg	1	2.00	<0.	.00100	104	58.6	- 165.2
Toluene		2.04	mg/		1	2.00		0585	99		- 153.8
Ethylbenzene		2.08	mg/		1	2.00		0901	99		- 159.4
Xylene		6.28	mg/		1	6.00		1727	102	04.4	- 155.3
Percent recovery is based on	tne sp		LPD is de	ised o	-	-	-				
T		MSD	** •	r> 1	Spike	Mat			Rec.	0.00	RPD
Param		Result <0.00100	Units mg/Kg	$\frac{\text{Dil.}}{1}$. Amount 2.00	Res <0.00			Limit 5 - 165.2	RPD 200	Limit 20
Benzene Toluene	23	< 0.00100	mg/Kg	1	2.00	<0.0 0.05			2 - 153.8	200	20
Ethylbenzene	24	0.129	mg/Kg	1	2.00	0.00			6 - 159.4	177	20
Xylene	25	0.287	mg/Kg	1	6.00	0.17			1 - 155.3	182	20
Percent recovery is based on	the sp	oike result. F	PD is ba	used o	n the spike	and spi	ke duplica	te result			
		MS	MSI	D			Spike	MS	MSD)	Rec.
Surrogate		Result			Units	Dil.	Amount				Limit
Trifluorotoluene (TFT)		1.87	1.94		mg/Kg	1	2	94	97		- 127.9
4-Bromofluorobenzene (4-BF	<u>B)</u>	1.76	1.60	3	mg/Kg	1	2	88	83	72	- 127.8
	o peak	interference.									

Matrix Spike (MS-1) Spiked Sample: 197394

QC Batch: Prep Batch:	60299 51454		te Analyzed: Preparation		-06-10 -06-10	0	lyzed By: ME pared 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.

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	12.6	mg/Kg	5	10.0	< 0.00500	126	58.6 - 165.2	4	20
Tolucne	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.

		MS	MSD			Spike	MS	MSD	Rec.
Surrogate		Result	Result	Units	Dil.	$\Lambda mount$	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 Ana	lyzed: 2009-0	Analyzed By: ME		
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	0.934	93	80 - 120	2009-06-01

Standard (CCV-2)

QC Batch	59966		Date Ana	dyzed: 2009-0	Analyzed By: ME		
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	0.894	89	80 - 120	2009-06-01

²⁰High surrogate recovery due to peak interference.

²⁷High surrogate recovery due to peak interference.

	Report Date: June 11, 2009 114-6400203			ork Order: 9055 ary/PDU Tract		Page N	umber: 26 of 2
Standard ((CCV-1)						
QC Batch:	60003		Date Ana	lyzed: 2009-0	6-01	Ana	lyzed 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 Ana	lyzed: 2009-0	6-01	Anal	yzed By: AG
~		1 7 4.	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param DRO	Flag	Units mg/Kg	<u>Conc.</u> 250	<u>Conc.</u> 234	Recovery 94	Limits 80 - 120	Analyzed 2009-06-01
		T7 •	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units				Recovery Limits	Date Analyzed
DRO		mg/Kg	250	257	103	80 - 120	2009-06-01
Standard ((ICV-1)						
QC Batch:	60012		Date Ana	lyzed: 2009-06	5-02	Anal	yzed By: AR
			ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Kecovery	Limits	Analyzed 2009-06-02
Chloride		mg/Kg	100	103	103	85 - 115	2009-06-02
Standard ((CCV-1)						
QC Batch:	60012		Date Ana	yzed: 2009-06	6-02	Anal	yzed By: AR
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param Chloride	Flag	Units	Conc.	Conc.	Recovery	Limits 85 - 115	Analyzed
		mg/Kg	100	97.0	97	85 - 115	2009-06-02

Report Dat 114-640020	te: June 11, 20 3	09		rk Order: 9052 ry/PDU Tract		Page N	umber: 27 of 2
Standard	(ICV-1)						
QC Batch:	60013		Date Anal	lyzed: 2009-00	5-02	Anal	lyzed By: AR
Ð		¥1 •.	ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param Chloride	Flag	Units mg/Kg	<u>Conc.</u> 100	<u>Conc.</u> 100	Recovery 100	Limits 85 - 115	Analyzed 2009-06-02
Standard	(CCV-1)						
QC Batch:	60013		Date Anal	yzed: 2009-06	6-02	Anal	yzed By: AR
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride	rag	mg/Kg		<u> </u>	<u>100</u>	85 - 115	2009-06-0
Param GRO	Flag	Units mg/Kg	CCVs True Conc. 1.00	CCVs Found Conc. 0.899	CCVs Percent <u>Recovery</u> 90	Percent Recovery Limits 80 - 120	Date Analyzed 2009-06-0
Standard ((CCV-2)						
QC Batch:	60032		Date Anal	yzed: 2009-06	-02	Anal	yzed 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 (QC Batch:	. ,		Date Analy	rzed: 2009-06	-08	Anal	yzed By: ME
			CCVs	CCVs	CCVs	Percent	-
Param	Flag	Units	True Conc.	Found Conc.	Percent Recovery	Recovery Limits	Date Analyzed
Benzene	0	mg/Kg	0.100	0.106	106	80 - 120	2009-06-08

Report Date: June 11, 2009 114-6400203			Work Or St. Mary/PI	der: 9052928 DU Tract #1	Page Number: 28 of 28		
standard continue	d						
			$\rm CCVs$	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Ethylbenzene		ng/Kg	0.100	0.102	102	80 - 120	2009-06-08
Xylene		ng/Kg	0.300	0.311	104	80 - 120	2009-06-08
Standard (CCV	-3)						
QC Batch: 60203			Date Analyzed:	2009-06-08	3	Anal	yzed By: ME
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		ng/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: 6029	9		Date Analyzed:	2009-06-10)	Analy	zed By: ME
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene	<u></u>	ng/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
		mg/Kg	0.300	0.338			

Standard (CCV-2)

.

QC Batch: 6029	99		Date Analyzed:	2009-06-10		Anal	yzed By: ME
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	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

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Custody Record	у ра на зе уг ре на зе (Ехг. ю Сэз)	PRESERVATIVE Ba Cd V Ba Cd V TX1005	(M/) 	номе номе номе номе номе номе номе номе номе номе номе номе номе номе номе номе номе ноз номе ноз ноз ноз ноз ноз ноз ноз ноз	×.									16:50	Date: Time:	Date: CHAND OELVERED	1(1/10):	
Analvsis Request of Chain of	1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946	SITE MANAGER:	OJECT NO: PROJECT NAME: 14-14-14-14-14-14-14-14-14-14-14-14-14-1	TIME XIATAM AMATAIX COMPE BARB	5665 S X AH-1 3-1	7	A11-1 3-35	44.2 0.1	1212 1212	1.4.2 2-25	1 1 1 MW2 3 3.5	AH.2 4-45	V V AUS	RELINOUISHED BY (Signature) Date: 5 22 5 15.5 RECEIVED BY	Date:			PHONE

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PAGE: Z OF: Z	ANALYSIS REQUEST (Circle or Specify Method No.)		0,625 0,624 1X1005	мор.) 89 240,826 70,826 70,826 827 90 827 90 827 90 827 90 827 90 82 82 90 80 80 80 80 80 80 80 80 80 80 80 80 80	BTEX 8021B								X	Contraction of the second seco	SAU V C C C V C C TIME . 12 C		TETRA TECH CONTACT PERSON: Results by:	Authorization	<u>ک</u> د مد م م . ح
of Custody Record			PRESERVATIVE	(N/	NONE ICE HNO3 HCC LITLEHED (A) NOWBEH OL (*									Date: 16	Trma: Dato:	Time:		the same derper
	1 1	TECH Spring St. xas 79705 • Fax (432) 682-3946	Ë	1 + 1 - 13	E. A.V. C.C. J. N. Y. SAMPLE IDENTIFICATION		2.2.5	5.35	4-45	0-1	1-1.5	0-1	i~1.5	RECEIVED CY. (Stignalpura)	RECEIVED BY: (Signature)	RECEIVED BY: (Signature)	RECEIVED BY: (Signature)	DATE-	excerts food mil
Analysis Request of Chain		12 1 KA 1 EC 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 6	SITE MANAGER:	PROJECT NAME:	8445	2-464 X	44-3	AU.3	A.H-3	1 11-4	14.11-4	14.5	V AH-5	Detre 5 23 3	Date:	lime: Date:	Time:	PHONE: ZIP:	REMARKS: T.J. T.P.H. CKC
Analysis Regu			CLIENT NAME:	PROJECT NO.(TIMIT XIATAM	197388 54 4/5 S									RELINOUISHED BY: (Signature)	RELINQUISHED BY: (Signature)	DRATORY -1	ADDRESS: CITY: STATE: CITY CONTACT: CITY 4 4 STATE: CONTACT:	TION WHEN RECEIVED:

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 Hidbook, Jeas 7932

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WBENC: 237019

HUB: 1752439743100-86536 NCTRCA WFWB38444Y0909

DBE: VN 20657

NELAP Certifications

Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas F-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.

			Date	Time	Date	
Sample	Description	Matrix	Taken	Taken	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-15'	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	

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	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'	soíl	2010-05-25	00:00	2010-05-27
233098	SB-2 30'	soil	2010-05-25	00:00	$2010-05-27$ $^{\circ}$
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.

This report consists of a total of 24 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael abel

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

Standard Flags

 ${f B}$ - 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.

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	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.

Report Date: June 7, 2010 114-6400203

Analytical Report

Sample: 233081 - SB-1 1'

Laboratory:MidlandAnalysis:BTEXQC Batch:70573Prep Batch:60437		Analytical Date Anal Sample Pr		S 8021B 2010-06-02 2010-06-02		Prep Me Analyze Prepare	d By: AG
		RL	,				
Parameter F	lag	Result		Units	I	Dilution	\mathbf{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
					Spike	Percent	Recovery
Surrogate	Fla	g Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		5.10	mg/Kg	5	5.00	102	60.4 - 141.2
4-Bromofluorobenzene (4-BFE	B) ¹	9.49	mg/Kg	5	5.00	190	43.1 - 158.4

Sample: 233081 - SB-1 1'

Laboratory: Analysis: QC Batch: Prep Batch:	Chloride (Titration) 70556	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2010-06-02 2010-06-01	Prep Method: Analyzed By: Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		1150	mg/Kg	100	4.00

Sample: 233081 - SB-1 1'

Laboratory: Analysis: QC Batch: Prep Batch:	TPH DRO - NEW 70544	Analytical M Date Analyz Sample Prep	ed: 2010-06-01	Prep Method: Analyzed By: Prepared By:	kg
Parameter	Flag	RL Result	Units	Dilution	RL
DRO		458	mg/Kg	1	50.0

¹High surrogate recovery due to peak interference.

Report Date 114-6400203	:: June 7, 201	0			ork Order: lary/PDU	10052812 Tract #1 TB		Page N	Number: 5 of 2
Surrogate	Flag	Re	sult	Units		lution	Spike Amount	Percent Recovery	Recover, Limits
n-Tricosane	2		157	mg/Kg		1	100	157	70 - 130
Sample: 23	3081 - SB-1	. 1'							
Laboratory: Analysis: QC Batch:	Midland TPH GRO 70574			Analytica Date Ana	al Method: alyzed:	S 8015 D 2010-06-02	2	Prep Me Analyze	
Prep Batch:	60437			Sample P	reparation	: 2010-06-02	3	Prepare	d By: AG
Parameter		Flag		RL Result		Units		Dilution	RI
GRO		1105		1060		mg/Kg		5	1.00
Surrogate			Flag	Result	Units	Dilution	Spike Amount	v	Recovery Limits
Trifluorotolue	ene (TFT) robenzene (4-1		3	5.57 8.63	mg/Kg mg/Kg	5 5	5.00 5.00	111 173	50.3 - 155 51.7 - 131.
Sample: 23	3082 - SB-1	3'							
Laboratory: Analysis:	Midland BTEX			Analytical		S 8021B		Prep Me	
QC Batch: Prep Batch:	70573 60437			Date Anal Sample Pr		2010-06-02 2010-06-02		Analyze Prepare	
				RL					
Parameter		Flag		Result		Units		Dilution	RI
Benzene				0.0622		mg/Kg		5	0.0100
Toluene				0.747		mg/Kg		5	0.0100
Ethylbenzene Xylene	9			$\begin{array}{c} 0.900\\ 3.51 \end{array}$		mg/Kg mg/Kg		5 5	0.0100 0.0100
лунене				3.91		mg/ ng			
Surrogate			Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotolue	ene (TFT)		<u>v</u>	4.75	mg/Kg	5ี่	5.00	95	60.4 - 141.2
۰۰۰۰۰ م.	- (/ / /	DED)		F (0)		-	r 00	11.4	40 1 1 1 0

Sample: 233082 - SB-1 3'

4-Bromofluorobenzene (4-BFB)

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

mg/Kg

 $\mathbf{5}$

.

5.00

114

5.68

43.1 - 158.4

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

114-6400203	" June 7, 2010		Work Order: 10052812 St. Mary/PDU Tract #1 TB		Page N	Number:	6 of 2		
-			RL						
Parameter	Fla	g	Result		Units		Dilution		RL
Chloride		<u></u>	675		mg/Kg		50		4.00
Sample: 23	3082 - SB-1 3'								
Laboratory:	Midland								
Analysis:	TPH DRO - NE	EW		ytical Meth			_	Method:	,
QC Batch:	70544			Analyzed:	2010-0			zed By:	-
Prep Batch:	60419		Sam	ple Prepara	tion: 2010-0	06-01	Prepa	red By:	kg
			\mathbf{RL}						
Parameter	Fla	g	Result		Units		Dilution		$\mathbf{R}\mathbf{I}$
DRO			144		mg/Kg		1		50.0
						Spike	Percent	Re	ecovery
Surrogate	Flag	Result	Units	Dilu	ition	Amount	Recovery	I	Limits
n-Tricosane		122	mg/Kg		l	100	122	7(0 - 130
Sample: 23	3082 - SB-1 3'								
Laboratory: Analysis: QC Batch:	3082 - SB-1 3' Midland TPH GRO 70574 60437		Analytica Date Ana Sample P:		S 8015 D 2010-06-02 2010-06-02		Prep Me Analyze Prepared	d By:	S 5038 AG AG
Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH GRO 70574		Date Ana	lyzed:	2010-06-02		Analyze	d By:	AG
Laboratory: Analysis: QC Batch: Prep Batch: Parameter	Midland TPH GRO 70574	g	Date Ana Sample P	lyzed:	2010-06-02		Analyze	d By:	AG AG RL
Laboratory: Analysis: QC Batch: Prep Batch: Parameter	Midland TPH GRO 70574 60437	g	Date Ana Sample P: RL	lyzed:	2010-06-02 2010-06-02		Analyze Prepared	d By:	AG AG RL
Laboratory: Analysis: QC Batch: Prep Batch: Parameter GRO	Midland TPH GRO 70574 60437		Date Ana Sample P RL Result	lyzed:	2010-06-02 2010-06-02 Units		Analyze Prepared Dilution	d By: d By: Rec	
Laboratory: Analysis: QC Batch: Prep Batch: Parameter GRO Surrogate	Midland TPH GRO 70574 60437 Flag	g Flag	Date Ana Sample P RL Result 264	lyzed: reparation: Units	2010-06-02 2010-06-02 Units mg/Kg	Spike	Analyzed Prepared Dilution 5 Percent	d By: d By: Rec Lin	AG AG RL 1.00
Laboratory: Analysis: QC Batch: Prep Batch: Parameter GRO Surrogate Trifluorotolue	Midland TPH GRO 70574 60437 Flag	Flag	Date Ana Sample P: RL Result 264 Result	lyzed: reparation:	2010-06-02 2010-06-02 Units mg/Kg Dilution	Spike Amount	Analyzed Prepared Dilution 5 Percent Recovery	d By: d By: Rec Lin 50.3	AG AG <u>RL</u> 1.00 covery mits
Laboratory: Analysis: QC Batch: Prep Batch: Parameter GRO Surrogate Trifluorotoluo 4-Bromofluor Sample: 23 Laboratory: Analysis:	Midland TPH GRO 70574 60437 Fla ene (TFT) obenzene (4-BFB 3083 - SB-1 5' Midland Chloride (Titrat	Flag)	Date Ana Sample P: RL Result 264 Result 5.27 6.00	lyzed: reparation: Units mg/Kg mg/Kg tical Metho	2010-06-02 2010-06-02 Units mg/Kg Dilution 5 5	Spike Amount 5.00 5.00	Analyzed Prepared Dilution 5 Percent Recovery 105 120 Prep M	d By: d By: Rec Lin 50.3 51.7	AG AG 1.00 covery mits - 155 - 131.1 N/A
Laboratory: Analysis: QC Batch: Prep Batch: Parameter GRO Surrogate Trifluorotolue 4-Bromofluor Sample: 23 Laboratory:	Midland TPH GRO 70574 60437 Fla ene (TFT) obenzene (4-BFB 3083 - SB-1 5' Midland	Flag)	Date Ana Sample P: RL Result 264 Result 5.27 6.00 Analy Date	lyzed: reparation: Units mg/Kg mg/Kg	2010-06-02 2010-06-02 Units mg/Kg Dilution 5 5 4: SM 450 2010-06	Spike <u>Amount</u> 5.00 5.00 00-Cl B 5-02	Analyzed Prepared Dilution 5 Percent Recovery 105 120 Prep M Analyzed	d By: d By: Rec Lin 50.3 51.7	AG AG 1.00 covery mits - 155 - 131.1

Report Date: June 7, 2010 114-6400203				Page Number: 7 of 2	
		RL			
Parameter	Flag	Result	Units	Dilution	RI
Chloride	<u></u>	<200	mg/Kg	50	4.00
Sample: 23	3084 - 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:	ÁR
Prep Batch:	60409	Sample Preparation:		Prepared By:	AR
		\mathbf{RL}			
	Flag	Result	Units	Dilution	RI
Parameter	1 145				~
Chloride Sample: 23 Laboratory: Analysis:	3085 - SB-1 10' Midland Chloride (Titration)	<200 Analytical Method:	mg/Kg SM 4500-Cl B 2010-06-02	50 Prep Method: Analyzed By:	N/1
Chloride Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch:	3085 - SB-1 10' Midland Chloride (Titration) 70556 60409	<200 Analytical Method: Date Analyzed: Sample Preparation: RL	SM 4500-Cl B 2010-06-02 2010-06-01	Prep Method: Analyzed By: Prepared By:	N// AR AR
Chloride Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Parameter	3085 - SB-1 10' Midland Chloride (Titration) 70556	<200 Analytical Method: Date Analyzed: Sample Preparation: RL Result	SM 4500-Cl B 2010-06-02	Prep Method: Analyzed By:	N// AR AR RI
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride	3085 - SB-1 10' Midland Chloride (Titration) 70556 60409 Flag 3086 - SB-1 15' Midland Chloride (Titration) 70556	<200 Analytical Method: Date Analyzed: Sample Preparation: RL Result <200 Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2010-06-02 2010-06-01 Units mg/Kg SM 4500-Cl B 2010-06-02	Prep Method: Analyzed By: Prepared By: Dilution	RI 4.00 N/A AR
Chloride Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Chloride Sample: 23 Laboratory: Analysis: QC Batch:	3085 - SB-1 10' Midland Chloride (Titration) 70556 60409 Flag 3086 - SB-1 15' Midland Chloride (Titration) 70556	<200 Analytical Method: Date Analyzed: Sample Preparation: RL Result <200 Analytical Method: Date Analyzed:	SM 4500-Cl B 2010-06-02 2010-06-01 Units mg/Kg SM 4500-Cl B 2010-06-02	Prep Method: Analyzed By: Prepared By: Dilution 50 Prep Method: Analyzed By:	N// AR AR RI 4.00

Sample: 233087 - SB-1 20'

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

.

Report Date: June 7, 2010 114-6400203		Work Order: 10052812 St. Mary/PDU Tract #1 TB		Page Number:	
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00
Sample: 23	3088 - SB-1 25'				
Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/I
QC Batch:	70556	Date Analyzed:	2010-06-02	Analyzed By:	ÁR.
Prep Batch:		Sample Preparation:		Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	RI
		545	mg/Kg	50	4.0
Chloride Sample: 23 Laboratory: Analysis:	3089 - SB-1 30' Midland Chloride (Titration) 70557	Analytical Method:	SM 4500-Cl B 2010-06-02	Prep Method: Analyzed By:	,
Chloride Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 70557 60410	Analytical Method: Date Analyzed: Sample Preparation: RL	2010-06-02 2010-06-01	Analyzed By: Prepared By:	AR AR
Chloride Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter	Midland Chloride (Titration) 70557	Analytical Method: Date Analyzed: Sample Preparation: RL Result	2010-06-02 2010-06-01 Units	Analyzed By: Prepared By: Dilution	AR AR RI
Chloride Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Chloride	Midland Chloride (Titration) 70557 60410 Flag	Analytical Method: Date Analyzed: Sample Preparation: RL Result	2010-06-02 2010-06-01	Analyzed By: Prepared By:	N/A AR AR RI 4.00
Chloride Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Chloride Sample: 23	Midland Chloride (Titration) 70557 60410 Flag 3090 - SB-1 40'	Analytical Method: Date Analyzed: Sample Preparation: RL Result	2010-06-02 2010-06-01 Units	Analyzed By: Prepared By: Dilution	AR AR RI
Chloride Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Chloride Sample: 23 Laboratory:	Midland Chloride (Titration) 70557 60410 Flag 3090 - SB-1 40' Midland	Analytical Method: Date Analyzed: Sample Preparation: RL Result <200	2010-06-02 2010-06-01 <u>Units</u> mg/Kg	Analyzed By: Prepared By: Dilution 50	AR AR RI 4.00
Chloride Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 23 Laboratory: Analysis:	Midland Chloride (Titration) 70557 60410 Flag 3090 - SB-1 40' Midland Chloride (Titration)	Analytical Method: Date Analyzed: Sample Preparation: RL Result <200 Analytical Method:	2010-06-02 2010-06-01 Units	Analyzed By: Prepared By: Dilution 50 Prep Method:	AR AR RI 4.00
Chloride Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 23 Laboratory: Analysis: QC Batch:	Midland Chloride (Titration) 70557 60410 Flag 3090 - SB-1 40' Midland Chloride (Titration) 70557	Analytical Method: Date Analyzed: Sample Preparation: RL Result <200 Analytical Method: Date Analyzed:	2010-06-02 2010-06-01 Units mg/Kg SM 4500-Cl B 2010-06-02	Analyzed By: Prepared By: Dilution 50	AR AR RI 4.00
Chloride Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 23 Laboratory: Analysis: QC Batch:	Midland Chloride (Titration) 70557 60410 Flag 3090 - SB-1 40' Midland Chloride (Titration) 70557	Analytical Method: Date Analyzed: Sample Preparation: RL Result <200 Analytical Method: Date Analyzed: Sample Preparation:	2010-06-02 2010-06-01 Units mg/Kg SM 4500-Cl B 2010-06-02	Analyzed By: Prepared By: Dilution 50 Prep Method: Analyzed By:	AR AR RI 4.00
Chloride Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Chloride Sample: 23	Midland Chloride (Titration) 70557 60410 Flag 3090 - SB-1 40' Midland Chloride (Titration) 70557	Analytical Method: Date Analyzed: Sample Preparation: RL Result <200 Analytical Method: Date Analyzed:	2010-06-02 2010-06-01 Units mg/Kg SM 4500-Cl B 2010-06-02	Analyzed By: Prepared By: Dilution 50 Prep Method: Analyzed By:	AR AR RI 4.00

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

	Work Order: 10052812 St. Mary/PDU Tract #1 TB		Page Number: 9 of 2	
	RL			
Flag	Result	Units	Dilution	RI
	1070	mg/Kg	100	4.00
092 - SB-2 3'				
Chloride (Titration) 70557	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2010-06-02 2010-06-01	Prep Method: Analyzed By: Prepared By:	N/A AR AR
Floor	RL Booult	Unito	Dilution	RL
r lag				4.00
093 - SB-2 5'				
-				
	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
70557	Date Analyzed:	2010-06-02	Analyzed By:	ÁŔ
60410	Sample Preparation:	2010-06-01	Prepared By:	AR.
Flag	RL Begult	Unite	Dilution	RL
1105				4.00
Midland	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2010-06-02 2010-06-01	Prep Method: Analyzed By: Prepared By:	
00110				
0010	RL			
Flag	Result	Units mg/Kg	Dilution 50	RL 4.00
	70557 60410 Flag 093 - SB-2 5' Midland Chloride (Titration) 70557 60410 Flag 094 - SB-2 7' Midland Chloride (Titration)	Midland Chloride (Titration) Analytical Method: 70557 Date Analyzed: 60410 Sample Preparation: RL Flag Result 514 7093 - SB-2 5' Midland Chloride (Titration) Analytical Method: 70557 Date Analyzed: 60410 Sample Preparation: RL Flag Result 1430 094 - SB-2 7' Midland Chloride (Titration) Analytical Method:	Midland Chloride (Titration)Analytical Method: Date Analyzed: Sample Preparation: 2010-06-02 2010-06-0160410RL ResultFlagResultUnits514mg/Kg6093 - SB-2 5'Midland Chloride (Titration)Analytical Method: Date Analyzed: 2010-06-02 2010-06-02 Sample Preparation: 2010-06-02 2010-06-0260410RL Date Analyzed: 2010-06-01FlagResultUnits1430mg/Kg094 - SB-2 7'Midland Chloride (Titration)Analytical Method: SM 4500-Cl BMidland Chloride (Titration)Analytical Method: SM 4500-Cl B	Midland Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: 70557 Date Analyzed: 2010-06-02 Analyzed By: 60410 Sample Preparation: 2010-06-01 Prepared By: RL Flag Result Units Dilution 514 mg/Kg 50 6093 - SB-2 5' Midland Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: 70557 Date Analyzed: 2010-06-02 Analyzed By: 60410 Sample Preparation: 2010-06-01 Prepared By: RL Flag Result Units Dilution 1430 mg/Kg 100 6094 - SB-2 7' Midland Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: Flag Result Units Dilution 1430 mg/Kg 100

Report Date: June 7, 2010 114-6400203		June 7, 2010 Work Order: 10052812 St. Mary/PDU Tract #1 TB		Page Number: 10 of 2		
		RL			_	
Parameter	Flag	Result	Units	Dilution	RI	
Chloride		205	mg/Kg	50	4.00	
Sample: 23	3096 - 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	
		\mathbf{RL}				
Parameter	Flag	Result	Units	Dilution	RI	
			mg/Kg	50	-4.00	
Chloride Sample: 23 Laboratory: Analysis: QC Batch:	3097 - SB-2 20' Midland Chloride (Titration) 70557	341 Analytical Method: Date Analyzed:	SM 4500-Cl B 2010-06-02	Prep Method: Analyzed By:	N/1	
Chloride Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Parameter	Midland Chloride (Titration)	Analytical Method: Date Analyzed: Sample Preparation: RL Result	SM 4500-Cl B 2010-06-02 2010-06-01 Units	Prep Method: Analyzed By: Prepared By: Dilution	N/A AR AR RI	
Chloride Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Parameter	Midland Chloride (Titration) 70557 60410	Analytical Method: Date Analyzed: Sample Preparation: RL Result	SM 4500-Cl B 2010-06-02 2010-06-01	Prep Method: Analyzed By: Prepared By:	N// AR AR RI	
Chloride Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Chloride Sample: 23 Laboratory: Analysis: QC Batch:	Midland Chloride (Titration) 70557 60410 Flag 3098 - SB-2 30' Midland Chloride (Titration) 70557	Analytical Method: Date Analyzed: Sample Preparation: RL Result <200 Analytical Method: Date Analyzed:	SM 4500-Cl B 2010-06-02 2010-06-01 Units mg/Kg SM 4500-Cl B 2010-06-02	Prep Method: Analyzed By: Prepared By: Dilution 50 Prep Method: Analyzed By:	N// AR AR RI 4.00	
Chloride Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 23 Laboratory: Analysis:	Midland Chloride (Titration) 70557 60410 Flag 3098 - SB-2 30' Midland Chloride (Titration) 70557	Analytical Method: Date Analyzed: Sample Preparation: RL Result <200 Analytical Method:	SM 4500-Cl B 2010-06-02 2010-06-01 Units mg/Kg SM 4500-Cl B 2010-06-02	Prep Method: Analyzed By: Prepared By: Dilution 50 Prep Method:	N/A AR AR RI 4.00	
Chloride Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 23 Laboratory: Analysis: QC Batch:	Midland Chloride (Titration) 70557 60410 Flag 3098 - SB-2 30' Midland Chloride (Titration) 70557	Analytical Method: Date Analyzed: Sample Preparation: RL Result <200 Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2010-06-02 2010-06-01 Units mg/Kg SM 4500-Cl B 2010-06-02	Prep Method: Analyzed By: Prepared By: Dilution 50 Prep Method: Analyzed By:	N/A AR AR RI 4.00	

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

Flag	RL Result		******	
Flag				
		Units	Dilution	RI
	3740	mg/Kg	100	4.00
	0140		200	1.00
· SB-3 3'				
and				
ride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
3		2010-06-02		AR
l		2010-06-01	Prepared By:	AR
	RL			
Flag	Result	Units	Dilution	RI
	3250	mg/Kg	100	4.00
		90110106107	Analyzad Buy	•
3	Date Analyzed: Sample Preparation: RL	2010-06-02 2010-06-01	Analyzed By: Prepared By:	N/A AR AR
L	Sample Preparation:			AR AR
	Sample Preparation: RL Result	2010-06-01	Prepared By:	AR AR RI
Flag • SB-3 7' and	Sample Preparation: RL Result	2010-06-01 Units	Prepared By: Dilution	AR AR <u>RI</u> 4.00
Flag SB-3 7'	Sample Preparation: RL Result 6500	2010-06-01 Units mg/Kg	Prepared By: Dilution 100	AR AR RI 4.00
Flag SB-3 7' and ide (Titration)	Sample Preparation: RL Result 6500 Analytical Method: Date Analyzed: Sample Preparation:	2010-06-01 Units mg/Kg SM 4500-Cl B 2010-06-02	Prepared By: Dilution 100 Prep Method: Analyzed By:	AR AR RI 4.00
Flag SB-3 7' and ide (Titration)	Sample Preparation: RL Result 6500 Analytical Method: Date Analyzed:	2010-06-01 Units mg/Kg SM 4500-Cl B 2010-06-02	Prepared By: Dilution 100 Prep Method: Analyzed By:	AR AR RI 4.00
	and ride (Titration) B Flag SB-3 5' and ride (Titration)	and ride (Titration) Analytical Method: B Date Analyzed: Sample Preparation: RL Flag Result 3250 SB-3 5' and ride (Titration) Analytical Method:	and ride (Titration) Analytical Method: SM 4500-Cl B Date Analyzed: 2010-06-02 Sample Preparation: 2010-06-01 RL Flag Result Units 3250 mg/Kg SB-3 5' and ride (Titration) Analytical Method: SM 4500-Cl B	and ride (Titration) Analytical Method: SM 4500-Cl B Prep Method: B Date Analyzed: 2010-06-02 Analyzed By: Sample Preparation: 2010-06-01 Prepared By: RL Flag Result Units Dilution 3250 mg/Kg 100 SB-3 5' and

	1/1/0/0/				
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

Report Date: June 7, 2010 114-6400203		7, 2010 Work Order: 10052812 St. Mary/PDU Tract #1 TB		Page Number: 12 of 24		
		RL				
Parameter	Flag	Result	Units	Dilution	RI	
Chloride		6460	mg/Kg	100	4.00	
Sample: 23	3104 - 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:	ΑŔ.	
Prep Batch:	60411	Sample Preparation:	2010-06-01	Prepared By:	AR	
		RL				
Parameter	Flag	Result	Units	Dilution	RI	
OLL 1		1680	mg/Kg	100	4.0	
Sample: 23 Laboratory: Analysis:	3105 - SB-3 20' Midland Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:		
Sample: 23 Laboratory: Analysis: QC Batch:	Midland	Date Analyzed: Sample Preparation:	2010-06-02	Prep Method: Analyzed By: Prepared By:		
Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 70558 60411	Date Analyzed: Sample Preparation: RL	2010-06-02 2010-06-01	Analyzed By: Prepared By:	AR AR	
Chloride Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride	Midland Chloride (Titration) 70558	Date Analyzed: Sample Preparation: RL Result	2010-06-02	Analyzed By:		
Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride	Midland Chloride (Titration) 70558 60411	Date Analyzed: Sample Preparation: RL Result	2010-06-02 2010-06-01 Units	Analyzed By: Prepared By: Dilution	AR AR RI	
Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 23 Laboratory:	Midland Chloride (Titration) 70558 60411 Flag 3106 - SB-3 25' Midland	Date Analyzed: Sample Preparation: RL Result 1080	2010-06-02 2010-06-01 Units mg/Kg	Analyzed By: Prepared By: Dilution 100	AR AR RI 4.00	
Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 23 Laboratory: Analysis:	Midland Chloride (Titration) 70558 60411 Flag 3106 - SB-3 25' Midland Chloride (Titration)	Date Analyzed: Sample Preparation: RL Result 1080 Analytical Method:	2010-06-02 2010-06-01 Units mg/Kg SM 4500-Cl B	Analyzed By: Prepared By: Dilution 100 Prep Method:	AR AR RI 4.00	
Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 23 Laboratory: Analysis: QC Batch:	Midland Chloride (Titration) 70558 60411 Flag 3106 - SB-3 25' Midland Chloride (Titration) 70558	Date Analyzed: Sample Preparation: RL Result 1080 Analytical Method: Date Analyzed:	2010-06-02 2010-06-01 Units mg/Kg SM 4500-Cl B 2010-06-02	Analyzed By: Prepared By: Dilution 100 Prep Method: Analyzed By:	AR AR RI 4.00 N/A AR	
Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 23 Laboratory:	Midland Chloride (Titration) 70558 60411 Flag 3106 - SB-3 25' Midland Chloride (Titration) 70558	Date Analyzed: Sample Preparation: RL Result 1080 Analytical Method: Date Analyzed: Sample Preparation:	2010-06-02 2010-06-01 Units mg/Kg SM 4500-Cl B 2010-06-02	Analyzed By: Prepared By: Dilution 100 Prep Method:	AR AR RI 4.00 N/A AR	
Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Prep Batch: Chloride Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 70558 60411 Flag 3106 - SB-3 25' Midland Chloride (Titration) 70558 60411	Date Analyzed: Sample Preparation: RL Result 1080 Analytical Method: Date Analyzed: Sample Preparation: RL	2010-06-02 2010-06-01 Units mg/Kg SM 4500-Cl B 2010-06-02 2010-06-01	Analyzed By: Prepared By: Dilution 100 Prep Method: Analyzed By: Prepared By:	AR AR RI 4.00 N/A AR AR	
Sample: 23 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 23 Laboratory: Analysis: QC Batch:	Midland Chloride (Titration) 70558 60411 Flag 3106 - SB-3 25' Midland Chloride (Titration) 70558	Date Analyzed: Sample Preparation: RL Result 1080 Analytical Method: Date Analyzed: Sample Preparation: RL Result	2010-06-02 2010-06-01 Units mg/Kg SM 4500-Cl B 2010-06-02	Analyzed By: Prepared By: Dilution 100 Prep Method: Analyzed By:	AR AR RI 4.00 N/A AR	

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

Report Date: June 7, 2010 114-6400203		.0	Work Order: 1008 St. Mary/PDU Trac		Page Number: 13 of 24			
			RL					
Parameter		Flag	Result	Units	Dilution	RL		
Chloride			974	mg/Kg	100	4.00		
Sample: 23	3108 - SB-3	40 '						
Laboratory:	Midland							
Analysis:	Chloride (T	itration)	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		Prepared By:	AR		
			DI					
Parameter		Flag	RL Result	Units	Dilution	RL		
Chloride	· · · · · · · ·		<200	mg/Kg	50	4.00		
				SM 4500-Cl B		-1MD		
QC Batch:	Chloride (T 70559 60412		Analytical Method: Date Analyzed: Sample Preparation: RL	2010-06-02 2010-06-01	Prep Method: Analyzed By: Prepared By:	N/A AR AR		
QC Batch: Prep Batch:	70559 60412		Date Analyzed:		Analyzed By:	AR		
Analysis: QC Batch: Prep Batch: Parameter Chloride	70559 60412	Flag	Date Analyzed: Sample Preparation: RL	2010-06-01	Analyzed By: Prepared By:	AR AR		
QC Batch: Prep Batch: Parameter Chloride	70559 60412		Date Analyzed: Sample Preparation: RL Result	2010-06-01 Units	Analyzed By: Prepared By: Dilution	AR AR RI		
QC Batch: Prep Batch: Parameter	70559 60412	Flag	Date Analyzed: Sample Preparation: RL Result <200	2010-06-01 Units	Analyzed By: Prepared By: Dilution	AR AR RI 4.00		
QC Batch: Prep Batch: Parameter Chloride Method Bla	70559 60412 ank (1)	Flag	Date Analyzed: Sample Preparation: RL Result <200 Date Analyzed: 2010	2010-06-01 Units mg/Kg	Analyzed By: Prepared By: Dilution 50	AR AR RI 4.00		
QC Batch: Prep Batch: Parameter Chloride Method Bla QC Batch: Prep Batch:	70559 60412 ank (1) 70544	Flag QC Batch: 70544	Date Analyzed: Sample Preparation: RL Result <200 Date Analyzed: 2010 QC Preparation: 2010 MDL	2010-06-01 Units mg/Kg D-06-01	Analyzed By: Prepared By: Dilution 50 Analyzed By: Prepared By:	AR AR RI 4.00		
QC Batch: Prep Batch: Chloride Method Bla QC Batch: Prep Batch: Parameter	70559 60412 ank (1) 70544	Flag	Date Analyzed: Sample Preparation: RL Result <200 Date Analyzed: 2010 QC Preparation: 2010 MDL Result	2010-06-01 Units mg/Kg D-06-01	Analyzed By: Prepared By: Dilution 50 Analyzed By: Prepared By: Units	AR AR RI 4.00 kg kg		
QC Batch: Prep Batch: Chloride Method Bla QC Batch: Prep Batch: Parameter	70559 60412 ank (1) 70544	Flag QC Batch: 70544	Date Analyzed: Sample Preparation: RL Result <200 Date Analyzed: 2010 QC Preparation: 2010 MDL	2010-06-01 Units mg/Kg D-06-01	Analyzed By: Prepared By: Dilution 50 Analyzed By: Prepared By:	AR AR RI 4.00		
QC Batch: Prep Batch: Parameter Chloride Method Bla QC Batch: Prep Batch: Prep Batch: Parameter DRO	70559 60412 ank (1) 70544 60419	Flag QC Batch: 70544 Flag	Date Analyzed: Sample Preparation: RL Result <200 Date Analyzed: 2010 QC Preparation: 2010 MDL Result <5.86	2010-06-01 Units mg/Kg 0-06-01 0-06-01 Spike	Analyzed By: Prepared By: Dilution 50 Analyzed By: Prepared By: Units mg/Kg Percent Rec	AR AR RI 4.00 kg kg RI 50 covery		
QC Batch: Prep Batch: Chloride Method Bla QC Batch: Prep Batch: Parameter	70559 60412 ank (1) 70544	Flag QC Batch: 70544	Date Analyzed: Sample Preparation: RL Result <200 Date Analyzed: 2010 QC Preparation: 2010 MDL Result	2010-06-01 Units mg/Kg 0-06-01 0-06-01 Spike	Analyzed By: Prepared By: Dilution 50 Analyzed By: Prepared By: Units mg/Kg Percent Rec Recovery Li	AR AR RI 4.00 : kg kg RI 50		

Report Date: June 7, 2 114-6400203	2010	Work Order: 10052812 St. Mary/PDU Tract #1 TB	Page Number:	14 of 2
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 B ₃	r: AR
		MDL		
Parameter	Flag	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
		MDL		
Parameter	Flag	Result	Units	RL
Chloride		<2.18	mg/Kg	4
QC Batch: 70558 Prep Batch: 60411		Date Analyzed: 2010-06-02 QC Preparation: 2010-06-01	Analyzed By Prepared By	
D		MDL	TT 1 ,	
Parameter Chloride	Flag		Units mg/Kg	RL 4
		<2.10	ing/Kg	
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
		MDL		
Parameter	Flag	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

Report Date: June 7, 2010 114-6400203			ork Order: ary/PDU				Page Nu	imber:	15 of 24
Parameter	Flag			1DL sult		Un	ite		\mathbf{RL}
Benzene	Fag		<0.00			mg/			0.01
Toluene			<0.00			mg/			0.01
Ethylbenzene			<0.00			mg/			0.01
Xylene			< 0.00	0650		ing/			0.01
						Spike	Percent	Re	covery
Surrogate	Flag	Result	Units	Dilu	ition .	Amount	Recovery		imits
Trifluorotoluene (TFT)	~	1.83	mg/Kg		1	2.00	92	64.9	- 142.7
4-Bromofluorobenzene (4-BF	B)	1.50	mg/Kg	1	1	2.00	75	43.9	- 141.9
Method Blank (1) QC QC Batch: 70574 Prep Batch: 60437	Batch: 70574	Date An QC Prep		2010-06-0 2010-06-0				yzed By ared By	
Parameter	Flag		MD Resu			Unit	10		RL
GRO			<0.39						1
								<u></u>	
9		D 11	.	D.1		Spike	Percent		ecovery
Surrogate Trifluorotoluene (TFT)	Flag	Result 2.06	Units		ution	Amount 2.00	Recovery 103		imits 2 - 145
4-Bromofluorobenzene (4-BF)	R)	2.00 1.60	mg/Kg mg/Kg		1 1	2.00 2.00	103 80		- 120.5
Laboratory Control Spike	e (LCS-1)								
QC Batch: 70544		Date An		2010-06-	-01			lyzed B	
Prep Batch: 60419		QC Prep	paration:	2010-06-	-01		Prep	pared B	y: kg
Param	LC Res	ult U	nits	Dil.	Spike Amount	Matri: Result	t Rec.	L	Rec. imit
DRO	26	5 mg	g/Kg	1	250	<5.86	106	57.4	- 133.4
Percent recovery is based on	the spike result.	. RPD is b	ased on th	e spike a	and spike o	luplicate r	esult.		
	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units		mount	Result	Rec.	Limit	RPD	Limit
DRO	277	mg/Kg	1	250	< 5.86		7.4 - 133.4	4	20
	the spike result.	RPD is b	ased on th	e spike a	and spike o	iuplicate r	esult.		
Percent recovery is based on									
LC					\mathbf{S} pike	LCS			Rec.
Percent recovery is based on LC Surrogate Res n-Tricosane 98.	ult Result			Dil.	Spike Amount 100				Rec. Limit 0 - 130

Param

Chloride

Laboratory Control Spike (LCS-1)

QC Batch: 70556 Prep Batch: 60409		te Analyzed: Preparation:	2010-06-02 2010-06-01				alyzed E epared B	•
	LCS			Spike	Mat	rix		Rec.
Param	\mathbf{Result}	Units	Dil.	Amount	Rest	alt R	ec.	Limit
Chloride	98.6	mg/Kg	1	100	<2.	18 9	99	85 - 11
Percent recovery is based on th	e spike result. RPI) is based on	the spike an	d spike dup	olicate res	sult.		
	LCSD		Spike	Matrix		Rec.		RPI
Param		nits Dil.	Amount	Result	Rec.	Limit	RPD	Limi
Chloride	100 mg	g/Kg 1	100	< 2.18	100	85 - 115	1	20
Laboratory Control Spike (QC Batch: 70557 Prep Batch: 60410	Dat	e Analyzed: Preparation:	2010-06-02 2010-06-01				alyzed B pared B	
Param	LCS Result	Units	Dil.	Spike Amount	Matı Resu		ec.	Rec. Limit
Chloride	98.1	mg/Kg	1	100	<2.1	18 9	8	85 - 11
Porgent recovery is based on th	e spike result. RPI) is based on	the spike an	d spike dur	licate res	sult.		
rescent recovery is based on th						n		דתת
referent fectivery is based on th	LCSD		Spike	Matrix		Rec.		n r L
	LCSD Result U	nits Dil.	Spike Amount	Matrix Result	Rec.	Limit	RPD	RPD Limit
Param	Result U	nits Dil. g/Kg 1			Rec.		RPD 2	
Param Chloride Percent recovery is based on th	Result U 100 mg e spike result. RPI	g/Kg 1	Amount 100	Result <2.18	100	Limit 85 - 115		Limi
Param Chloride Percent recovery is based on th Laboratory Control Spike (Result U 100 mg e spike result. RPI (LCS-1)	y/Kg 1 D is based on	Amount 100	Result <2.18 d spike dup	100	Limit 85 - 115 sult.		Limit 20
Param Chloride Percent recovery is based on th Laboratory Control Spike (QC Batch: 70558	Result U 100 mg e spike result. RPI (LCS-1) Dat	g/Kg 1	Amount 100 the spike an 2010-06-02	Result <2.18 d spike dup	100	Limit 85 - 115 sult. Ana	2	Limit 20 y: AR
Param Chloride Percent recovery is based on th Laboratory Control Spike (QC Batch: 70558	Result U 100 mg e spike result. RPI (LCS-1) Dat	<u>y/Kg 1</u> D is based on e Analyzed:	Amount 100 the spike an 2010-06-02	Result <2.18 d spike dup	100	Limit 85 - 115 sult. Ana Prej	2 Jyzed B	Limit 20 y: AR
Param Chloride Percent recovery is based on th Laboratory Control Spike (QC Batch: 70558	Result U 100 mg e spike result. RPI (LCS-1) Dat QC	<u>y/Kg 1</u> D is based on e Analyzed:	Amount 100 the spike an 2010-06-02	Result <2.18 d spike dup	100 olicate res	Limit 85 - 115 sult. Ana Prep ix dt Re	2 Jyzed B pared B ec.	Limi 20 y: AR y: AR

Rec.

101

Limit

85 - 115

Result

<2.18

RPD

2

Limit

20

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

Units

Dil.

1

Amount

100

Result

Report Date: June 7, 2010 114-6400203 Work Order: 10052812 St. Mary/PDU Tract #1 TB Page Number: 17 of 24

Laboratory Control Spike (LCS-1)

QC Batch: 70559 Prep Batch: 60412		ate Analyze C Preparat		06-02 06-01			alyzed B epared B	-
	LCS			Spike	Ma			Rec.
Param	Result						.ec.	Limit
Chloride	98.6	mg/k	<u>(g 1</u>	100	<2	.18 9	99	85 - 115
Percent recovery is based or	n the spike result. RI	PD is based	on the spi	ke and spike di	uplicate ro	sult.		
	LCSD		Spi	ke Matrix		Rec.		RPD
Param	Result	Units D	oil. Amo		Rec.	Limit	RPD	Limit
	100	ng/Kg	1 10	0 <2.18	100	85 - 115	1	20
Percent recovery is based or	n the spike result. RI			ke and spike di	uplicate re	esult.		
Chloride Percent recovery is based of Laboratory Control Spil QC Batch: 70573 Prep Batch: 60437	n the spike result. Rl ke (LCS-1) Di		on the spi ed: 2010-		uplicate re	Ana	alyzed B	-
Percent recovery is based of Laboratory Control Spil QC Batch: 70573	n the spike result. Rl ke (LCS-1) Di	PD is based ate Analyze	on the spi ed: 2010-	06-02	iplicate re Matrix	Ana Pre	pared B	-
Percent recovery is based or Laboratory Control Spil QC Batch: 70573 Prep Batch: 60437	n the spike result. RI ce (LCS-1) D: Q	PD is based ate Analyze	on the spi ed: 2010-	06-02 06-02		Ana Pre	pared B	y: AG
Percent recovery is based or Laboratory Control Spil QC Batch: 70573 Prep Batch: 60437 Param	n the spike result. RI ce (LCS-1) Q LCS	PD is based ate Analyze C Preparat	on the spi ed: 2010- ion: 2010-	06-02 06-02 Spike	Matrix	Ana Pre Rec.	pared B	y: AG Rec. Limit
Percent recovery is based of Laboratory Control Spil QC Batch: 70573 Prep Batch: 60437 Param Benzene	n the spike result. RI ce (LCS-1) Q LCS Result	PD is based ate Analyze C Preparat Units	on the spi od: 2010- ion: 2010- Dil.	06-02 06-02 Spike Amount	Matrix Result	Ana Pre <u>Rec.</u> 0 92 0 92	pared B	y: AG Rec. Limit 1 - 115.7
Percent recovery is based of Laboratory Control Spil QC Batch: 70573	n the spike result. RI ce (LCS-1) Q LCS Result 1.83	PD is based ate Analyze C Preparat Units mg/Kg	on the spi ed: 2010- ion: 2010- Dil. 1	06-02 06-02 Spike <u>Amount</u> 2.00	Matrix Result <0.0041	Ana Pre <u>Rec.</u> 0 92 0 92	pared B 75.4 78.4	y: AG Rec.

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

c i	LCS	LCSD	TT 14.	D'1	Spike	LCS	LCSD	Rec.
Surrogate	\mathbf{Result}	Result	Units	Dil.	Amount	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:	\mathbf{AG}
Prep Batch:	60437	QC Preparation:	2010-06-02	Prepared By:	\mathbf{AG}

	010				er: 100528 U Tract /				Page N	umber:	18 of 24
		LCS	3			Spike	N	latrix]	Rec.
Param		Resu	lt (Jnits	Dil.	Amour	t R	esult	Rec.	I	imit
GRO		15.4	l m	g/Kg	1	20.0	<	0.396	77	52.5	- 114.3
Percent recovery is base	d on the s	pike result.			the spike	e and spik	e duplica	te res	ult.		
		LCSD			Spike	Matri	c		Rec.		RPD
Param		Result	Units	Dil.	Amount				Limit	RPD	Limit
GRO		16.0	mg/Kg	1	20.0	< 0.39	6 80	52	.5 - 114.3	4	20
Percent recovery is base	d on the s	pike result.	RPD is l	based on	the spike	e and spik	e duplica	te res	ult.		
_		LCS					Spike	LCS			Rec.
Surrogate	<u> </u>	Resul					mount	Rec			imit
Triffuorotoluene (TFT)		2.08	1.8		ıg/Kg	1	2.00	104			- 148.7
4-Bromofluorobenzene (/	<u>1-BFB)</u>	1.83	1.6	6 n	ıg/Kg	1	2.00	92	83	64.1	- 127.4
Prep Batch: 60419		MS	~~~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	paration	ı: 2010 -0	Spike	М	atrix			Rec.
Param		Resul	lt L	Jnits	Dil.	Amoun	t R	esult	Rec.	L	imit
DRO		334	m	g/Kg	1	250		37.7	118	35.2	- 167.1
Percent recovery is based	l on the sj	pike result.	RPD is l	oased on	the spike	and spik	e duplica	te res	ult.		
_		MSD	_		Spike	Matrix			Rec.		RPD
Param		Result	Units	Dil.	Amount	Result			Limit	RPD	Limit
DRO			mg/Kg	1	250	37.7	104		2 - 167.1	11	20
Percent recovery is based	i on the sj	pike result.	RPD is t	based on	the spike	and spik	e duplica	te res			
	MS	MSD				Spil	e	MS	MSD		Rec.
	Result	Result	U	nits	Dil.	Amou		Rec.	Rec.		Limit
Surrogate								115	112		
	115	112	mg	ç/Kg	1	100)	115			0 - 130
Surrogate n-Tricosane Matrix Spike (MS-1) QC Batch: 70556 Prep Batch: 60409	115	112 Sample: 23		alyzed:	2010-06	6-02)	115	Analy	/ yzed By ared By:	: AR
n-Tricosane Matrix Spike (MS-1) QC Batch: 70556	115	<u>.</u>	3088 Date An QC Prep	alyzed:	2010-06	6-02	œ	Matr Resu	Analy Prepa	yzed By ared By:	

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

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Report Date: June 7, 2010 114-6400203				:: 10052812 J Tract #1 1	TB		Page	Number	19 OF 2
	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	9830	mg/Kg	100	10000	545	93	85 - 115	2	20
Percent recovery is based on	the spike result.		ased on		d spike du	plicate r			
Matrix Spike (MS-1)	piked Sample: 23	33098							
QC Batch: 70557		Date Ana	lvzed	2010-06-02			An	alyzed B	v: AR
Prep Batch: 60410		QC Prepa		2010-06-01				epared B	•
		•						- <u>-</u>	,
D	M			T):1	Spike		trix		Rec.
Param Chloride	Res 102		jnits g/Kg	Dil. 100	Amount 10000			lec. .00	Limit 85 - 115
							·····	.00	00 - 110
Percent recovery is based on	the spike result.	RPD is ba	ased on	the spike and	d spike duj	plicate re	esult.		
				~ ~ ~	37		Dee		
	MSD			Spike	Matrix		Rec.		
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	RPD Limit
Param Chloride Percent recovery is based on	Result 10400	mg/Kg	100	Amount 10000	Result <218	102	Limit 85 - 115	RPD 2	
Chloride Percent recovery is based on	Result 10400	mg/Kg RPD is ba	100 ased on s	Amount 10000	Result <218 I spike duj	102	Limit 85 - 115 esult. An		Limit 20 y: AR
Chloride Percent recovery is based on Matrix Spike (MS-1) S QC Batch: 70558	Result 10400 the spike result.	mg/Kg RPD is ba 33108 Date Ana QC Prepa	100 ased on s	Amount 10000 the spike and 2010-06-02	Result <218 I spike duj	102	Limit 85 - 115 esult. An Pre	2 alyzed B	Limit 20 y: AR
Chloride Percent recovery is based on Matrix Spike (MS-1) S QC Batch: 70558 Prep Batch: 60411	Result 10400 the spike result. piked Sample: 23	mg/Kg RPD is ba 33108 Date Ana QC Prepa	100 ased on s	Amount 10000 the spike and 2010-06-02	Result <218 I spike duj	102 olicate re	Limit 85 - 115 esult. An Pre	2 alyzed B	Limit 20 y: AR r: AR
Chloride Percent recovery is based on Matrix Spike (MS-1) S QC Batch: 70558 Prep Batch: 60411 Param	Result 10400 the spike result. piked Sample: 23	mg/Kg RPD is ba 33108 Date Ana QC Prepa S ult U	100 ased on s Jyzed: aration:	Amount 10000 the spike and 2010-06-02 2010-06-01	Result <218 I spike duj Spike	102 olicate re Mat	Limit 85 - 115 esult. An Pre trix ault R	2 alyzed B pared By ec.	Limit 20 y: AR r: AR Rec. Limit
Chloride Percent recovery is based on Matrix Spike (MS-1) S QC Batch: 70558	Result 10400 the spike result. piked Sample: 23 MS Resu 1040	mg/Kg RPD is ba 33108 Date Ana QC Prepa S ult U 00 m	100 ased on a lyzed: aration: Jnits g/Kg	Amount 10000 the spike and 2010-06-02 2010-06-01 Dil. 100	Result <218 I spike duj Spike Amount 10000	102 olicate re Mat Res <2	Limit 85 - 115 esult. An Pre trix sult R 18 1	2 alyzed B pared By ec.	Limit 20 y: AR r: AR Rec. Limit
Chloride Percent recovery is based on Matrix Spike (MS-1) S QC Batch: 70558 Prep Batch: 60411 Param Chloride	Result 10400 the spike result. piked Sample: 23 MS Resu 1040	mg/Kg RPD is ba 33108 Date Ana QC Prepa S ult U 00 m	100 ased on a lyzed: aration: Jnits g/Kg	Amount 10000 the spike and 2010-06-02 2010-06-01 Dil. 100	Result <218 I spike duj Spike Amount 10000	102 olicate re Mat Res <2	Limit 85 - 115 esult. An Pre trix sult R 18 1	2 alyzed B pared By ec.	Limit 20 y: AR r: AR Rec. Limit
Chloride Percent recovery is based on Matrix Spike (MS-1) S QC Batch: 70558 Prep Batch: 60411 Param Chloride Percent recovery is based on Param	Result 10400 the spike result. piked Sample: 23 MS Resu 1044 the spike result. MSD Result	mg/Kg RPD is ba 33108 Date Ana QC Prepa S ult U RPD is ba Units	100 ased on a lyzed: aration: <u>jnits</u> g/Kg ased on t Dil.	Amount 10000 the spike and 2010-06-02 2010-06-01 Dil. 100 the spike and Spike Amount	Result <218 I spike dup Spike Amount 10000 I spike dup Matrix Result	102 olicate re Mat Res <2 olicate re Rec.	Limit 85 - 115 esult. An Pre trix sult R 18 1 sult. Rec. Limit	2 alyzed By pared By ec. 04 RPD	Limit 20 y: AR r: AR Rec. Limit 85 - 115 RPD Limit
Chloride Percent recovery is based on Matrix Spike (MS-1) S QC Batch: 70558 Prep Batch: 60411 Param Chloride	Result 10400 the spike result. piked Sample: 23 MS Resu 1044 the spike result. MSD	mg/Kg RPD is ba 33108 Date Ana QC Prepa S ult U 00 m RPD is ba	100 ased on a lyzed: aration: Juits g/Kg ased on t	Amount 10000 the spike and 2010-06-02 2010-06-01 Dil. 100 the spike and Spike	Result <218 I spike dup Spike Amount 10000 I spike dup Matrix	102 olicate re Mat Res <2 olicate re	Limit 85 - 115 esult. An Pre trix sult R 18 1 esult. Rec.	2 alyzed B pared B ec. 04	Limit 20 y: AR r: AR Rec. Limit <u>85 - 115</u> RPD
Chloride Percent recovery is based on Matrix Spike (MS-1) S QC Batch: 70558 Prep Batch: 60411 Param Chloride Percent recovery is based on Param	Result 10400 the spike result. piked Sample: 23 MS Result the spike result. MSD Result 10600	mg/Kg RPD is ba 33108 Date Ana QC Prepa S alt U 00 m RPD is ba Units mg/Kg	100 ased on a lyzed: aration: jnits g/Kg ased on t Dil. 100	Amount 10000 the spike and 2010-06-02 2010-06-01 Dil. 100 the spike and Spike Amount 10000	Result <218 I spike dup Spike Amount 10000 I spike dup Matrix Result <218	102 plicate re Mat Res <2 plicate re Rec. 106	Limit 85 - 115 esult. An Pre- trix sult R 18 1 esult. Rec. Limit 85 - 115	2 alyzed By pared By ec. 04 RPD	Limit 20 y: AR r: AR Rec. Limit 85 - 115 RPD Limit
Chloride Percent recovery is based on Matrix Spike (MS-1) S QC Batch: 70558 Prep Batch: 60411 Param Chloride Percent recovery is based on Param Chloride Percent recovery is based on	Result 10400 the spike result. piked Sample: 23 MS Result the spike result. MSD Result 10600	mg/Kg RPD is ba 33108 Date Ana QC Prepa S ult U 00 m RPD is ba Units mg/Kg RPD is ba	100 ased on a lyzed: aration: jnits g/Kg ased on t Dil. 100	Amount 10000 the spike and 2010-06-02 2010-06-01 Dil. 100 the spike and Spike Amount 10000	Result <218 I spike dup Spike Amount 10000 I spike dup Matrix Result <218	102 plicate re Mat Res <2 plicate re Rec. 106	Limit 85 - 115 esult. An Pre- trix sult R 18 1 esult. Rec. Limit 85 - 115	2 alyzed By pared By ec. 04 RPD	Limit 20 y: AR r: AR Rec. Limit 35 - 115 RPD Limit
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1.44	ł 1	.48	mg/Kg	1	2		72	74	49.6	- 146.
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		MS			$_{ m Spi}$	ke M	<i>l</i> atrix			Rec.
	. <u> </u>	Result						Rec.		Limit
		25.1	mg/I	Kg 1	20	.05	.5866	98	1() - 198.
ery is based	d on the spike re	sult. RPI	D is base	d on the spike	and spi	ke duplica	te result.			
	MS	D		Spike						RPL
										Limi
			<u> </u>					98.3	7	20
ery is based	d on the spike re	sult. RPI	D is base	d on the spike	and spi	ke duplica	te result.			
		MS	MSD			Spike	MS	MSD)	Rec.
			Result	Units	Dil.	Amount	Rec.	Rec.		Limit
				÷	1					5.5 - 143
benzene (4	1-BFB)	2.42	2.38	mg/Kg	1	2	121	119	58	3.6 - 14
CV-1)										
0544		Dat	te Analy	zed: 2010-06	-01			Anal	lyzed I	By: kg
		CCV	้ร	CCVs	CC	Vs	Percen	ıt		
		True	e	Found	Perc	ent	Recover	ry		Date
Flag	Units	Conc		Conc.	Reco	very	Limits	3	Aı	nalyzed
	mg/Kg	250		291	11	6	80 - 12	0	20^{1}	10-06-01
CV-2) 0544	<u> </u>			zed: 2010-06	-01			Anal	yzed E	
,	<u></u>	CCV	s	zed: 2010-06 CCVs	-01 CC	Vs	Percen	Anal	yzed B	ly: kg
0544		CCV True	s	zed: 2010-06 CCVs Found	-01 CC Perc	Vs ænt	Percen Recover	Anal t ty	yzed E	ly: kg Date
,	Units mg/Kg	CCV	s e	zed: 2010-06 CCVs	-01 CC	Vs ænt very	Percen	Anal t ty	yzed B Ar	ly: kg Date nalyzed
0544	Units	CCV True Conc 250 Dat	s e Analyz	zed: 2010-06 CCVs Found Conc. 290 :ed: 2010-06-	-01 CC Perc Reco 11	Vs ænt very 6	Percen Recover Limits 80 - 12	Anal t cy 5 0 Analy	yzed E <u>Ar</u> 201	ly: kg Date nalyzed
0544 Flag	Units	CCV True Conc 250 Dat	s e e Analyz	zed: 2010-06 CCVs Found Conc. 290 zed: 2010-06- ICVs	-01 CC Perc Reco 11 02 IC	Vs ænt very 6 Vs	Percen Recover Limits 80 - 12 Percen	Anal t ty 3 0 Analy t	yzed E Ar 201 zed By	ly: kg Date nalyzed 0-06-01
0544 Flag	Units	CCV True Conc 250 Dat	s e e Analyz /s ie	zed: 2010-06 CCVs Found Conc. 290 :ed: 2010-06-	-01 CC Perc Reco 11	Vs ænt very 6 Vs cent	Percen Recover Limits 80 - 12	Anal t cy 3 0 Analy tt	yzed E Ar 201 zed By	iy: kg Date nalyzed 10-06-01
	ry is based be (TFT) benzene (7 CV-1) 0544	MS Res 26. ery is based on the spike re ne (TFT) benzene (4-BFB) CV-1) 0544 Flag Units	Result 25.1 25.1 ery is based on the spike result. RPI MSD Result Ty is based on the spike result. RPI MS Result MS Result De (TFT) 2.42 CV-1) 0544 Da CCV True COV True Con </td <td>Result Unit 25.1 mg/l 25.1 mg/l ery is based on the spike result. RPD is base MSD Result Units 26.8 mg/Kg ery is based on the spike result. RPD is base MS MSD Result Result Result Result Result Result NS MSD Result Result Result Result Net CCV-1 0544 Date CCVs True Flag Units Conc.</td> <td>Result Units Dil. 25.1 mg/Kg 1 ery is based on the spike result. RPD is based on the spike MSD Spike Result Units Dil. 26.8 mg/Kg 1 26.8 mg/Kg 1 26.8 mg/Kg 1 20.0 ery is based on the spike result. RPD is based on the spike MS MSD Result Result Units Dit Result Result Units 2.37 mg/Kg benzene (4-BFB) 2.42 2.38 mg/Kg CV-1) Date Analyzed: 2010-06 CCVs CCVs CCVs True Found Found Flag Units Conc. Conc.</td> <td>ResultUnitsDil.Amo25.1mg/Kg120ery is based on the spike result. RPD is based on the spike and spiMSDSpikeMatMSDSpikeMatResultUnitsDil.AmountRes26.8mg/Kg120.05.56ery is based on the spike result. RPD is based on the spike and spiMSMSDMSMSDResultUnitsDil.he (TFT)2.282.37mg/Kg1benzene (4-BFB)2.422.38mg/Kg1CCV-1)0544DateAnalyzed:2010-06-01CCVsCCVsCCVsCCFlagUnitsConc.Conc.Reco</td> <td>ResultUnitsDil.AmountH25.1mg/Kg120.05ary is based on the spike result. RPD is based on the spike and spike duplicaMSDSpikeMatrixResultUnitsDil.AmountResult26.8mg/Kg120.05.5866106ary is based on the spike result. RPD is based on the spike and spike duplicationMSMSDSpikeMSMSDSpikeMeountMeountMeountMSMSDSpikeSpikeAmounthe (TFT)2.282.37mg/Kg12benzene (4-BFB)2.422.38mg/Kg12CCV-1)0544Date Analyzed:2010-06-01CCVsCCVsCCVsCVsFlagUnitsConc.Conc.Recovery</td> <td>ResultUnitsDil.AmountResult25.1mg/Kg120.05.5866ary is based on the spike result. 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Report Date: 114-6400203	June 7, 201	0		k Order: 10052 ry/PDU Tract		Page N	umber: 22 of 2
i			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	100	99.0	99	85 - 115	2010-06-03
Standard (I	CV-1)						
QC Batch: 7	0557		Date Anal	lyzed: 2010-06	5-02	Anal	yzed By: AR
			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-06-0
Standard (C	CV-1)						
QC Batch: 7	0557		Date Anal	yzed: 2010-06	Anal	yzed By: AR	
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	100	99.9	100	85 - 115	2010-06-02
Standard (IG	CV-1)						
QC Batch: 7	0558		Date Anal	yzed: 2010-06	-02	Anal	yzed By: AR
			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	100	98.7	99	85 - 115	2010-06-0
Standard (C	CV-1)						
QC Batch: 7	0558		Date Anal	yzed: 2010-06	-02	Anal	yzed By: AR
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride	<u> </u>	mg/Kg	100	101	101	85 - 115	2010-06-02
Standard (IC	CV-1)						
QC Batch: 7	0550		Date Anal	yzed: 2010-06	-02	Anal	yzed By: AR
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Report Date: . 114-6400203	June 7, 2010			Order: 100528 /PDU Tract #		Page N	umber: 23 of 2
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	2010-06-0
Standard (C	CV-1)						
QC Batch: 70)559		Date Analy	zed: 2010-06-	02	Anal	yzed By: AR
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-06-0
Standard (CO	CV-1)						
QC Batch: 70	0573		Date Analy:	zed: 2010-06-	02	Anal	yzed By: AG
			CCVs True	CCVs Found	CCVs	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/Kg	0.100	0.0918	92	80 - 120	2010-06-0
Foluene		mg/Kg	0.100	0.0925	92	80 - 120	2010-06-0
Ethylbenzene		mg/Kg	0.100	0.0910	91	80 - 120	2010-06-0
(ylene		mg/Kg	0.300	0.274	91	80 - 120	2010-06-0
Standard (CC	CV-2)						
QC Batch: 70	573		Date Analyz	zed: 2010-06-	02	Anal	yzed By: AG
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
aram	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
		mg/Kg	0.100	0.0906	91	80 - 120	2010-06-02
		mg/Kg	0.100	0.0911	91	80 - 120	2010-06-02
Benzene Foluene				0.00%0	88	80 - 120	2010-06-02
		mg/Kg mg/Kg	$0.100 \\ 0.300$	$0.0879 \\ 0.264$	88	80 - 120	2010-06-02

QC Batch: 70574

Date Analyzed: 2010-06-02

Analyzed By: AG

Report Da 114-64002	ate: June 7, 20 03)10		rk Order: 1005 ary/PDU Tract		Page N	umber: 24 of 24
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 Ana	alyzed: 2010-0	6-02	Anal	lyzed By: AG
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	1.01	101	80 - 120	2010-06-02

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of Custody Record	FETRA TECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 - Fax (432) 682-3946	Participation of the second se			1, XX XX X	3 [°] 1 X X 1	5' X 1 X 1	7' 7'	10' III X III X	12, N N N N N N N N N N N N N N N N N N N	20' [1] X [1]	25' IIIN III	3o'	0	Dafte: Time:	Defit:				test, - Midland
Analysis Request of Chain	HETRA 1910 N. Big Midland, Tey (432) 682-4559		PROJECT NO: 1(4-6400203 St May/PC	TIME MATRIX COMP GRAB	1-85 X S	1-25/1	1-95 1	1 1 55-1	I-22-I	1-25-1	SB-I	N N 50-1	1-SIS-1	6 6 SB-1	L Date: J		RELINQUISHED BY: (Signature) Date: Time	رد د	cure 11216 - State 1X 21P. connect:	ONDITION WHEN RECEIVED: ALL TEAR HEN ANI TEAP, - 1

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Custody Record					3946	E	4	C f	00 I	СЕ 403 407 407 407 4048680 9 9 9 9				×	X	X	X	X	X				Times	t·[0] 計(0) 計(1/10)	
st of Chain of	5	< 0		Midland, Texas 79705	(432) 682-4559 • Fax (432) 682-3946	CITE MANAGED.	SITE MANAGER: L/CC Tavare		\mathbb{R}	ELLE Co., NM SAMPLE IDENTIFICATION	SR-3 5'		SB-3 10'	56-3 15'	SB-3 20'	SB-3 25'	SB-3 30'	SB-3 40'	XSB-3 45'	1605	Date:RECEIVED BY: (Signature)	Nate: RECEIVED BY: (Signature)	Time: BECFIVED RY (Semethins)	<u></u>	REMARKS:
Analveis Redue			P	J				PROJECT NAME:		DATE TIME XIPITAN SMOO		X S V	<u>স</u>	N X	X रा	X S /	X X X	/ N		Signature)	Signature) 🖌	Signature)	DEV TOALE		
Anal						OLICALT MARKS	CLIENT NAME:	PROJECT NO.:	079-711	LABI.D. D. NUMBER	220101	401	201	104	105	-10) (01-	[to]	8	1 5 1	RELINQUISHED BY: (Signature)	RELINCUISHED BY: (Signature)	RELINCUISHED BY: (Signature)	RECEIVING ABORAT	ADDRESS ACTING	3. 1' C LI A A

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