

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

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

RECEIVED

MAR 15 2010

HOBBS

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	COG Operating LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 1300 Midland, Texas 79701	Telephone No.	(432) 685-4332
Facility Name	MC Federal #3	Facility Type	Tank Battery

Surface Owner	Federal	Mineral Owner	APL	Lease No.	30-025-34733
---------------	---------	---------------	-----	-----------	--------------

34773

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	21	17S	32E	2160	North	2310	West	Lea

Latitude N 32.82138°

Longitude 103.77224°

NATURE OF RELEASE

Type of Release Produced water	Volume of Release 40 bbls	Volume Recovered 30 bbls
Source of Release Micro switch failed on free water knockout	Date and Hour of Occurrence 07/31/09 6:00 am	Date and Hour of Discovery 07/31/09 8:00 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Jeff Leking - OCD Trishia Bad Bear - BLM	
By Whom? Kanicia Castillo	Date and Hour 07/31/09 2:31 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

A microswitch malfunctioned on a free water knockout, causing the vessel to vent in the pasture east of the tank battery.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected site and collected samples to define spills extent. Soil that exceeded RRAL was removed and hauled to Lea Land, Inc in Carlsbad, NM. Site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD for review.

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

Signature: <i>Pat Ellis</i>	OIL CONSERVATION DIVISION	
Printed Name: Pat Ellis	Approved by District Supervisor: <i>[Signature]</i>	
Title: Environmental and Safety Supervisor	ENVIRONMENTAL ENGINEER	
E-mail Address: PELLIS@conchoresources.com	Approval Date: 3-16-10	Expiration Date: —
Date: 3-5-10	Phone: (432) 685-4332	Conditions of Approval: —
		Attached ☐ RP# 09.8.2272

* Attach Additional Sheets If Necessary

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Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Kanicia Castillo
Address	550 W. Texas, Suite 1300 Midland, TX 79701	Telephone No.	432-685-4332
Facility Name	MC Federal #3	Facility Type	Battery
Surface Owner	Federal	Mineral Owner	
		Lease No.	30-025-34773

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	21	17S	32E	2160	North	2310	West	Lea

Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release	Produced Water	Volume of Release	40bbls	Volume Recovered	30bbls
Source of Release		Date and Hour of Occurrence	7/31/09 6:00am	Date and Hour of Discovery	7/31/09 8:00am
Was Immediate Notice Given?	☒ Yes ☐ No ☐ Not Required	If YES, To Whom?	Trishia Bad Bear BLM Jeff LeKing OCD		
By Whom?	Kanicia Castillo	Date and Hour	07/31/09 2:31pm		
Was a Watercourse Reached?	☐ Yes ☒ No	If YES, Volume Impacting the Watercourse			

If a Watercourse was Impacted, Describe Fully.*

WATER @ 120'

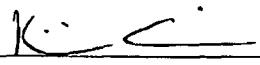
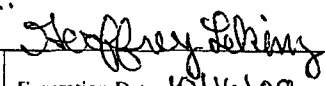
Describe Cause of Problem and Remedial Action Taken *

A microswitch malfunctioned on the FWKO caused the vessel to vent oil onto the pasture in a low spot east of the battery. Microswitch repaired.

Describe Area Affected and Cleanup Action Taken *

Recovered fluid. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD/BLM for your approval prior to any significant remediation work.

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

Signature: 		OIL CONSERVATION DIVISION	
Printed Name: Kanicia Castillo		Approved by ENV ENGINEER: 	
Title: Regulatory Analyst		Approval Date: 08/17/09	Expiration Date: 10/16/09
E-mail Address: kcarillo@conchoresources.com		Conditions of Approval: DELINEATE TO CLEANUP. SUBMIT FINAL C-141 BY 10/16/09.	
Date: 08/10/09	Phone: 432-685-4332	Attached ☐ IRP-09-8-2272	

* Attach Additional Sheets If Necessary

f GRL 0922962298

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Oil Conservation Division
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0277
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Revised October 10, 2003

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Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Kanicia Castillo
Address	550 W. Texas, Suite 1300 Midland, TX 79701	Telephone No.	432-685-4332
Facility Name	MC Federal #3	Facility Type	Battery
Surface Owner	Federal	Mineral Owner	
		Lease No.	30-025-34773

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	21	17S	32E	2160	North	2310	West	Lea

Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release	Produced Water	Volume of Release	40bbbls	Volume Recovered	30bbbls
Source of Release		Date and Hour of Occurrence	7/31/09 6:00am	Date and Hour of Discovery	7/31/09 8:00am
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By Whom?	Kanicia Castillo	Date and Hour	07/31/09 2:31pm		
Was a Watercourse Reached?	☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

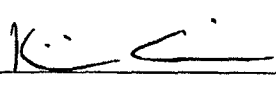
Describe Cause of Problem and Remedial Action Taken.*

A microswitch malfunctioned on the FWKO caused the vessel to vent oil onto the pasture in a low spot east of the battery. Microswitch repaired.

Describe Area Affected and Cleanup Action Taken.*

Recovered fluid. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD/BLM for your approval prior to any significant remediation work.

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

Signature: 	OIL CONSERVATION DIVISION		
Printed Name: Kanicia Castillo	Approved by District Supervisor:		
Title: Regulatory Analyst	Approval Date:	Expiration Date:	
E-mail Address: kcarillo@conchoresources.com	Conditions of Approval:		Attached ☐
Date: 08/10/09	Phone: 432-685-4332		

* Attach Additional Sheets If Necessary

SITE INFORMATION

1 RP-09-8-2272

Report Type: Assessment and Closure Report

General Site Information:

Site:	MC Federal #3 Tank Battery (East)	
Company:	COG Operating LLC	
Section, Township and Range	Section 21, T17S, R32 E	Unit Letter - F
Lease Number:	API-30-025-34773	
County:	Lea County	
GPS:	32.82138° N, 103.77224° W	
Surface Owner:	BLM	
Mineral Owner:		
Directions:	From intersection of 529 and CR 126 (Maljamar Road), travel north on CR 126 for 1.8 miles, turn left (west) on Conoco road and go 0.3 miles, turn right (north) on caliche road and go 0.3 miles, turn left (west) and go 0.2 miles to location.	

Release Data:

Date Released:	7/31/2009	RECEIVED
Type Release:	Produced water	
Source of Contamination:	Microswitch failed on freewater knockout	MAR 15 2010
Fluid Released:	40 barrels	HOBBSOC
Fluids Recovered:	30 barrels	

Official Communication:

Name:	Pat Ellis		Kim Dorey
Company:	COG Operating, LLC		Tetra Tech
Address:	550 W. Texas Ave. Ste. 1300		1910 N. Big Spring
P.O. Box			
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		(432) 631-0348
Fax:	(432) 684-7137		
Email:	pellis@conchoresources.com		kim.dorey@tetrattech.com

Ranking Criteria

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

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

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MAR 15 2010

HOBBSOC



TETRA TECH

February 8, 2010

RECEIVED

MAR 15 2010

HOBBSUCD

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

**Re: Closure Report for the COG Operating LLC., MC Federal #3
Tank Battery (East), Unit F, Section 21, Township 17 South,
Range 32 East, Lea County, New Mexico.**

Mr. Johnson:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the MC Federal #3 Tank Battery located in Unit F, Section 21, Township 17 South, Range 32 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.82138°, W 103.77224°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on July 31, 2009, and released approximately forty (40) barrels of produced water due to malfunctioned micro switch on the free water knock out causing the vessel to vent in the pasture. To alleviate the problem, COG personnel repaired the switch. Thirty (30) barrels of standing fluids were recovered. The spill was contained in a native low-lying area east of the tank battery. The initial and final C-141 forms are enclosed in Appendix C.

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559

Fax 432.682.3946

www.tetratech.com



Groundwater

The United States Geological Survey (USGS) Well Reports did not list any wells in Section 21. However, the USGS Well Report did list two wells in Section 11 with reported depths of 70' and 105' below ground surface (bgs). To establish depth to groundwater, Tetra Tech previously installed a temporary monitor well (TMW) in Section 30 to a depth of 180' bgs and did not encounter groundwater. The groundwater data is shown in Appendix A.

Regulatory

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

Soil Assessment and Analytical Results

On August 25, 2009, Tetra Tech personnel inspected and sampled the spill area which measured approximately 50' x 50'. A total of five (5) auger holes (AH-1 through AH-5) were installed using a stainless steel hand auger to assess the impacted soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix B. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all the submitted samples were above the TPH RRAL with the exception of AH-1 at 3 to 3.5 feet bgs, which had a TPH concentration of 137 mg/kg. The chloride concentrations for AH-1, AH-2, AH-3, and AH-4 were all below 250 mg/kg. Elevated chloride concentrations were detected for AH-5 (0-1') of 3,360 mg/kg which declined to 277 mg/kg with depth.



On October 1, 2009, Tetra Tech personnel supervised the removal of approximately 3.0' of impacted material, which was hauled to Lea Land, Inc. of Carlsbad, New Mexico. The 50' x 50' excavated area was divided into four equal quadrants of 25' x 25' each and named Northeast (NE), Southeast (SE), Southwest (SW), and Northwest (NW). In order to evaluate bottom of the excavation, backhoe trenches (T-1, T-2, T-3, and T-4) were installed in each quadrant. Bottom samples and deeper samples were collected from each trench for delineation.

Referring to Table 2, samples T-3 (SE) and T-4 (NE) were below the RRAL for both BTEX and TPH at 3.5' and 2.5', respectively. The chloride concentrations for trenches (T-2, T-3, and T-4) were below reporting limits. Samples T-1 (NW) and T-2 (SW) were above the RRAL for either BTEX or TPH and not vertically defined at 3' to 4' below surface. Laboratory results indicated further excavation was necessary. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix B. The results of the sampling are summarized in Table 2. The trench locations are shown on Figure 4.

Soil Remediation

On October 15, 2009, Tetra Tech personnel were onsite to supervise the excavation of additional soils in the areas of T-1 (NW), T-2 (SW), T-3 (SE), and T-4 (NE). The areas around T-4 (NE) and T-3 (SE) were excavated to a total depth of 5-6' bgs. The remaining areas of T-1 (NW) and T-2 (SW) were excavated to a total depth of 8-9' bgs.

Utilizing the excavator on site, Tetra Tech personnel installed a single comprehensive trench covering quadrants SW and NW, and named Trench T-1 (West). Two samples were collected from T-1 (West). Sample T-1 (West) 0-1' was a bottom hole sample (9-10' below surface) and sample T-1 (West) 2' was a delineation sample (10-11' below surface), both samples were below the RRAL for both BTEX and TPH. Trench T-1 (West) is shown in Figure 4.

On November 11, 2009, the site was then backfilled and brought up to surface grade with clean soils. The excavated soils, approximately 650 cubic yards, were transported offsite for disposal at Lea Land, Inc. of Carlsbad, New Mexico.



TETRA TECH

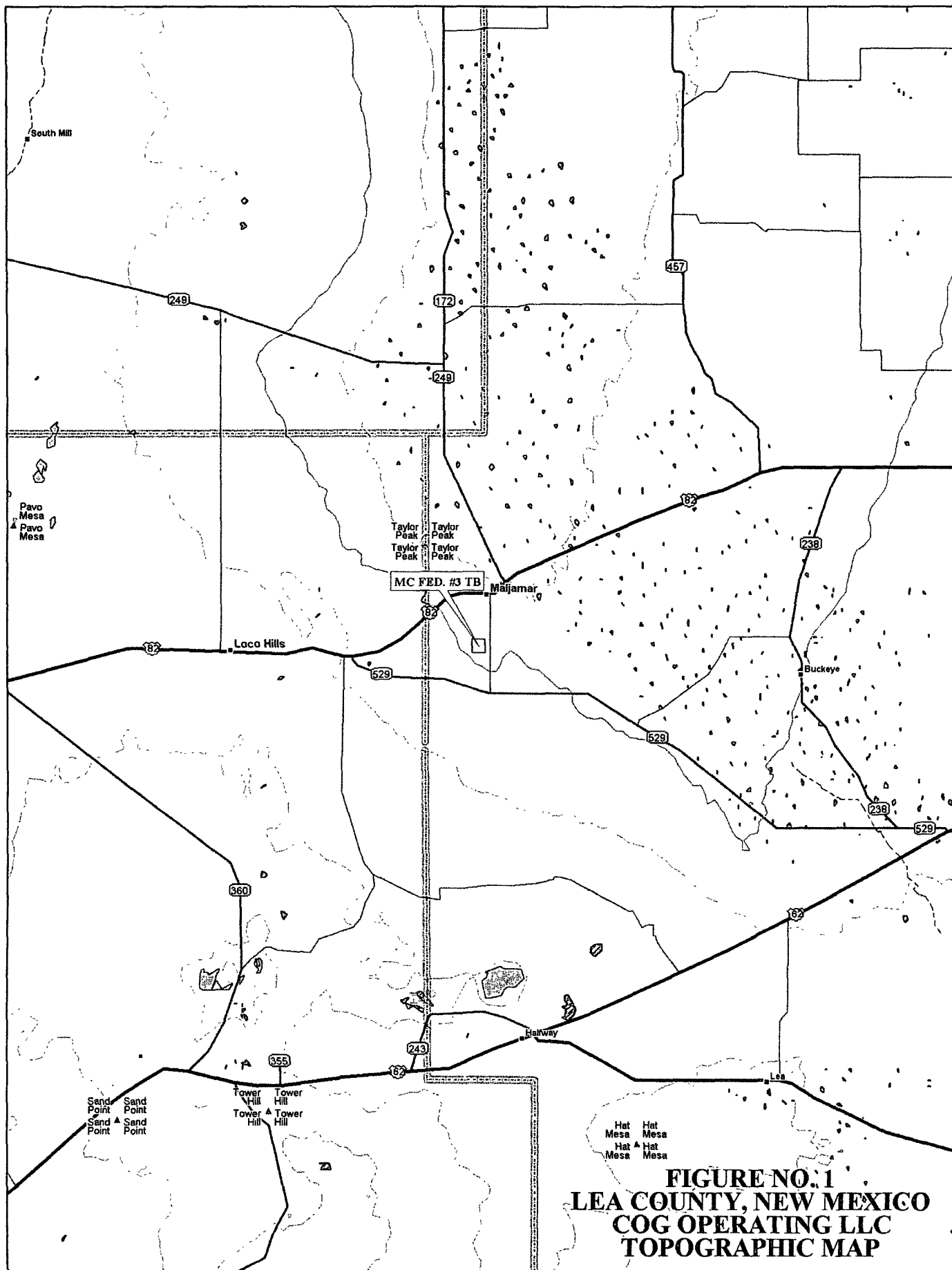
Based on the results, COG requests closure of the site. The C-141 (Final) is included in Appendix C. If you have any questions or comments concerning the assessment or the remediation activities performed at the site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Kim Dorey
Staff Geologist

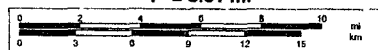
cc: Pat Ellis – COG
cc: Trisha Bad Bear – BLM

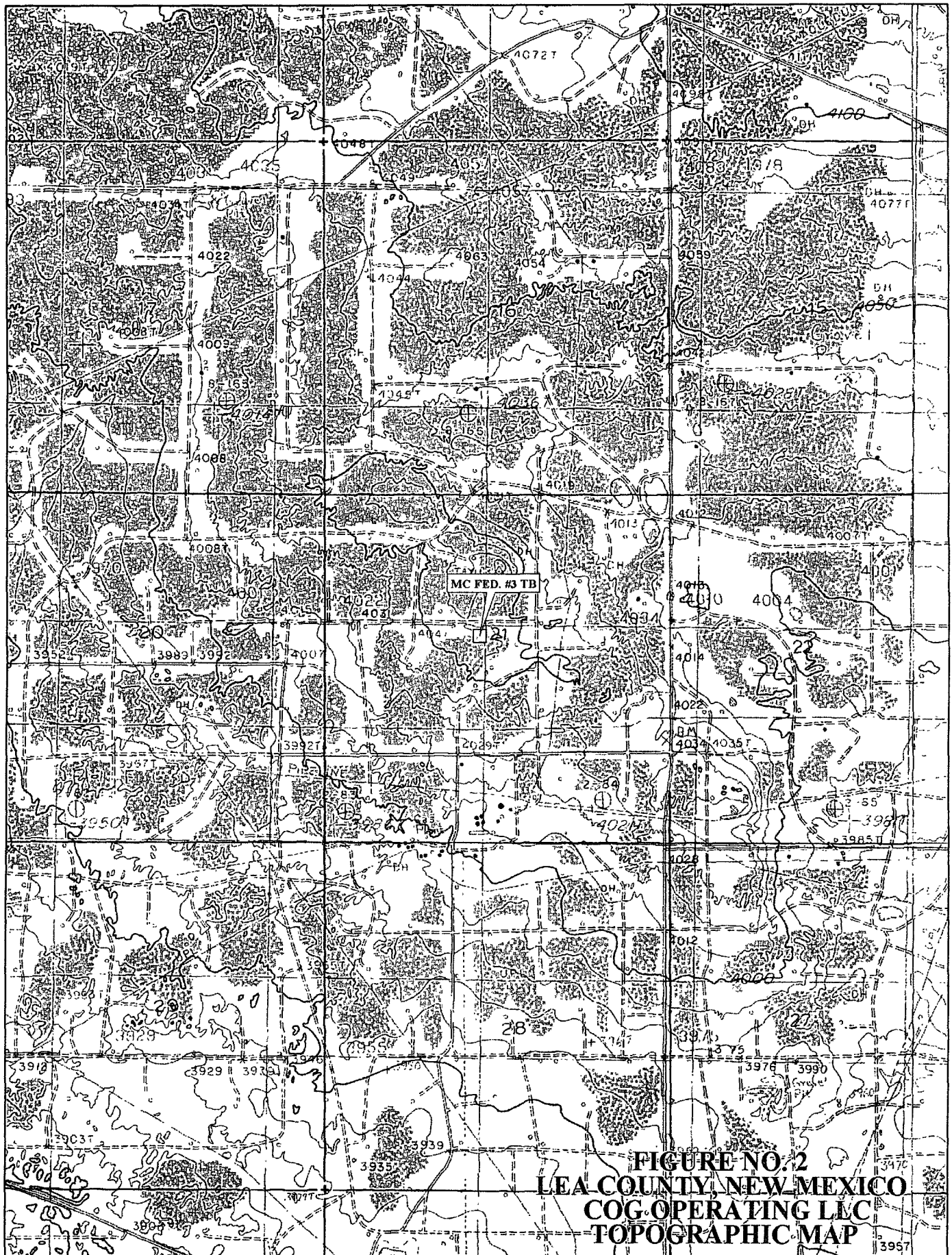
FIGURES



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www.delorme.com

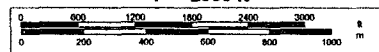
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1" = 6.31 mi

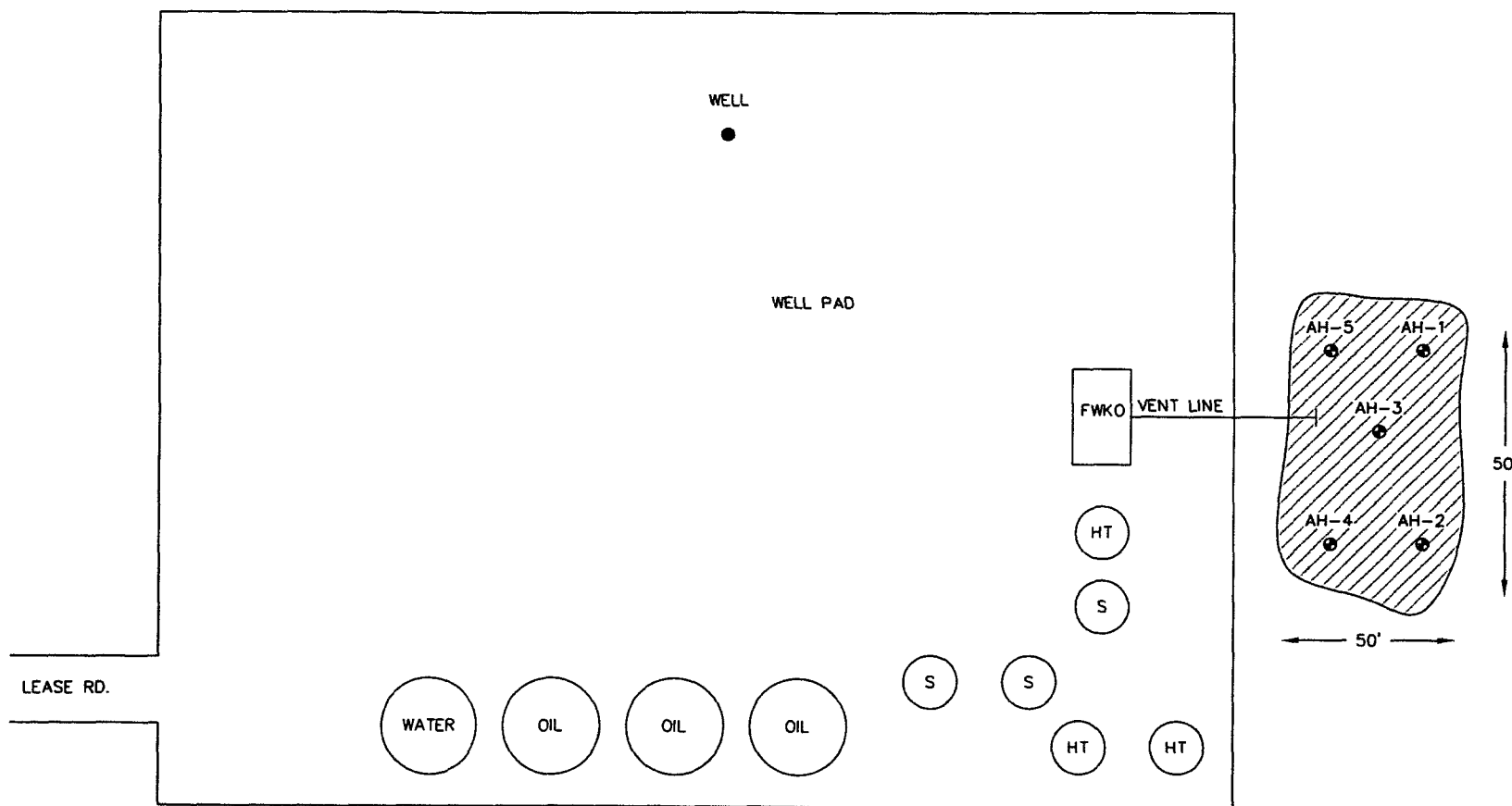




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www.delorme.com

Scale 1 : 24,000
1" = 2000 ft



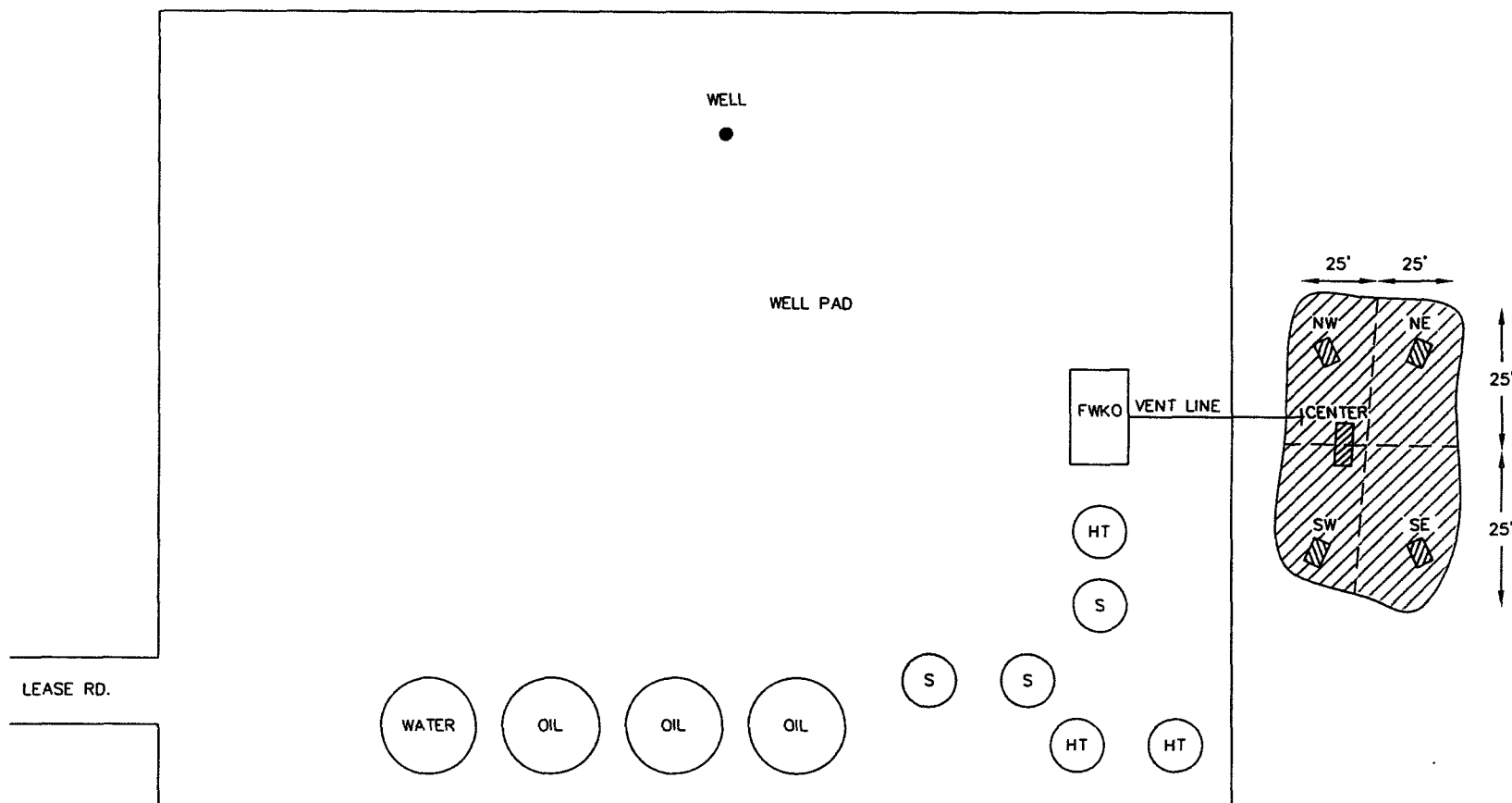


☐ SPILL AREA
● SAMPLE LOCATIONS

NOT TO SCALE

DATE:
9/9/09
DWN. BY:
JJ
FILE:
H:\COO\8400277
MC FED. #3 TB

FIGURE NO. 3	
LEA COUNTY, NEW MEXICO	
COG OPERATING LLC	
MC FED. #3 TB	
TETRA TECH, INC. MIDLAND, TEXAS	



-  SPILL AREA EXCAVATED 5' TO 6' DEEP
-  SPILL AREA EXCAVATED 8' TO 10' DEEP
-  SAMPLE TRENCH (INSTALLED 10/1/09 TO 3'-3.5')
-  SAMPLE TRENCH (INSTALLED 10/15/09 TO 10')

NOT TO SCALE

DATE:
9/9/09
DWN. BY:
JJ
FILE:
H:\COG\8400277
MC FED. #3 TB

FIGURE NO. 4

LEA COUNTY, NEW MEXICO

COG OPERATING LLC

MC FED. #3 TB

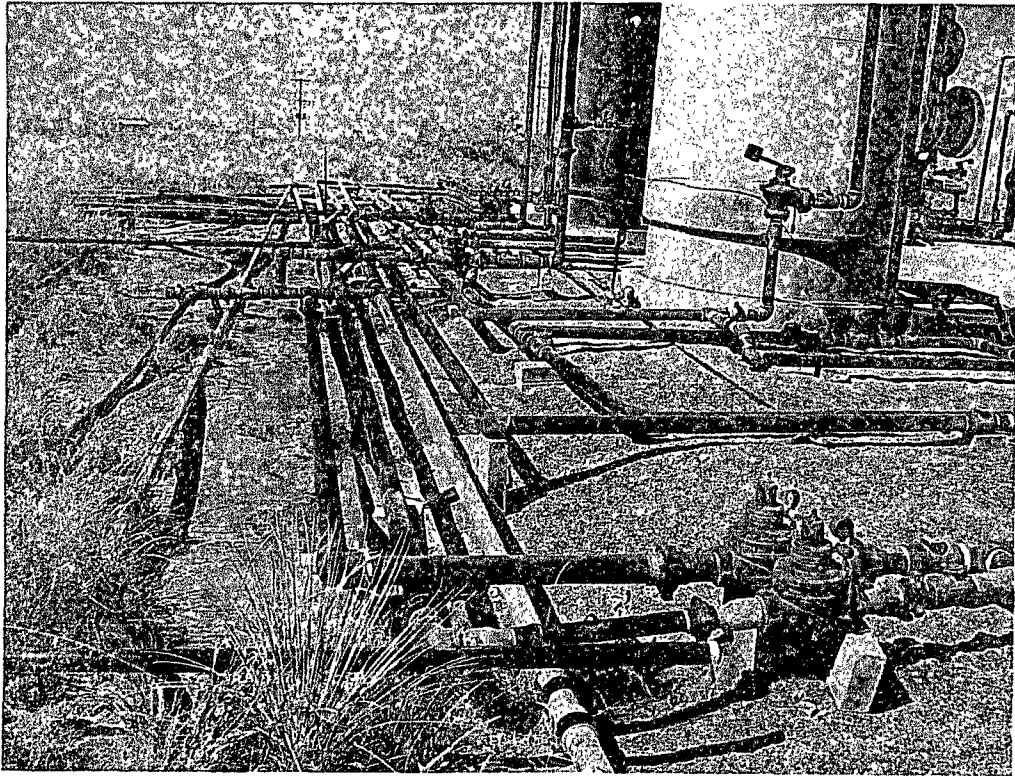
TETRA TECH, INC.
MIDLAND, TEXAS

PHOTOGRAPHS

COG Operating LLC
MC Federal #3 Tank Battery (East)
Lea County, New Mexico



TETRA TECH



Flowlines and header east of battery 8-25-09

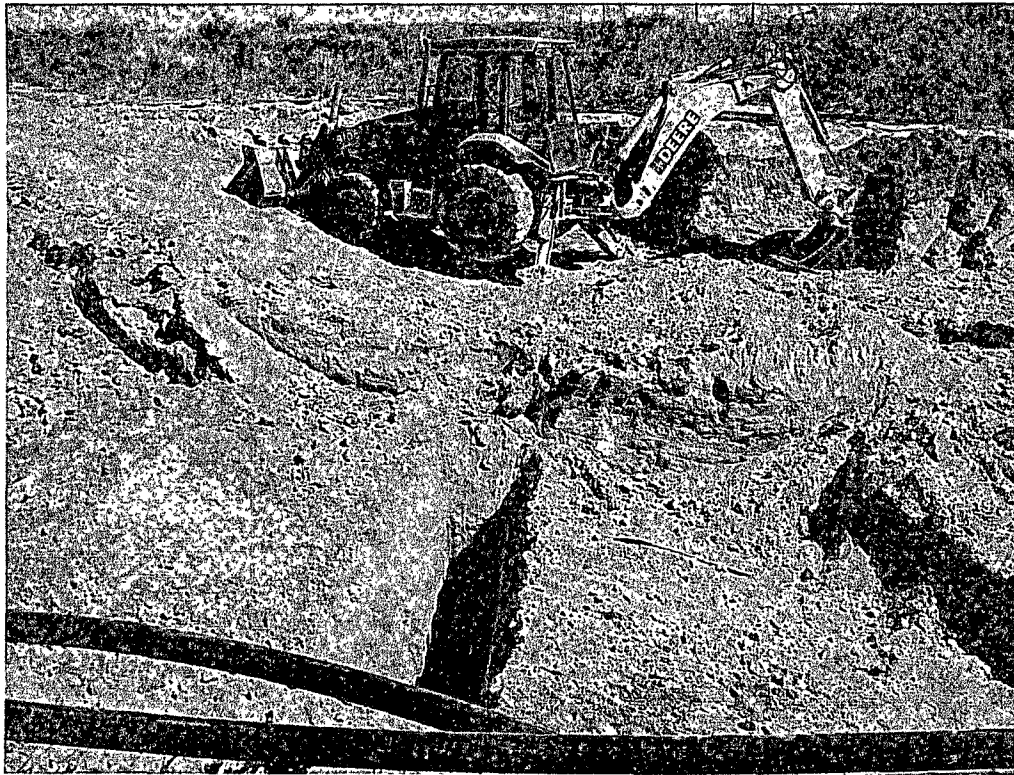


Impacted pasture 8-25-09

COG Operating LLC
MC Federal #3 Tank Battery (East)
Lea County, New Mexico



TETRA TECH



Trenches in the four quads (T-2 and T-3 shown)



Final confirmation trench (T-1 West)

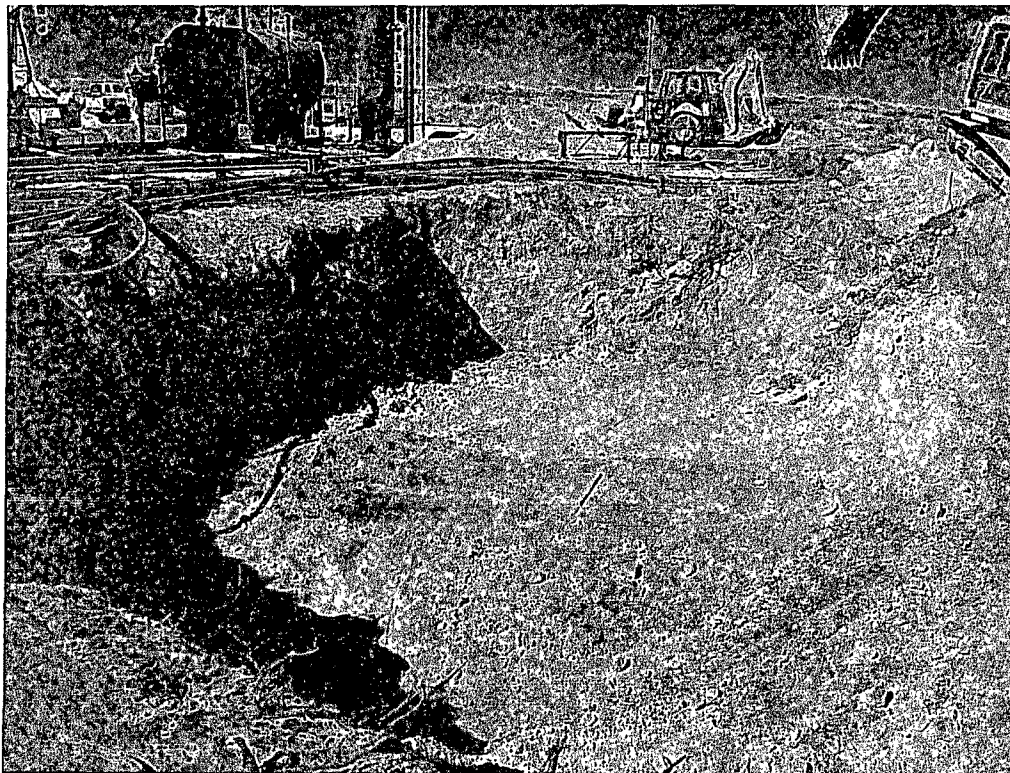
COG Operating LLC
MC Federal #3 Tank Battery (East)
Lea County, New Mexico



TETRA TECH



Facing east across pasture after excavation 8-15-09



Facing north-west to battery after excavation 8-15-09

TABLES

Table 1

COG Operating LLC
MC FEDERAL #3 TANK BATTERY
LEA COUNTY, NEW MEXICO

Sample ID	Date Sampled	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	DRO	GRO	Total					
AH-1	8/25/2009	0-1'		X	6,720	1,880	8,600	--	--	--	--	<200
	8/25/2009	1-1.5'		X	10,400	6,600	17,000	--	--	--	--	<200
	8/25/2009	2-2.5'		X	18,200	14,300	32,400	--	--	--	--	<200
	8/25/2009	3-3.5'		X	120	17	137	1.13	<0.0100	0.326	0.823	<200
	8/25/2009	4-4.5'		X	--	--	--	--	--	--	--	<200
	8/25/2009	5-5.5'	X		--	--	--	--	--	--	--	<200
AH-2	8/25/2009	0-1'		X	7,780	2,850	10,630	--	--	--	--	<200
	8/25/2009	1-1.5'		X	5,800	5,530	11,330	--	--	--	--	<200
	8/25/2009	2-2.5'		X	17,000	16,300	33,300	--	--	--	--	<200
AH-3	8/25/2009	0-1'		X	7,710	3,510	11,220	--	--	--	--	<200
	8/25/2009	1-1.5'		X	1,300	6,310	7,610	--	--	--	--	<200
AH-4	8/25/2009	0-1'		X	5,860	3,090	8,950	--	--	--	--	<200
	8/25/2009	1-1.5'		X	5,360	4,880	10,240	--	--	--	--	<200
	8/25/2009	2-2.5'		X	1,570	922	2,492	4.34	22.6	12.9	16.8	221
	8/25/2009	2.5-3'		X	--	--	--	--	--	--	--	<200
AH-5	8/25/2009	0-1'		X	5,580	1,560	7,140	--	--	--	--	3,360
	8/25/2009	1-1.5'		X	4,600	10,100	14,700	--	--	--	--	1,610
	8/25/2009	2-2.5'		X	7,110	7,640	14,750	--	--	--	--	277

 Soil excavated and hauled to disposal

BEB Below Excavated Bottom

(--) Not Analyzed

Table 2

**COG Operating LLC.
MC FED. #3 TANK BATTERY
LEA COUNTY, NEW MEXICO**

Sample ID	Date Sampled	Sample Depth (ft)	Excavated Depth	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	DRO	GRO	Total					
T-1 (NW)	10/1/2009	0-1' (3.5' BEB)	3.5'		x	3860	846	4706	4.15	25.6	13.2	24.9	280
	10/1/2009	1-1.5' (3.5' BEB)			x	--	--	--	123	336	121	185	1,200
	10/1/2009	2-2.5' (3.5' BEB)			x	--	--	--	210	568	255	332	200
	10/1/2009	3-3.5' (3.5' BEB)			x	--	--	--	72.1	205	92	118	539
	10/1/2009	4-4.5' (3.5' BEB)			x	--	--	--	12	95.2	57.1	77	330
T-2 (SW)	10/1/2009	0-1' (4' BEB)	4'		x	4,310	1,840	6,150	9.13	55.6	27.9	51.8	<200
	10/1/2009	1-1.5' (4' BEB)			x	10,700	6,650	17,350	128	382	174	233	205
	10/1/2009	2-2.5' (4' BEB)			x	9,130	7,210	16,340	111	393	191	255	<200
	10/1/2009	3-3.5' (4' BEB)		2	x	4,010	3,460	7,470	18.8	138	80.4	109	<200
T-1 (West)	10/15/2009	0-1' (8' BEB)	8'	x		139	148	287	0.136	2.02	0.49	3.64	--
	10/15/2009	2' (8' BEB)		x		54.1	<50.0	54.1	<0.0100	0.22	0.13	0.996	--
T-3 (SE)	10/1/2009	0-1' (3' BEB)	3'		x	1,920	2,240	4,160	15.7	83.6	35.3	74.4	<200
	10/1/2009	1-1.5' (3' BEB)			x	--	--	--	231	568	233	317	<200
	10/1/2009	2-2.5' (3' BEB)			x	--	--	--	42.2	181	92.9	125	<200
	10/1/2009	3-3.5' (3' BEB)		x		347	80.2	427.2	<0.0100	1.18	1.64	2.58	<200
T-4 (NE)	10/1/2009	0-1' (3.5' BEB)	3.5'		x	5,360	2,220	7,580	1.46	30.9	44.2	84.1	<200
	10/1/2009	1-1.5' (3.5' BEB)			x	6,600	4,620	11,220	39.7	200	111	150	<200
	10/1/2009	2-2.5' (3.5' BEB)			x	460	335	795	0.0506	6.56	10.3	15.5	<200
	10/1/2009	3-3.5' (3.5' BEB)		x		--	--	--	--	--	--	--	<200



Soil excavated and hauled to disposal



Bottom Hole Sample

BEB

Below Excavated Bottom

(--)

Not Analyzed

APPENDIX A

Water Well Data
Average Depth to Groundwater (ft)
COG - MC Federal #3 Tank Battery
Eddy County, New Mexico

16 South			31 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
290					

17 South			31 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
					271

18 South			31 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
					261

16 South			32 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
					260

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

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

16 South			33 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
190	168		160		

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

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

- 88** New Mexico State Engineers Well Reports
- 105** USGS Well Reports
- 90** Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)
 Geology and Groundwater Resources of Eddy County, NM (Report 3)
- 34** NMOCD - Groundwater Data
- 123** Field water level
- 180** Tetra Tech drilled TMW - Total depth 180' - Dry well



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National Water Information System: Web Interface

USGS Water Resources

Data Category:

Ground Water

Geographic Area:

New Mexico



GO

[News](#) [New Mapper](#) and [Experimental Real-Time Web Service](#) - updated August 2009

Ground-water levels for New Mexico

Search Results -- 1 sites found

Search Criteria

site_no list = • 325100103435701
Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 325100103435701 17S.32E.11.21321

Available data for this site Ground-water: Field measurements



GO

Lea County, New Mexico
Hydrologic Unit Code
Latitude 32°51'15", Longitude 103°44'07" NAD27
Land-surface elevation 4,160.00 feet above sea level NGVD29
This well is completed in the Ogallala Formation (121OGLL) local aquifer.

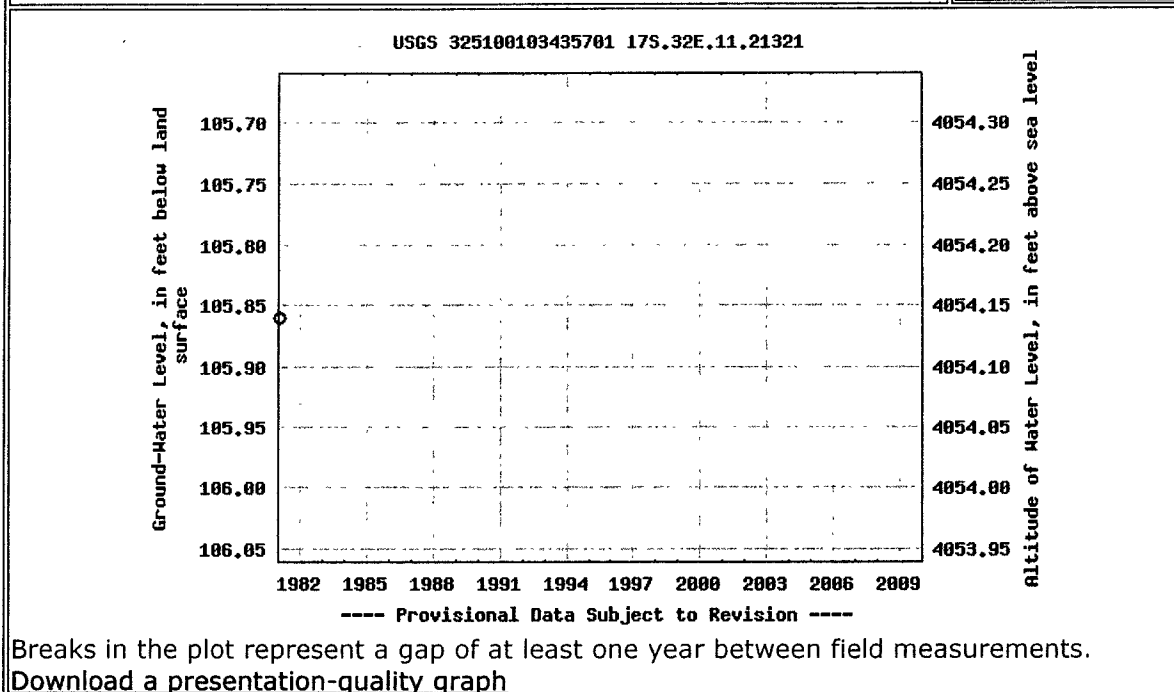
Output formats

[Table of data](#)

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Ground-water levels for New Mexico

Search Results -- 1 sites found

Search Criteria

site_no list = • 325048103435601
Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 325048103435601 17S.32E.11.231432

Available data for this site

Ground-water: Field measurements

GO

Lea County, New Mexico

Hydrologic Unit Code

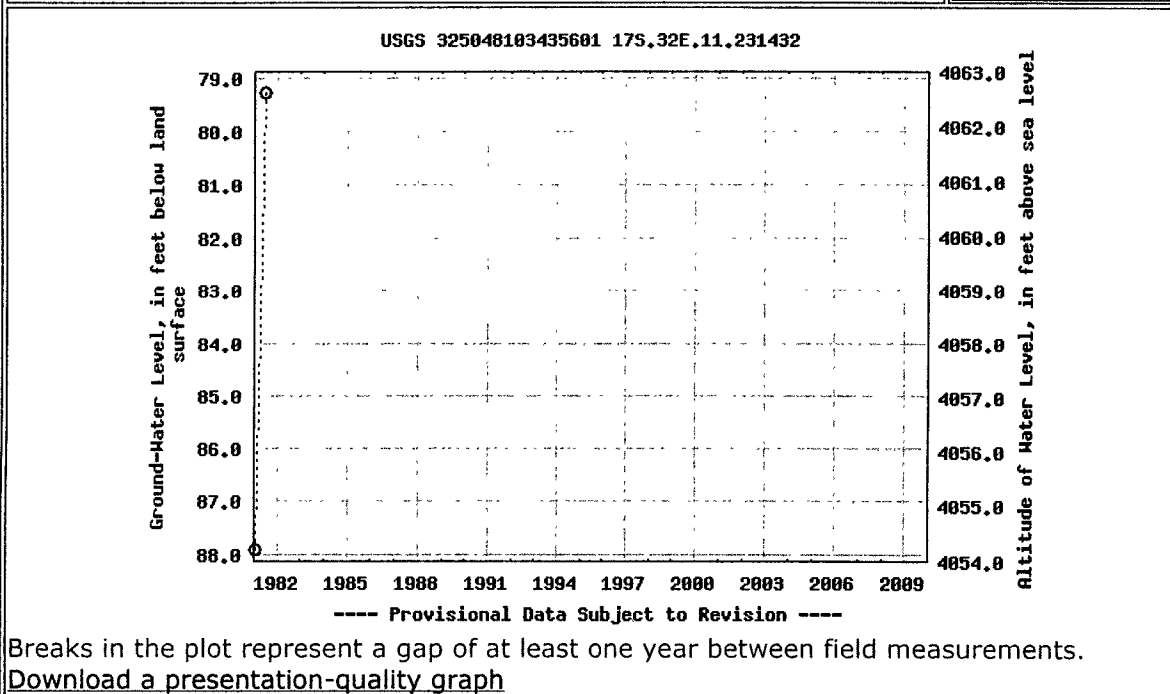
Latitude 32°51'04", Longitude 103°44'06" NAD27

Land-surface elevation 4,142.00 feet above sea level NGVD29

The depth of the well is 140 feet below land surface.

This well is completed in the Ogallala Formation (121OGLL) local aquifer.

Output formats

[Table of data](#)[Tab-separated data](#)[Graph of data](#)[Reselect period](#)[Questions about sites/data?](#)[Feedback on this web site](#)[Automated retrievals](#)[Top](#)[Explanation of terms](#)[Subscribe for system changes](#)



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Sub basin	Use	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 04021	MUN	LE		3	4	03	17S	32E	616761	3636252*	247			
L 04021 S	MUN	LE		4	3	2	03	17S	32E	616850	3636955*	260		
RA 08855	DOM	LE		4	1	1	10	17S	32E	616061	3635742*	158		
RA 09505	PDL	LE		2	2	1	10	17S	32E	616462	3635944	147		
RA 09505 S	PDL	LE		2	2	1	10	17S	32E	616463	3635945*	144		
RA 10175	SAN	LE		2	1	28	17S	32E	614814	3631005*	158			
RA 10846	DOM	LE		2	2	2	09	17S	32E	615659	3635938*	250		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 7

PLSS Search:

Township: 17S Range: 32E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

APPENDIX B

Summary Report

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

Report Date: September 8, 2009

Work Order: 9082837



Project Location: Lea Co, NM
Project Name: COG/MC Fed. #3 TB
Project Number: 114-6400277

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
208548	AH-1 (0-1')	soil	2009-08-25	00:00	2009-08-28
208549	AH-1 (1-1.5')	soil	2009-08-25	00:00	2009-08-28
208550	AH-1 (2-2.5')	soil	2009-08-25	00:00	2009-08-28
208551	AH-1 (3-3.5')	soil	2009-08-25	00:00	2009-08-28
208552	AH-1 (4-4.5')	soil	2009-08-25	00:00	2009-08-28
208553	AH-1 (5-5.5')	soil	2009-08-25	00:00	2009-08-28
208554	AH-2 (0-1')	soil	2009-08-25	00:00	2009-08-28
208555	AH-2 (1-1.5')	soil	2009-08-25	00:00	2009-08-28
208556	AH-2 (2-2.5')	soil	2009-08-25	00:00	2009-08-28
208557	AH-3 (0-1')	soil	2009-08-25	00:00	2009-08-28
208558	AH-3 (1-1.5')	soil	2009-08-25	00:00	2009-08-28
208559	AH-4 (0-1')	soil	2009-08-25	00:00	2009-08-28
208560	AH-4 (1-1.5')	soil	2009-08-25	00:00	2009-08-28
208561	AH-4 (2-2.5')	soil	2009-08-25	00:00	2009-08-28
208562	AH-4 (2.5-3')	soil	2009-08-25	00:00	2009-08-28
208563	AH-5 (0-1')	soil	2009-08-25	00:00	2009-08-28
208564	AH-5 (1-1.5')	soil	2009-08-25	00:00	2009-08-28
208565	AH-5 (2-2.5')	soil	2009-08-25	00:00	2009-08-28

Sample - Field Code	BTEX				TPH DRO	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
208548 - AH-1 (0-1')	1.13	<0.0100	0.326	0.823	6720	1880
208549 - AH-1 (1-1.5')					10400	6600
208550 - AH-1 (2-2.5')					18200	14300
208551 - AH-1 (3-3.5')					120	17.0
208554 - AH-2 (0-1')					7780	2850
208555 - AH-2 (1-1.5')					5800	5530
208556 - AH-2 (2-2.5')					17000	16300

continued ...

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This is only a summary. Please, refer to the complete report package for quality control data.

... continued

Sample - Field Code	BTEX				TPH DRO	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
208557 - AH-3 (0-1')	4.34	22.6	12.9	16.8	7710	3510
208558 - AH-3 (1-1.5')					1300	6310
208559 - AH-4 (0-1')					5860	3090
208560 - AH-4 (1-1.5')					5360	4880
208561 - AH-4 (2-2.5')					1570	922
208563 - AH-5 (0-1')					5580	1560
208564 - AH-5 (1-1.5')					4600	10100
208565 - AH-5 (2-2.5')					7110	7640

Sample: 208548 - AH-1 (0-1')

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

Sample: 208549 - AH-1 (1-1.5')

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

Sample: 208550 - AH-1 (2-2.5')

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

Sample: 208551 - AH-1 (3-3.5')

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

Sample: 208552 - AH-1 (4-4.5')

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

Sample: 208553 - AH-1 (5-5.5')

continued ...

sample 208553 continued ...

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

Sample: 208554 - AH-2 (0-1')

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

Sample: 208555 - AH-2 (1-1.5')

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

Sample: 208556 - AH-2 (2-2.5')

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

Sample: 208557 - AH-3 (0-1')

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

Sample: 208558 - AH-3 (1-1.5')

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

Sample: 208559 - AH-4 (0-1')

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

Sample: 208560 - AH-4 (1-1.5')

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

Sample: 208561 - AH-4 (2-2.5')

Param	Flag	Result	Units	RL
Chloride		221	mg/Kg	4.00

Sample: 208562 - AH-4 (2.5-3')

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

Sample: 208563 - AH-5 (0-1')

Param	Flag	Result	Units	RL
Chloride		3360	mg/Kg	4.00

Sample: 208564 - AH-5 (1-1.5')

Param	Flag	Result	Units	RL
Chloride		1610	mg/Kg	4.00

Sample: 208565 - AH-5 (2-2.5')

Param	Flag	Result	Units	RL
Chloride		277	mg/Kg	4.00



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5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway Suite 110 Ft Worth, Texas 76132 817•201•5260
E-Mail: lan@traceanalysis.com

Certifications

WBENC: 237019

HUB: 1752439743100-86536
NCTRCA WFWB38444Y0909

DBE: VN 20657

NELAP Certifications

Lubbock: T104704219-08-TX
LELAP-02003
Kansas E-10317

El Paso: T104704221-08-TX
LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

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

Report Date: September 8, 2009

Work Order: 9082837



Project Location: Lea Co, NM
Project Name: COG/MC Fed. #3 TB
Project Number: 114-6400277

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
208548	AH-1 (0-1')	soil	2009-08-25	00:00	2009-08-28
208549	AH-1 (1-1.5')	soil	2009-08-25	00:00	2009-08-28
208550	AH-1 (2-2.5')	soil	2009-08-25	00:00	2009-08-28
208551	AH-1 (3-3.5')	soil	2009-08-25	00:00	2009-08-28
208552	AH-1 (4-4.5')	soil	2009-08-25	00:00	2009-08-28
208553	AH-1 (5-5.5')	soil	2009-08-25	00:00	2009-08-28
208554	AH-2 (0-1')	soil	2009-08-25	00:00	2009-08-28
208555	AH-2 (1-1.5')	soil	2009-08-25	00:00	2009-08-28
208556	AH-2 (2-2.5')	soil	2009-08-25	00:00	2009-08-28
208557	AH-3 (0-1')	soil	2009-08-25	00:00	2009-08-28

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
208558	AH-3 (1-1.5')	soil	2009-08-25	00:00	2009-08-28
208559	AH-4 (0-1')	soil	2009-08-25	00:00	2009-08-28
208560	AH-4 (1-1.5')	soil	2009-08-25	00:00	2009-08-28
208561	AH-4 (2-2.5')	soil	2009-08-25	00:00	2009-08-28
208562	AH-4 (2.5-3')	soil	2009-08-25	00:00	2009-08-28
208563	AH-5 (0-1')	soil	2009-08-25	00:00	2009-08-28
208564	AH-5 (1-1.5')	soil	2009-08-25	00:00	2009-08-28
208565	AH-5 (2-2.5')	soil	2009-08-25	00:00	2009-08-28

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

This report consists of a total of 34 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.



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

Standard Flags

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

Case Narrative

Samples for project COG/MC Fed. #3 TB were received by TraceAnalysis, Inc. on 2009-08-28 and assigned to work order 9082837. Samples for work order 9082837 were received intact at a temperature of 10.1 deg. C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	53952	2009-09-02 at 15:00	63206	2009-09-02 at 16:10
Chloride (Titration)	SM 4500-Cl B	53891	2009-09-01 at 12:34	63265	2009-09-04 at 10:59
Chloride (Titration)	SM 4500-Cl B	53997	2009-09-04 at 09:00	63274	2009-09-04 at 13:28
Chloride (Titration)	SM 4500-Cl B	53998	2009-09-04 at 09:00	63276	2009-09-04 at 13:29
TPH DRO	Mod. 8015B	53845	2009-08-31 at 11:57	63088	2009-08-31 at 11:57
TPH DRO	Mod. 8015B	53936	2009-09-02 at 09:50	63189	2009-09-02 at 09:50
TPH GRO	S 8015B	53903	2009-08-31 at 14:00	63148	2009-09-01 at 06:10
TPH GRO	S 8015B	53952	2009-09-02 at 15:00	63205	2009-09-02 at 16:49

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 9082837 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: September 8, 2009
114-6400277

Work Order: 9082837
COG/MC Fed. #3 TB

Page Number: 4 of 34
Lea Co, NM

Analytical Report

Sample: 208548 - AH-1 (0-1')

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2009-09-04	Analyzed By:	AR
QC Batch:	63265	Sample Preparation:	2009-09-01	Prepared By:	AR
Prep Batch:	53891				

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

Sample: 208548 - AH-1 (0-1')

Laboratory:	Midland	Analytical Method:	Mod. 8015B	Prep Method:	N/A
Analysis:	TPH DRO	Date Analyzed:	2009-08-31	Analyzed By:	kg
QC Batch:	63088	Sample Preparation:	2009-08-31	Prepared By:	kg
Prep Batch:	53845				

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		6720	mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	1	621	mg/Kg	5	100	621	13.2 - 219.3

Sample: 208548 - AH-1 (0-1')

Laboratory:	Midland	Analytical Method:	S 8015B	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2009-09-01	Analyzed By:	AG
QC Batch:	63148	Sample Preparation:	2009-08-31	Prepared By:	AG
Prep Batch:	53903				

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		1880	mg/Kg	10	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		9.01	mg/Kg	10	10.0	90	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	2	26.7	mg/Kg	10	10.0	267	31 - 135

¹High surrogate recovery due to peak interference.

²High surrogate recovery due to peak interference.

Report Date: September 8, 2009
114-6400277

Work Order: 9082837
COG/MC Fed. #3 TB

Page Number: 5 of 34
Lea Co, NM

Sample: 208549 - AH-1 (1-1.5')

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2009-09-04	Analyzed By:	AR
QC Batch:	63265	Sample Preparation:	2009-09-01	Prepared By:	AR
Prep Batch:	53891				

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

Sample: 208549 - AH-1 (1-1.5')

Laboratory:	Midland	Analytical Method:	Mod. 8015B	Prep Method:	N/A
Analysis:	TPH DRO	Date Analyzed:	2009-09-02	Analyzed By:	kg
QC Batch:	63189	Sample Preparation:	2009-09-02	Prepared By:	kg
Prep Batch:	53936				

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		10400	mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	³	568	mg/Kg	5	100	568	13.2 - 219.3

Sample: 208549 - AH-1 (1-1.5')

Laboratory:	Midland	Analytical Method:	S 8015B	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2009-09-02	Analyzed By:	AG
QC Batch:	63205	Sample Preparation:	2009-09-02	Prepared By:	AG
Prep Batch:	53952				

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		6600	mg/Kg	25	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		48.3	mg/Kg	25	50.0	97	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	⁴	106	mg/Kg	25	50.0	212	31 - 135

³High surrogate recovery due to peak interference.

⁴High surrogate recovery due to peak interference.

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Sample: 208550 - AH-1 (2-2.5')

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 63265 Date Analyzed: 2009-09-04 Analyzed By: AR
Prep Batch: 53891 Sample Preparation: 2009-09-01 Prepared By: AR

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

Sample: 208550 - AH-1 (2-2.5')

Laboratory: Midland
Analysis: TPH DRO Analytical Method: Mod. 8015B Prep Method: N/A
QC Batch: 63189 Date Analyzed: 2009-09-02 Analyzed By: kg
Prep Batch: 53936 Sample Preparation: 2009-09-02 Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		18200	mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	⁵	1120	mg/Kg	5	100	1120	13.2 - 219.3

Sample: 208550 - AH-1 (2-2.5')

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035
QC Batch: 63205 Date Analyzed: 2009-09-02 Analyzed By: AG
Prep Batch: 53952 Sample Preparation: 2009-09-02 Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		14300	mg/Kg	50	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		90.0	mg/Kg	50	100	90	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	⁶	216	mg/Kg	50	100	216	31 - 135

⁵High surrogate recovery due to peak interference.

⁶High surrogate recovery due to peak interference.

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Sample: 208551 - AH-1 (3-3.5')

Laboratory: Midland

Analysis: BTEX

QC Batch: 63206

Prep Batch: 53952

Analytical Method: S 8021B

Date Analyzed: 2009-09-02

Sample Preparation: 2009-09-02

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		1.13	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		0.326	mg/Kg	1	0.0100
Xylene		0.823	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.97	mg/Kg	1	2.00	98	49 - 129.7
4-Bromofluorobenzene (4-BFB)		1.52	mg/Kg	1	2.00	76	45.2 - 144.3

Sample: 208551 - AH-1 (3-3.5')

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 63274

Prep Batch: 53997

Analytical Method: SM 4500-Cl B

Date Analyzed: 2009-09-04

Sample Preparation: 2009-09-04

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

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

Sample: 208551 - AH-1 (3-3.5')

Laboratory: Midland

Analysis: TPH DRO

QC Batch: 63189

Prep Batch: 53936

Analytical Method: Mod. 8015B

Date Analyzed: 2009-09-02

Sample Preparation: 2009-09-02

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		110	mg/Kg	1	100	110	13.2 - 219.3

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Sample: 208551 - AH-1 (3-3.5')

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 63205
Prep Batch: 53952

Analytical Method: S 8015B
Date Analyzed: 2009-09-02
Sample Preparation: 2009-09-02

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		17.0	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.89	mg/Kg	1	2.00	94	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)		2.18	mg/Kg	1	2.00	109	31 - 135

Sample: 208552 - AH-1 (4-4.5')

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 63274
Prep Batch: 53997

Analytical Method: SM 4500-Cl B
Date Analyzed: 2009-09-04
Sample Preparation: 2009-09-04

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

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

Sample: 208553 - AH-1 (5-5.5')

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 63274
Prep Batch: 53997

Analytical Method: SM 4500-Cl B
Date Analyzed: 2009-09-04
Sample Preparation: 2009-09-04

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

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

Sample: 208554 - AH-2 (0-1')

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 63274
Prep Batch: 53997

Analytical Method: SM 4500-Cl B
Date Analyzed: 2009-09-04
Sample Preparation: 2009-09-04

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

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

Sample: 208554 - AH-2 (0-1')

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 63088
Prep Batch: 53845

Analytical Method: Mod. 8015B
Date Analyzed: 2009-08-31
Sample Preparation: 2009-08-31

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		7780	mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	⁷	633	mg/Kg	5	100	633	13.2 - 219.3

Sample: 208554 - AH-2 (0-1')

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 63148
Prep Batch: 53903

Analytical Method: S 8015B
Date Analyzed: 2009-09-01
Sample Preparation: 2009-08-31

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		2850	mg/Kg	20	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		18.0	mg/Kg	20	20.0	90	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	⁸	38.0	mg/Kg	20	20.0	190	31 - 135

Sample: 208555 - AH-2 (1-1.5')

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 63274
Prep Batch: 53997

Analytical Method: SM 4500-Cl B
Date Analyzed: 2009-09-04
Sample Preparation: 2009-09-04

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

⁷High surrogate recovery due to peak interference.

⁸High surrogate recovery due to peak interference.

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

Sample: 208555 - AH-2 (1-1.5')

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 63189
Prep Batch: 53936

Analytical Method: Mod. 8015B
Date Analyzed: 2009-09-02
Sample Preparation: 2009-09-02

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		5800	mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	⁹	395	mg/Kg	5	100	395	13.2 - 219.3

Sample: 208555 - AH-2 (1-1.5')

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 63205
Prep Batch: 53952

Analytical Method: S 8015B
Date Analyzed: 2009-09-02
Sample Preparation: 2009-09-02

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		5530	mg/Kg	25	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		46.7	mg/Kg	25	50.0	93	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	¹⁰	98.8	mg/Kg	25	50.0	198	31 - 135

Sample: 208556 - AH-2 (2-2.5')

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 63274
Prep Batch: 53997

Analytical Method: SM 4500-Cl B
Date Analyzed: 2009-09-04
Sample Preparation: 2009-09-04

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

⁹High surrogate recovery due to peak interference.

¹⁰High surrogate recovery due to peak interference.

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

Sample: 208556 - AH-2 (2-2.5')

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 63189
Prep Batch: 53936

Analytical Method: Mod. 8015B
Date Analyzed: 2009-09-02
Sample Preparation: 2009-09-02

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		17000	mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	¹¹	1260	mg/Kg	5	100	1260	13.2 - 219.3

Sample: 208556 - AH-2 (2-2.5')

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 63205
Prep Batch: 53952

Analytical Method: S 8015B
Date Analyzed: 2009-09-02
Sample Preparation: 2009-09-02

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		16300	mg/Kg	50	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		96.7	mg/Kg	50	100	97	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	¹²	222	mg/Kg	50	100	222	31 - 135

Sample: 208557 - AH-3 (0-1')

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 63274
Prep Batch: 53997

Analytical Method: SM 4500-Cl B
Date Analyzed: 2009-09-04
Sample Preparation: 2009-09-04

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

¹¹High surrogate recovery due to peak interference.

¹²High surrogate recovery due to peak interference.

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

Sample: 208557 - AH-3 (0-1')

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 63088
Prep Batch: 53845

Analytical Method: Mod. 8015B
Date Analyzed: 2009-08-31
Sample Preparation: 2009-08-31

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		7710	mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	¹³	561	mg/Kg	5	100	561	13.2 - 219.3

Sample: 208557 - AH-3 (0-1')

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 63148
Prep Batch: 53903

Analytical Method: S 8015B
Date Analyzed: 2009-09-01
Sample Preparation: 2009-08-31

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		3510	mg/Kg	20	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		18.9	mg/Kg	20	20.0	94	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	¹⁴	34.4	mg/Kg	20	20.0	172	31 - 135

Sample: 208558 - AH-3 (1-1.5')

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 63274
Prep Batch: 53997

Analytical Method: SM 4500-Cl B
Date Analyzed: 2009-09-04
Sample Preparation: 2009-09-04

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

¹³High surrogate recovery due to peak interference.

¹⁴High surrogate recovery due to peak interference.

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

Sample: 208558 - AH-3 (1-1.5')

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 63189
Prep Batch: 53936

Analytical Method: Mod. 8015B
Date Analyzed: 2009-09-02
Sample Preparation: 2009-09-02

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		1300	mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		199	mg/Kg	5	100	199	13.2 - 219.3

Sample: 208558 - AH-3 (1-1.5')

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 63205
Prep Batch: 53952

Analytical Method: S 8015B
Date Analyzed: 2009-09-02
Sample Preparation: 2009-09-02

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		6310	mg/Kg	25	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		47.7	mg/Kg	25	50.0	95	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	¹⁵	86.2	mg/Kg	25	50.0	172	31 - 135

Sample: 208559 - AH-4 (0-1')

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 63274
Prep Batch: 53997

Analytical Method: SM 4500-Cl B
Date Analyzed: 2009-09-04
Sample Preparation: 2009-09-04

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

¹⁵High surrogate recovery due to peak interference.

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

Sample: 208559 - AH-4 (0-1')

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 63088
Prep Batch: 53845

Analytical Method: Mod. 8015B
Date Analyzed: 2009-08-31
Sample Preparation: 2009-08-31

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		5860	mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	¹⁶	438	mg/Kg	5	100	438	13.2 - 219.3

Sample: 208559 - AH-4 (0-1')

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 63148
Prep Batch: 53903

Analytical Method: S 8015B
Date Analyzed: 2009-09-01
Sample Preparation: 2009-08-31

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		3090	mg/Kg	20	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		18.7	mg/Kg	20	20.0	94	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	¹⁷	30.8	mg/Kg	20	20.0	154	31 - 135

Sample: 208560 - AH-4 (1-1.5')

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 63274
Prep Batch: 53997

Analytical Method: SM 4500-Cl B
Date Analyzed: 2009-09-04
Sample Preparation: 2009-09-04

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

¹⁶High surrogate recovery due to peak interference.

¹⁷High surrogate recovery due to peak interference.

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

Sample: 208560 - AH-4 (1-1.5')

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 63189
Prep Batch: 53936

Analytical Method: Mod. 8015B
Date Analyzed: 2009-09-02
Sample Preparation: 2009-09-02

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		5360	mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	¹⁸	403	mg/Kg	5	100	403	13.2 - 219.3

Sample: 208560 - AH-4 (1-1.5')

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 63205
Prep Batch: 53952

Analytical Method: S 8015B
Date Analyzed: 2009-09-02
Sample Preparation: 2009-09-02

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		4880	mg/Kg	25	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		46.9	mg/Kg	25	50.0	94	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	¹⁹	85.3	mg/Kg	25	50.0	171	31 - 135

Sample: 208561 - AH-4 (2-2.5')

Laboratory: Midland
Analysis: BTEX
QC Batch: 63206
Prep Batch: 53952

Analytical Method: S 8021B
Date Analyzed: 2009-09-02
Sample Preparation: 2009-09-02

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

¹⁸High surrogate recovery due to peak interference.

¹⁹High surrogate recovery due to peak interference.

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Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		4.34	mg/Kg	5	0.0100
Toluene		22.6	mg/Kg	5	0.0100
Ethylbenzene		12.9	mg/Kg	5	0.0100
Xylene		16.8	mg/Kg	5	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		9.54	mg/Kg	5	10.0	95	49 - 129.7
4-Bromofluorobenzene (4-BFB)		11.4	mg/Kg	5	10.0	114	45.2 - 144.3

Sample: 208561 - AH-4 (2-2.5')

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 63276 Date Analyzed: 2009-09-04 Analyzed By: AR
Prep Batch: 53998 Sample Preparation: 2009-09-04 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		221	mg/Kg	50	4.00

Sample: 208561 - AH-4 (2-2.5')

Laboratory: Midland
Analysis: TPH DRO Analytical Method: Mod. 8015B Prep Method: N/A
QC Batch: 63189 Date Analyzed: 2009-09-02 Analyzed By: kg
Prep Batch: 53936 Sample Preparation: 2009-09-02 Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		1570	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		209	mg/Kg	1	100	209	13.2 - 219.3

Sample: 208561 - AH-4 (2-2.5')

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035
QC Batch: 63205 Date Analyzed: 2009-09-02 Analyzed By: AG
Prep Batch: 53952 Sample Preparation: 2009-09-02 Prepared By: AG

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Parameter	Flag	RL Result	Units	Dilution	RL
GRO		922	mg/Kg	5	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		9.34	mg/Kg	5	10.0	93	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	²⁰	16.9	mg/Kg	5	10.0	169	31 - 135

Sample: 208562 - AH-4 (2.5-3')

Laboratory: Midland	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2009-09-04	Analyzed By: AR
QC Batch: 63276	Sample Preparation: 2009-09-04	Prepared By: AR
Prep Batch: 53998		

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

Sample: 208563 - AH-5 (0-1')

Laboratory: Midland	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2009-09-04	Analyzed By: AR
QC Batch: 63276	Sample Preparation: 2009-09-04	Prepared By: AR
Prep Batch: 53998		

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		3360	mg/Kg	100	4.00

Sample: 208563 - AH-5 (0-1')

Laboratory: Midland	Analytical Method: Mod. 8015B	Prep Method: N/A
Analysis: TPH DRO	Date Analyzed: 2009-08-31	Analyzed By: kg
QC Batch: 63088	Sample Preparation: 2009-08-31	Prepared By: kg
Prep Batch: 53845		

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		5580	mg/Kg	5	50.0

²⁰High surrogate recovery due to peak interference.

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	²¹	389	mg/Kg	5	100	389	13.2 - 219.3

Sample: 208563 - AH-5 (0-1')

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 63148
Prep Batch: 53903

Analytical Method: S 8015B
Date Analyzed: 2009-09-01
Sample Preparation: 2009-08-31

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		1560	mg/Kg	20	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		18.1	mg/Kg	20	20.0	90	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	²²	36.8	mg/Kg	20	20.0	184	31 - 135

Sample: 208564 - AH-5 (1-1.5')

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 63276
Prep Batch: 53998

Analytical Method: SM 4500-Cl B
Date Analyzed: 2009-09-04
Sample Preparation: 2009-09-04

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1610	mg/Kg	50	4.00

Sample: 208564 - AH-5 (1-1.5')

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 63189
Prep Batch: 53936

Analytical Method: Mod. 8015B
Date Analyzed: 2009-09-02
Sample Preparation: 2009-09-02

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		4600	mg/Kg	5	50.0

²¹High surrogate recovery due to peak interference.

²²High surrogate recovery due to peak interference.

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	²³	391	mg/Kg	5	100	391	13.2 - 219.3

Sample: 208564 - AH-5 (1-1.5')

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 63205
Prep Batch: 53952

Analytical Method: S 8015B
Date Analyzed: 2009-09-02
Sample Preparation: 2009-09-02

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		10100	mg/Kg	25	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		48.2	mg/Kg	25	50.0	96	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	²⁴	102	mg/Kg	25	50.0	204	31 - 135

Sample: 208565 - AH-5 (2-2.5')

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 63276
Prep Batch: 53998

Analytical Method: SM 4500-Cl B
Date Analyzed: 2009-09-04
Sample Preparation: 2009-09-04

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		277	mg/Kg	50	4.00

Sample: 208565 - AH-5 (2-2.5')

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 63189
Prep Batch: 53936

Analytical Method: Mod. 8015B
Date Analyzed: 2009-09-02
Sample Preparation: 2009-09-02

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		7110	mg/Kg	5	50.0

²³High surrogate recovery due to peak interference.

²⁴High surrogate recovery due to peak interference.

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	²⁵	589	mg/Kg	5	100	589	13.2 - 219.3

Sample: 208565 - AH-5 (2-2.5')

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 63205
Prep Batch: 53952

Analytical Method: S 8015B
Date Analyzed: 2009-09-02
Sample Preparation: 2009-09-02

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		7640	mg/Kg	25	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		48.1	mg/Kg	25	50.0	96	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)	²⁶	97.3	mg/Kg	25	50.0	195	31 - 135

Method Blank (1) QC Batch: 63088

QC Batch: 63088
Prep Batch: 53845

Date Analyzed: 2009-08-31
QC Preparation: 2009-08-31

Analyzed By: kg
Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		98.8	mg/Kg	1	100	99	13 - 178.5

Method Blank (1) QC Batch: 63148

QC Batch: 63148
Prep Batch: 53903

Date Analyzed: 2009-09-01
QC Preparation: 2009-08-31

Analyzed By: AG
Prepared By: AG

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

²⁵ High surrogate recovery due to peak interference.

²⁶ High surrogate recovery due to peak interference.

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.86	mg/Kg	1	2.00	93	71.9 - 115
4-Bromofluorobenzene (4-BFB)		1.41	mg/Kg	1	2.00	70	38.1 - 146.2

Method Blank (1) QC Batch: 63189

QC Batch: 63189
Prep Batch: 53936

Date Analyzed: 2009-09-02
QC Preparation: 2009-09-02

Analyzed By: kg
Prepared By: kg

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

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

Method Blank (1) QC Batch: 63205

QC Batch: 63205
Prep Batch: 53952

Date Analyzed: 2009-09-02
QC Preparation: 2009-09-02

Analyzed By: AG
Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.82	mg/Kg	1	2.00	91	71.9 - 115
4-Bromofluorobenzene (4-BFB)		1.52	mg/Kg	1	2.00	76	38.1 - 146.2

Method Blank (1) QC Batch: 63206

QC Batch: 63206
Prep Batch: 53952

Date Analyzed: 2009-09-02
QC Preparation: 2009-09-02

Analyzed By: AG
Prepared By: AG

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

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.90	mg/Kg	1	2.00	95	65.6 - 130.6
4-Bromofluorobenzene (4-BFB)		1.53	mg/Kg	1	2.00	76	51.9 - 128.1

Method Blank (1) QC Batch: 63265

QC Batch: 63265 Date Analyzed: 2009-09-04 Analyzed By: AR
Prep Batch: 53891 QC Preparation: 2009-09-01 Prepared By: AR

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

Method Blank (1) QC Batch: 63274

QC Batch: 63274 Date Analyzed: 2009-09-04 Analyzed By: AR
Prep Batch: 53997 QC Preparation: 2009-09-04 Prepared By: AR

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

Method Blank (1) QC Batch: 63276

QC Batch: 63276 Date Analyzed: 2009-09-04 Analyzed By: AR
Prep Batch: 53998 QC Preparation: 2009-09-04 Prepared By: AR

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

Laboratory Control Spike (LCS-1)

QC Batch: 63088 Date Analyzed: 2009-08-31 Analyzed By: kg
Prep Batch: 53845 QC Preparation: 2009-08-31 Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	167	mg/Kg	1	250	<5.86	67	57.4 - 133.4

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

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Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	176	mg/Kg	1	250	<5.86	70	57.4 - 133.4	5	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	92.1	95.6	mg/Kg	1	100	92	96	48.5 - 146.7

Laboratory Control Spike (LCS-1)

QC Batch: 63148
Prep Batch: 53903

Date Analyzed: 2009-09-01
QC Preparation: 2009-08-31

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	16.0	mg/Kg	1	20.0	<0.482	80	60.5 - 120.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	15.0	mg/Kg	1	20.0	<0.482	75	60.5 - 120.1	6	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.93	1.91	mg/Kg	1	2.00	96	96	78.8 - 124.7
4-Bromofluorobenzene (4-BFB)	1.65	1.55	mg/Kg	1	2.00	82	78	66.1 - 128.3

Laboratory Control Spike (LCS-1)

QC Batch: 63189
Prep Batch: 53936

Date Analyzed: 2009-09-02
QC Preparation: 2009-09-02

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	189	mg/Kg	1	250	<5.86	76	57.4 - 133.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	196	mg/Kg	1	250	<5.86	78	57.4 - 133.4	4	20

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

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Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	93.2	96.9	mg/Kg	1	100	93	97	48.5 - 146.7

Laboratory Control Spike (LCS-1)

QC Batch: 63205
Prep Batch: 53952

Date Analyzed: 2009-09-02
QC Preparation: 2009-09-02

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	13.4	mg/Kg	1	20.0	<0.482	67	60.5 - 120.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	13.7	mg/Kg	1	20.0	<0.482	68	60.5 - 120.1	2	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.84	1.88	mg/Kg	1	2.00	92	94	78.8 - 124.7
4-Bromofluorobenzene (4-BFB)	1.64	1.70	mg/Kg	1	2.00	82	85	66.1 - 128.3

Laboratory Control Spike (LCS-1)

QC Batch: 63206
Prep Batch: 53952

Date Analyzed: 2009-09-02
QC Preparation: 2009-09-02

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.85	mg/Kg	1	2.00	<0.00100	92	72.7 - 129.8
Toluene	1.84	mg/Kg	1	2.00	<0.00100	92	71.6 - 129.6
Ethylbenzene	1.78	mg/Kg	1	2.00	<0.00110	89	70.8 - 129.7
Xylene	5.00	mg/Kg	1	6.00	<0.00360	83	70.9 - 129.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.84	mg/Kg	1	2.00	<0.00100	92	72.7 - 129.8	0	20
Toluene	1.85	mg/Kg	1	2.00	<0.00100	92	71.6 - 129.6	0	20
Ethylbenzene	1.85	mg/Kg	1	2.00	<0.00110	92	70.8 - 129.7	4	20
Xylene	5.22	mg/Kg	1	6.00	<0.00360	87	70.9 - 129.4	4	20

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

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Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.94	1.92	mg/Kg	1	2.00	97	96	65.9 - 132
4-Bromofluorobenzene (4-BFB)	1.61	1.67	mg/Kg	1	2.00	80	84	55.2 - 128.9

Laboratory Control Spike (LCS-1)

QC Batch: 63265
Prep Batch: 53891

Date Analyzed: 2009-09-04
QC Preparation: 2009-09-01

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.8	mg/Kg	1	100	<2.18	99	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	101	mg/Kg	1	100	<2.18	101	85 - 115	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 63274
Prep Batch: 53997

Date Analyzed: 2009-09-04
QC Preparation: 2009-09-04

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	99.3	mg/Kg	1	100	<2.18	99	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	98.8	mg/Kg	1	100	<2.18	99	85 - 115	0	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 63276
Prep Batch: 53998

Date Analyzed: 2009-09-04
QC Preparation: 2009-09-04

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	101	mg/Kg	1	100	<2.18	101	85 - 115

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

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	99.5	mg/Kg	1	100	<2.18	100	85 - 115	2	20

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

Matrix Spike (MS-1) Spiked Sample: 208566

QC Batch: 63088
Prep Batch: 53845

Date Analyzed: 2009-08-31
QC Preparation: 2009-08-31

Analyzed By: kg
Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRÖ	197	mg/Kg	1	250	<5.86	79	35.2 - 167.1

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRÖ	216	mg/Kg	1	250	<5.86	86	35.2 - 167.1	9	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	107	108	mg/Kg	1	100	107	108	34.5 - 178.4

Matrix Spike (MS-1) Spiked Sample: 208533

QC Batch: 63148
Prep Batch: 53903

Date Analyzed: 2009-09-01
QC Preparation: 2009-08-31

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	13.2	mg/Kg	1	20.0	<0.482	66	12.8 - 175.2

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	13.2	mg/Kg	1	20.0	<0.482	66	12.8 - 175.2	0	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.80	1.82	mg/Kg	1	2	90	91	60.8 - 132.1

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Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
4-Bromofluorobenzene (4-BFB)	1.27	1.24	mg/Kg	1	2	64	62	31.3 - 161.7

Matrix Spike (MS-1) Spiked Sample: 208555

QC Batch: 63189
Prep Batch: 53936

Date Analyzed: 2009-09-02
QC Preparation: 2009-09-02

Analyzed By: kg
Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	6010	mg/Kg	5	250	5800	84	35.2 - 167.1

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	²⁷ 10400	mg/Kg	5	250	5800	1840	35.2 - 167.1	54	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane ^{28 29}	635	1040	mg/Kg	5	100	635	1040	34.5 - 178.4

Matrix Spike (MS-1) Spiked Sample: 208763

QC Batch: 63205
Prep Batch: 53952

Date Analyzed: 2009-09-02
QC Preparation: 2009-09-02

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	10.8	mg/Kg	1	20.0	<0.482	54	12.8 - 175.2

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	12.0	mg/Kg	1	20.0	<0.482	60	12.8 - 175.2	10	20

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

continued . . .

²⁷Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

²⁸High surrogate recovery due to peak interference.

²⁹High surrogate recovery due to peak interference.

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Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.81	1.80	mg/Kg	1	2	90	90	60.8 - 132.1
4-Bromofluorobenzene (4-BFB)	1.40	1.36	mg/Kg	1	2	70	68	31.3 - 161.7

Matrix Spike (MS-1) Spiked Sample: 208762

QC Batch: 63206
Prep Batch: 53952

Date Analyzed: 2009-09-02
QC Preparation: 2009-09-02

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.70	mg/Kg	1	2.00	<0.00100	85	58.6 - 165.2
Toluene	1.66	mg/Kg	1	2.00	<0.00100	83	64.2 - 153.8
Ethylbenzene	1.63	mg/Kg	1	2.00	<0.00110	82	61.6 - 159.4
Xylene	4.49	mg/Kg	1	6.00	<0.00360	75	64.4 - 155.3

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.78	mg/Kg	1	2.00	<0.00100	89	58.6 - 165.2	5	20
Toluene	1.75	mg/Kg	1	2.00	<0.00100	88	64.2 - 153.8	5	20
Ethylbenzene	1.77	mg/Kg	1	2.00	<0.00110	88	61.6 - 159.4	8	20
Xylene	4.85	mg/Kg	1	6.00	<0.00360	81	64.4 - 155.3	8	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.92	1.92	mg/Kg	1	2	96	96	76 - 127.9
4-Bromofluorobenzene (4-BFB)	1.27	1.27	mg/Kg	1	2	64	64	72 - 127.8

Matrix Spike (MS-1) Spiked Sample: 208550

QC Batch: 63265
Prep Batch: 53891

Date Analyzed: 2009-09-04
QC Preparation: 2009-09-01

Analyzed By: AR
Prepared By: AR

continued ...

³⁰Surrogate out due to peak interference.

³¹Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

Report Date: September 8, 2009
114-6400277

Work Order: 9082837
COG/MC Fed. #3 TB

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matrix spikes continued ...

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	9920	mg/Kg	100	10000	<218	99	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10000	mg/Kg	100	10000	<218	100	85 - 115	1	20

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

Matrix Spike (MS-1) Spiked Sample: 208560

QC Batch: 63274
Prep Batch: 53997

Date Analyzed: 2009-09-04
QC Preparation: 2009-09-04

Analyzed By: AR
Prepared By: AR

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

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10100	mg/Kg	100	10000	<218	101	85 - 115	1	20

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

Matrix Spike (MS-1) Spiked Sample: 208570

QC Batch: 63276
Prep Batch: 53998

Date Analyzed: 2009-09-04
QC Preparation: 2009-09-04

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	9740	mg/Kg	100	10000	<218	97	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	9820	mg/Kg	100	10000	<218	98	85 - 115	1	20

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

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114-6400277

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Standard (CCV-2)

QC Batch: 63088

Date Analyzed: 2009-08-31

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	224	90	80 - 120	2009-08-31

Standard (CCV-3)

QC Batch: 63088

Date Analyzed: 2009-08-31

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	225	90	80 - 120	2009-08-31

Standard (CCV-4)

QC Batch: 63088

Date Analyzed: 2009-08-31

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	209	84	80 - 120	2009-08-31

Standard (CCV-1)

QC Batch: 63148

Date Analyzed: 2009-09-01

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.948	95	80 - 120	2009-09-01

Standard (CCV-2)

QC Batch: 63148

Date Analyzed: 2009-09-01

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.17	117	80 - 120	2009-09-01

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114-6400277

Work Order: 9082837
COG/MC Fed. #3 TB

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Lea Co, NM

Standard (CCV-1)

QC Batch: 63189

Date Analyzed: 2009-09-02

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	235	94	80 - 120	2009-09-02

Standard (CCV-2)

QC Batch: 63189

Date Analyzed: 2009-09-02

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	224	90	80 - 120	2009-09-02

Standard (CCV-3)

QC Batch: 63189

Date Analyzed: 2009-09-02

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	248	99	80 - 120	2009-09-02

Standard (CCV-4)

QC Batch: 63189

Date Analyzed: 2009-09-02

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	258	103	80 - 120	2009-09-02

Standard (CCV-1)

QC Batch: 63205

Date Analyzed: 2009-09-02

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.08	108	80 - 120	2009-09-02

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Standard (CCV-2)

QC Batch: 63205

Date Analyzed: 2009-09-02

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.08	108	80 - 120	2009-09-02

Standard (CCV-3)

QC Batch: 63205

Date Analyzed: 2009-09-02

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.19	119	80 - 120	2009-09-02

Standard (CCV-1)

QC Batch: 63206

Date Analyzed: 2009-09-02

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0946	95	80 - 120	2009-09-02
Toluene		mg/Kg	0.100	0.0952	95	80 - 120	2009-09-02
Ethylbenzene		mg/Kg	0.100	0.0910	91	80 - 120	2009-09-02
Xylene		mg/Kg	0.300	0.259	86	80 - 120	2009-09-02

Standard (CCV-2)

QC Batch: 63206

Date Analyzed: 2009-09-02

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.109	109	80 - 120	2009-09-02
Toluene		mg/Kg	0.100	0.109	109	80 - 120	2009-09-02
Ethylbenzene		mg/Kg	0.100	0.104	104	80 - 120	2009-09-02
Xylene		mg/Kg	0.300	0.292	97	80 - 120	2009-09-02

Standard (CCV-3)

QC Batch: 63206

Date Analyzed: 2009-09-02

Analyzed By: AG

Report Date: September 8, 2009
114-6400277

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COG/MC Fed. #3 TB

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Lea Co, NM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0946	95	80 - 120	2009-09-02
Toluene		mg/Kg	0.100	0.0952	95	80 - 120	2009-09-02
Ethylbenzene		mg/Kg	0.100	0.0910	91	80 - 120	2009-09-02
Xylene		mg/Kg	0.300	0.259	86	80 - 120	2009-09-02

Standard (ICV-1)

QC Batch: 63265

Date Analyzed: 2009-09-04

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2009-09-04

Standard (CCV-1)

QC Batch: 63265

Date Analyzed: 2009-09-04

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.8	100	85 - 115	2009-09-04

Standard (ICV-1)

QC Batch: 63274

Date Analyzed: 2009-09-04

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.6	100	85 - 115	2009-09-04

Standard (CCV-1)

QC Batch: 63274

Date Analyzed: 2009-09-04

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2009-09-04

Report Date: September 8, 2009
114-6400277

Work Order: 9082837
COG/MC Fed. #3 TB

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Lea Co, NM

Standard (ICV-1)

QC Batch: 63276

Date Analyzed: 2009-09-04

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.7	100	85 - 115	2009-09-04

Standard (CCV-1)

QC Batch: 63276

Date Analyzed: 2009-09-04

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2009-09-04

work order: 902837

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 2



TETRA TECH

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:

COG

SITE MANAGER:

IKE TAVAREZ

PROJECT NO.:

114-6400277

PROJECT NAME:

COG/ MC FED. #3 TB

LAB I.D.
NUMBER

DATE

TIME

MATRIX

COMP

GRAB

LEA CO., NM

SAMPLE IDENTIFICATION

NUMBER OF CONTAINERS
FILTERED (Y/N)

PRESERVATIVE
METHOD

HCL

HNO3

ICE

NONE

BTEX 8021B
TPH 8015 MOD TX1005 (Ext. to C35)

PAH 8270

RCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8260/824

GC/MS Semi. Vol. 8270/625

PCB's 8080/608

Pest. 808/608

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

200548

08/25/04

S

X

AH-1

(0-1')

1

X

549

S

X

AH-1

(1-1.5')

1

550

S

X

AH-1

(2-2.5')

1

551

S

X

AH-1

(3-3.5')

1

552

S

X

AH-1

(4-4.5')

1

Summary Report

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

Report Date: October 12, 2009

Work Order: 9100231



Project Location: Lea Co, NM
Project Name: COG/MC Fed. #3 TB
Project Number: 114-6400277

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
211479	T-1(NW) 0-1' 3.5' BEB	soil	2009-10-01	00:00	2009-10-02
211480	T-1(NW) 1-1.5' 3.5' BEB	soil	2009-10-01	00:00	2009-10-02
211481	T-1(NW) 2-2.5' 3.5' BEB	soil	2009-10-01	00:00	2009-10-02
211482	T-1(NW) 3-3.5' 3.5' BEB	soil	2009-10-01	00:00	2009-10-02
211483	T-1(NW) 4-4.5' 3.5' BEB	soil	2009-10-01	00:00	2009-10-02
211484	T-2(SW) 0-1' 4' BEB	soil	2009-10-01	00:00	2009-10-02
211485	T-2(SW) 1-1.5' 4' BEB	soil	2009-10-01	00:00	2009-10-02
211486	T-2(SW) 2-2.5' 4' BEB	soil	2009-10-01	00:00	2009-10-02
211487	T-2(SW) 3-3.5' 4' BEB	soil	2009-10-01	00:00	2009-10-02
211488	T-3(SE) 0-1' 3' BEB	soil	2009-10-01	00:00	2009-10-02
211489	T-3(SE) 1-1.5' 3' BEB	soil	2009-10-01	00:00	2009-10-02
211490	T-3(SE) 2-2.5' 3' BEB	soil	2009-10-01	00:00	2009-10-02
211491	T-3(SE) 3-3.5' 3' BEB	soil	2009-10-01	00:00	2009-10-02
211492	T-4(NE) 0-1' 3.5' BEB	soil	2009-10-01	00:00	2009-10-02
211493	T-4(NE) 1-1.5' 3.5' BEB	soil	2009-10-01	00:00	2009-10-02
211494	T-4(NE) 2-2.5' 3.5' BEB	soil	2009-10-01	00:00	2009-10-02
211495	T-4(NE) 3-3.5' 3.5' BEB	soil	2009-10-01	00:00	2009-10-02

Sample - Field Code	BTEX				TPH DRO	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
211479 - T-1(NW) 0-1' 3.5' BEB	4.15	25.6	13.2	24.9	3860	846
211480 - T-1(NW) 1-1.5' 3.5' BEB	123	336	121	185		
211481 - T-1(NW) 2-2.5' 3.5' BEB	210	568	255	332		
211482 - T-1(NW) 3-3.5' 3.5' BEB	72.1	205	92.0	118		
211483 - T-1(NW) 4-4.5' 3.5' BEB	12.0	95.2	57.1	77.0		
211484 - T-2(SW) 0-1' 4' BEB	9.13	55.6	27.9	51.8	4310	1840
211485 - T-2(SW) 1-1.5' 4' BEB	128	382	174	233	10700	6650
211486 - T-2(SW) 2-2.5' 4' BEB	111	393	191	255	9130	7210

continued ...

... continued

Sample - Field Code	BTEX				TPH DRO	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
211487 - T-2(SW) 3-3.5' 4' BEB	18.8	138	80.4	109	4010	3460
211488 - T-3(SE) 0-1' 3' BEB	15.7	83.6	35.3	74.4	1920	2240
211489 - T-3(SE) 1-1.5' 3' BEB	231	568	233	317		
211490 - T-3(SE) 2-2.5' 3' BEB	42.2	181	92.9	125		
211491 - T-3(SE) 3-3.5' 3' BEB	<0.0100	1.18	1.64	2.58	347	80.2
211492 - T-4(NE) 0-1' 3.5' BEB	1.46	30.9	44.2	84.1	5360	2220
211493 - T-4(NE) 1-1.5' 3.5' BEB	39.7	200	111	150	6600	4620
211494 - T-4(NE) 2-2.5' 3.5' BEB	0.0506	6.56	10.3	15.5	460	335

Sample: 211479 - T-1(NW) 0-1' 3.5' BEB

Param	Flag	Result	Units	RL
Chloride		280	mg/Kg	4.00

Sample: 211480 - T-1(NW) 1-1.5' 3.5' BEB

Param	Flag	Result	Units	RL
Chloride		1200	mg/Kg	4.00

Sample: 211481 - T-1(NW) 2-2.5' 3.5' BEB

Param	Flag	Result	Units	RL
Chloride		200	mg/Kg	4.00

Sample: 211482 - T-1(NW) 3-3.5' 3.5' BEB

Param	Flag	Result	Units	RL
Chloride		539	mg/Kg	4.00

Sample: 211483 - T-1(NW) 4-4.5' 3.5' BEB

Param	Flag	Result	Units	RL
Chloride		330	mg/Kg	4.00

Sample: 211484 - T-2(SW) 0-1' 4' BEB

continued ...

sample 211484 continued ...

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

Sample: 211485 - T-2(SW) 1-1.5' 4' BEB

Param	Flag	Result	Units	RL
Chloride		205	mg/Kg	4.00

Sample: 211486 - T-2(SW) 2-2.5' 4' BEB

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

Sample: 211487 - T-2(SW) 3-3.5' 4' BEB

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

Sample: 211488 - T-3(SE) 0-1' 3' BEB

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

Sample: 211489 - T-3(SE) 1-1.5' 3' BEB

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

Sample: 211490 - T-3(SE) 2-2.5' 3' BEB

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

Sample: 211491 - T-3(SE) 3-3.5' 3' BEB

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

Sample: 211492 - T-4(NE) 0-1' 3.5' BEB

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

Sample: 211493 - T-4(NE) 1-1.5' 3.5' BEB

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

Sample: 211494 - T-4(NE) 2-2.5' 3.5' BEB

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

Sample: 211495 - T-4(NE) 3-3.5' 3.5' BEB

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



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

Certifications

WBENC: 237019

HUB: 1752439743100-86536

DBE: VN 20657

NCTRCA WFWB38444Y0909

NELAP Certifications

Lubbock: T104704219-08-TX

El Paso: T104704221-08-TX

Midland: T104704392-08-TX

LELAP-02003

LELAP-02002

Kansas E-10317

Analytical and Quality Control Report

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

Report Date: October 12, 2009

Work Order: 9100231



Project Location: Lea Co, NM
Project Name: COG/MC Fed. #3 TB
Project Number: 114-6400277

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
211479	T-1(NW) 0-1' 3.5' BEB	soil	2009-10-01	00:00	2009-10-02
211480	T-1(NW) 1-1.5' 3.5' BEB	soil	2009-10-01	00:00	2009-10-02
211481	T-1(NW) 2-2.5' 3.5' BEB	soil	2009-10-01	00:00	2009-10-02
211482	T-1(NW) 3-3.5' 3.5' BEB	soil	2009-10-01	00:00	2009-10-02
211483	T-1(NW) 4-4.5' 3.5' BEB	soil	2009-10-01	00:00	2009-10-02
211484	T-2(SW) 0-1' 4' BEB	soil	2009-10-01	00:00	2009-10-02
211485	T-2(SW) 1-1.5' 4' BEB	soil	2009-10-01	00:00	2009-10-02
211486	T-2(SW) 2-2.5' 4' BEB	soil	2009-10-01	00:00	2009-10-02
211487	T-2(SW) 3-3.5' 4' BEB	soil	2009-10-01	00:00	2009-10-02
211488	T-3(SE) 0-1' 3' BEB	soil	2009-10-01	00:00	2009-10-02

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
211489	T-3(SE) 1-1.5' 3' BEB	soil	2009-10-01	00:00	2009-10-02
211490	T-3(SE) 2-2.5' 3' BEB	soil	2009-10-01	00:00	2009-10-02
211491	T-3(SE) 3-3.5' 3' BEB	soil	2009-10-01	00:00	2009-10-02
211492	T-4(NE) 0-1' 3.5' BEB	soil	2009-10-01	00:00	2009-10-02
211493	T-4(NE) 1-1.5' 3.5' BEB	soil	2009-10-01	00:00	2009-10-02
211494	T-4(NE) 2-2.5' 3.5' BEB	soil	2009-10-01	00:00	2009-10-02
211495	T-4(NE) 3-3.5' 3.5' BEB	soil	2009-10-01	00:00	2009-10-02

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 44 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.



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

Standard Flags

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

Case Narrative

Samples for project COG/MC Fed. #3 TB were received by TraceAnalysis, Inc. on 2009-10-02 and assigned to work order 9100231. Samples for work order 9100231 were received intact at a temperature of 6.3 deg. C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	54819	2009-10-05 at 16:00	64189	2009-10-05 at 17:01
BTEX	S 8021B	54839	2009-10-06 at 15:30	64208	2009-10-06 at 18:33
BTEX	S 8021B	54881	2009-10-07 at 15:00	64265	2009-10-07 at 13:15
Chloride (Titration)	SM 4500-Cl B	54780	2009-10-05 at 08:51	64160	2009-10-05 at 14:28
Chloride (Titration)	SM 4500-Cl B	54781	2009-10-05 at 08:52	64162	2009-10-05 at 14:29
TPH DRO	Mod. 8015B	54798	2009-10-05 at 09:48	64164	2009-10-05 at 09:48
TPH DRO	Mod. 8015B	54818	2009-10-06 at 08:49	64188	2009-10-06 at 08:49
TPH DRO	Mod. 8015B	54883	2009-10-07 at 10:33	64267	2009-10-07 at 10:33
TPH DRO	Mod. 8015B	54958	2009-10-09 at 16:24	64358	2009-10-09 at 16:24
TPH GRO	S 8015B	54819	2009-10-05 at 16:00	64190	2009-10-05 at 17:29
TPH GRO	S 8015B	54839	2009-10-06 at 15:30	64209	2009-10-06 at 19:31
TPH GRO	S 8015B	54881	2009-10-07 at 15:00	64266	2009-10-07 at 13:42

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 9100231 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 211479 - T-1(NW) 0-1' 3.5' BEB

Laboratory: Midland
Analysis: BTEX
QC Batch: 64189
Prep Batch: 54819

Analytical Method: S 8021B
Date Analyzed: 2009-10-05
Sample Preparation: 2009-10-05

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		4.15	mg/Kg	10	0.0100
Toluene		25.6	mg/Kg	10	0.0100
Ethylbenzene		13.2	mg/Kg	10	0.0100
Xylene		24.9	mg/Kg	10	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		9.28	mg/Kg	10	10.0	93	64.4 - 111.2
4-Bromofluorobenzene (4-BFB)	¹	13.8	mg/Kg	10	10.0	138	43.1 - 128.4

Sample: 211479 - T-1(NW) 0-1' 3.5' BEB

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 64160
Prep Batch: 54780

Analytical Method: SM 4500-Cl B
Date Analyzed: 2009-10-05
Sample Preparation: 2009-10-05

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		280	mg/Kg	50	4.00

Sample: 211479 - T-1(NW) 0-1' 3.5' BEB

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 64164
Prep Batch: 54798

Analytical Method: Mod. 8015B
Date Analyzed: 2009-10-05
Sample Preparation: 2009-10-05

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		3860	mg/Kg	5	50.0

¹High surrogate recovery due to peak interference.

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	²	294	mg/Kg	5	100	294	13.2 - 219.3

Sample: 211479 - T-1(NW) 0-1' 3.5' BEB

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 64190
Prep Batch: 54819

Analytical Method: S 8015B
Date Analyzed: 2009-10-05
Sample Preparation: 2009-10-05

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		846	mg/Kg	10	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		10.2	mg/Kg	10	10.0	102	65.3 - 109.9
4-Bromofluorobenzene (4-BFB)	³	30.6	mg/Kg	10	10.0	306	61.7 - 119.9

Sample: 211480 - T-1(NW) 1-1.5' 3.5' BEB

Laboratory: Midland
Analysis: BTEX
QC Batch: 64208
Prep Batch: 54839

Analytical Method: S 8021B
Date Analyzed: 2009-10-06
Sample Preparation: 2009-10-06

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		123	mg/Kg	50	0.0100
Toluene	⁴	336	mg/Kg	50	0.0100
Ethylbenzene		121	mg/Kg	50	0.0100
Xylene		185	mg/Kg	50	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		45.3	mg/Kg	50	50.0	91	64.4 - 111.2
4-Bromofluorobenzene (4-BFB)	⁵	73.9	mg/Kg	50	50.0	148	43.1 - 128.4

²High surrogate recovery due to peak interference.

³High surrogate recovery due to peak interference.

⁴Estimated concentration value greater than standard range.

⁵High surrogate recovery due to peak interference.

Sample: 211480 - T-1(NW) 1-1.5' 3.5' BEB

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 64160 Date Analyzed: 2009-10-05 Analyzed By: AR
Prep Batch: 54780 Sample Preparation: 2009-10-05 Prepared By: AR

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

Sample: 211481 - T-1(NW) 2-2.5' 3.5' BEB

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 64208 Date Analyzed: 2009-10-06 Analyzed By: AG
Prep Batch: 54839 Sample Preparation: 2009-10-06 Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		210	mg/Kg	50	0.0100
Toluene	⁶	568	mg/Kg	50	0.0100
Ethylbenzene	⁷	255	mg/Kg	50	0.0100
Xylene		332	mg/Kg	50	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		44.4	mg/Kg	50	50.0	89	64.4 - 111.2
4-Bromofluorobenzene (4-BFB)		90.1	mg/Kg	50	50.0	180	43.1 - 128.4

Sample: 211481 - T-1(NW) 2-2.5' 3.5' BEB

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 64160 Date Analyzed: 2009-10-05 Analyzed By: AR
Prep Batch: 54780 Sample Preparation: 2009-10-05 Prepared By: AR

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

⁶Estimated concentration value greater than standard range.

⁷Estimated concentration value greater than standard range.

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Sample: 211482 - T-1(NW) 3-3.5' 3.5' BEB

Laboratory: Midland

Analysis: BTEX

QC Batch: 64265

Prep Batch: 54881

Analytical Method: S 8021B

Date Analyzed: 2009-10-07

Sample Preparation: 2009-10-07

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		72.1	mg/Kg	50	0.0100
Toluene		205	mg/Kg	50	0.0100
Ethylbenzene		92.0	mg/Kg	50	0.0100
Xylene		118	mg/Kg	50	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		44.2	mg/Kg	50	50.0	88	64.4 - 111.2
4-Bromofluorobenzene (4-BFB)		63.3	mg/Kg	50	50.0	127	43.1 - 128.4

Sample: 211482 - T-1(NW) 3-3.5' 3.5' BEB

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 64160

Prep Batch: 54780

Analytical Method: SM 4500-Cl B

Date Analyzed: 2009-10-05

Sample Preparation: 2009-10-05

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		539	mg/Kg	50	4.00

Sample: 211483 - T-1(NW) 4-4.5' 3.5' BEB

Laboratory: Midland

Analysis: BTEX

QC Batch: 64265

Prep Batch: 54881

Analytical Method: S 8021B

Date Analyzed: 2009-10-07

Sample Preparation: 2009-10-07

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		12.0	mg/Kg	50	0.0100
Toluene		95.2	mg/Kg	50	0.0100
Ethylbenzene		57.1	mg/Kg	50	0.0100
Xylene		77.0	mg/Kg	50	0.0100

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		42.5	mg/Kg	50	50.0	85	64.4 - 111.2
4-Bromofluorobenzene (4-BFB)		57.6	mg/Kg	50	50.0	115	43.1 - 128.4

Sample: 211483 - T-1(NW) 4-4.5' 3.5' BEB

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 64160

Prep Batch: 54780

Analytical Method: SM 4500-Cl B

Date Analyzed: 2009-10-05

Sample Preparation: 2009-10-05

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		330	mg/Kg	50	4.00

Sample: 211484 - T-2(SW) 0-1' 4' BEB

Laboratory: Midland

Analysis: BTEX

QC Batch: 64189

Prep Batch: 54819

Analytical Method: S 8021B

Date Analyzed: 2009-10-05

Sample Preparation: 2009-10-05

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		9.13	mg/Kg	10	0.0100
Toluene	8	55.6	mg/Kg	10	0.0100
Ethylbenzene		27.9	mg/Kg	10	0.0100
Xylene		51.8	mg/Kg	10	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		9.26	mg/Kg	10	10.0	93	64.4 - 111.2
4-Bromofluorobenzene (4-BFB)	9	19.3	mg/Kg	10	10.0	193	43.1 - 128.4

Sample: 211484 - T-2(SW) 0-1' 4' BEB

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 64160

Prep Batch: 54780

Analytical Method: SM 4500-Cl B

Date Analyzed: 2009-10-05

Sample Preparation: 2009-10-05

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

⁸Estimated concentration value greater than standard range.

⁹High surrogate recovery due to peak interference.

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

Sample: 211484 - T-2(SW) 0-1' 4' BEB

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 64164
Prep Batch: 54798

Analytical Method: Mod. 8015B
Date Analyzed: 2009-10-05
Sample Preparation: 2009-10-05

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		4310	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	¹⁰	256	mg/Kg	1	100	256	13.2 - 219.3

Sample: 211484 - T-2(SW) 0-1' 4' BEB

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 64190
Prep Batch: 54819

Analytical Method: S 8015B
Date Analyzed: 2009-10-05
Sample Preparation: 2009-10-05

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		1840	mg/Kg	10	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		9.94	mg/Kg	10	10.0	99	65.3 - 109.9
4-Bromofluorobenzene (4-BFB)	¹¹	39.6	mg/Kg	10	10.0	396	61.7 - 119.9

Sample: 211485 - T-2(SW) 1-1.5' 4' BEB

Laboratory: Midland
Analysis: BTEX
QC Batch: 64208
Prep Batch: 54839

Analytical Method: S 8021B
Date Analyzed: 2009-10-06
Sample Preparation: 2009-10-06

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

¹⁰High surrogate recovery due to peak interference.

¹¹High surrogate recovery due to peak interference.

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Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		128	mg/Kg	50	0.0100
Toluene	12	382	mg/Kg	50	0.0100
Ethylbenzene		174	mg/Kg	50	0.0100
Xylene		233	mg/Kg	50	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		44.2	mg/Kg	50	50.0	88	64.4 - 111.2
4-Bromofluorobenzene (4-BFB)	13	73.6	mg/Kg	50	50.0	147	43.1 - 128.4

Sample: 211485 - T-2(SW) 1-1.5' 4' BEB

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 64160 Date Analyzed: 2009-10-05 Analyzed By: AR
Prep Batch: 54780 Sample Preparation: 2009-10-05 Prepared By: AR

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

Sample: 211485 - T-2(SW) 1-1.5' 4' BEB

Laboratory: Midland
Analysis: TPH DRO Analytical Method: Mod. 8015B Prep Method: N/A
QC Batch: 64267 Date Analyzed: 2009-10-07 Analyzed By: kg
Prep Batch: 54883 Sample Preparation: 2009-10-07 Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		10700	mg/Kg	10	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	14	280	mg/Kg	10	100	280	13.2 - 219.3

Sample: 211485 - T-2(SW) 1-1.5' 4' BEB

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035
QC Batch: 64209 Date Analyzed: 2009-10-06 Analyzed By: AG
Prep Batch: 54839 Sample Preparation: 2009-10-06 Prepared By: AG

¹²Estimated concentration value greater than standard range.

¹³High surrogate recovery due to peak interference.

¹⁴High surrogate recovery due to peak interference.

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Parameter	Flag	RL Result	Units	Dilution	RL
GRO		6650	mg/Kg	50	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		46.7	mg/Kg	50	50.0	93	65.3 - 109.9
4-Bromofluorobenzene (4-BFB)	¹⁵	173	mg/Kg	50	50.0	346	61.7 - 119.9

Sample: 211486 - T-2(SW) 2-2.5' 4' BEB

Laboratory: Midland

Analysis: BTEX

QC Batch: 64208

Prep Batch: 54839

Analytical Method: S 8021B

Date Analyzed: 2009-10-06

Sample Preparation: 2009-10-06

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		111	mg/Kg	50	0.0100
Toluene	¹⁶	393	mg/Kg	50	0.0100
Ethylbenzene		191	mg/Kg	50	0.0100
Xylene		255	mg/Kg	50	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		44.2	mg/Kg	50	50.0	88	64.4 - 111.2
4-Bromofluorobenzene (4-BFB)	¹⁷	77.6	mg/Kg	50	50.0	155	43.1 - 128.4

Sample: 211486 - T-2(SW) 2-2.5' 4' BEB

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 64160

Prep Batch: 54780

Analytical Method: SM 4500-Cl B

Date Analyzed: 2009-10-05

Sample Preparation: 2009-10-05

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

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

¹⁵High surrogate recovery due to peak interference.

¹⁶Estimated concentration value greater than standard range.

¹⁷High surrogate recovery due to peak interference.

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Sample: 211486 - T-2(SW) 2-2.5' 4' BEB

Laboratory: Midland
Analysis: TPH DRO Analytical Method: Mod. 8015B Prep Method: N/A
QC Batch: 64267 Date Analyzed: 2009-10-07 Analyzed By: kg
Prep Batch: 54883 Sample Preparation: 2009-10-07 Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		9130	mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	¹⁸	265	mg/Kg	5	100	265	13.2 - 219.3

Sample: 211486 - T-2(SW) 2-2.5' 4' BEB

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035
QC Batch: 64209 Date Analyzed: 2009-10-06 Analyzed By: AG
Prep Batch: 54839 Sample Preparation: 2009-10-06 Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		7210	mg/Kg	50	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		46.8	mg/Kg	50	50.0	94	65.3 - 109.9
4-Bromofluorobenzene (4-BFB)	¹⁹	190	mg/Kg	50	50.0	380	61.7 - 119.9

Sample: 211487 - T-2(SW) 3-3.5' 4' BEB

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 64265 Date Analyzed: 2009-10-07 Analyzed By: AG
Prep Batch: 54881 Sample Preparation: 2009-10-07 Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		18.8	mg/Kg	50	0.0100
Toluene		138	mg/Kg	50	0.0100
Ethylbenzene		80.4	mg/Kg	50	0.0100
Xylene		109	mg/Kg	50	0.0100

¹⁸High surrogate recovery due to peak interference.

¹⁹High surrogate recovery due to peak interference.

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		42.8	mg/Kg	50	50.0	86	64.4 - 111.2
4-Bromofluorobenzene (4-BFB)		61.6	mg/Kg	50	50.0	123	43.1 - 128.4

Sample: 211487 - T-2(SW) 3-3.5' 4' BEB

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 64160 Date Analyzed: 2009-10-05 Analyzed By: AR
Prep Batch: 54780 Sample Preparation: 2009-10-05 Prepared By: AR

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

Sample: 211487 - T-2(SW) 3-3.5' 4' BEB

Laboratory: Midland
Analysis: TPH DRO Analytical Method: Mod. 8015B Prep Method: N/A
QC Batch: 64267 Date Analyzed: 2009-10-07 Analyzed By: kg
Prep Batch: 54883 Sample Preparation: 2009-10-07 Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		4010	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		205	mg/Kg	1	100	205	13.2 - 219.3

Sample: 211487 - T-2(SW) 3-3.5' 4' BEB

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035
QC Batch: 64266 Date Analyzed: 2009-10-07 Analyzed By: AG
Prep Batch: 54881 Sample Preparation: 2009-10-07 Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		3460	mg/Kg	50	1.00

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		47.9	mg/Kg	50	50.0	96	65.3 - 109.9
4-Bromofluorobenzene (4-BFB)	²⁰	60.5	mg/Kg	50	50.0	121	61.7 - 119.9

Sample: 211488 - T-3(SE) 0-1' 3' BEB

Laboratory: Midland
Analysis: BTEX
QC Batch: 64189
Prep Batch: 54819

Analytical Method: S 8021B
Date Analyzed: 2009-10-05
Sample Preparation: 2009-10-05

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		15.7	mg/Kg	5	0.0100
Toluene	²¹	83.6	mg/Kg	5	0.0100
Ethylbenzene	²²	35.3	mg/Kg	5	0.0100
Xylene		74.4	mg/Kg	5	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		4.72	mg/Kg	5	5.00	94	64.4 - 111.2
4-Bromofluorobenzene (4-BFB)		14.4	mg/Kg	5	5.00	288	43.1 - 128.4

Sample: 211488 - T-3(SE) 0-1' 3' BEB

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 64160
Prep Batch: 54780

Analytical Method: SM 4500-Cl B
Date Analyzed: 2009-10-05
Sample Preparation: 2009-10-05

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

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

Sample: 211488 - T-3(SE) 0-1' 3' BEB

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 64164
Prep Batch: 54798

Analytical Method: Mod. 8015B
Date Analyzed: 2009-10-05
Sample Preparation: 2009-10-05

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

²⁰High surrogate recovery due to peak interference.

²¹Estimated concentration value greater than standard range.

²²Estimated concentration value greater than standard range.

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Parameter	Flag	RL Result	Units	Dilution	RL
DRO		1920	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		136	mg/Kg	1	100	136	13.2 - 219.3

Sample: 211488 - T-3(SE) 0-1' 3' BEB

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 64190
Prep Batch: 54819

Analytical Method: S 8015B
Date Analyzed: 2009-10-05
Sample Preparation: 2009-10-05

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		2240	mg/Kg	5	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5.06	mg/Kg	5	5.00	101	65.3 - 109.9
4-Bromofluorobenzene (4-BFB)	23	56.5	mg/Kg	5	5.00	1130	61.7 - 119.9

Sample: 211489 - T-3(SE) 1-1.5' 3' BEB

Laboratory: Midland
Analysis: BTEX
QC Batch: 64208
Prep Batch: 54839

Analytical Method: S 8021B
Date Analyzed: 2009-10-06
Sample Preparation: 2009-10-06

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		231	mg/Kg	50	0.0100
Toluene	24	568	mg/Kg	50	0.0100
Ethylbenzene		233	mg/Kg	50	0.0100
Xylene		317	mg/Kg	50	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		44.8	mg/Kg	50	50.0	90	64.4 - 111.2
4-Bromofluorobenzene (4-BFB)	25	86.1	mg/Kg	50	50.0	172	43.1 - 128.4

²³High surrogate recovery due to peak interference.

²⁴Estimated concentration value greater than standard range.

²⁵High surrogate recovery due to peak interference.

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Sample: 211489 - T-3(SE) 1-1.5' 3' BEB

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 64162 Date Analyzed: 2009-10-05 Analyzed By: AR
Prep Batch: 54781 Sample Preparation: 2009-10-05 Prepared By: AR

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

Sample: 211490 - T-3(SE) 2-2.5' 3' BEB

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 64208 Date Analyzed: 2009-10-06 Analyzed By: AG
Prep Batch: 54839 Sample Preparation: 2009-10-06 Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		42.2	mg/Kg	50	0.0100
Toluene		181	mg/Kg	50	0.0100
Ethylbenzene		92.9	mg/Kg	50	0.0100
Xylene		125	mg/Kg	50	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		44.4	mg/Kg	50	50.0	89	64.4 - 111.2
4-Bromofluorobenzene (4-BFB)	²⁶	65.0	mg/Kg	50	50.0	130	43.1 - 128.4

Sample: 211490 - T-3(SE) 2-2.5' 3' BEB

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 64162 Date Analyzed: 2009-10-05 Analyzed By: AR
Prep Batch: 54781 Sample Preparation: 2009-10-05 Prepared By: AR

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

²⁶High surrogate recovery due to peak interference.

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Sample: 211491 - T-3(SE) 3-3.5' 3'BEB

Laboratory: Midland

Analysis: BTEX

QC Batch: 64208

Prep Batch: 54839

Analytical Method: S 8021B

Date Analyzed: 2009-10-06

Sample Preparation: 2009-10-06

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		1.18	mg/Kg	1	0.0100
Ethylbenzene		1.64	mg/Kg	1	0.0100
Xylene		2.58	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.79	mg/Kg	1	2.00	90	64.4 - 111.2
4-Bromofluorobenzene (4-BFB)		2.32	mg/Kg	1	2.00	116	43.1 - 128.4

Sample: 211491 - T-3(SE) 3-3.5' 3'BEB

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 64162

Prep Batch: 54781

Analytical Method: SM 4500-Cl B

Date Analyzed: 2009-10-05

Sample Preparation: 2009-10-05

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

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

Sample: 211491 - T-3(SE) 3-3.5' 3'BEB

Laboratory: Midland

Analysis: TPH DRO

QC Batch: 64358

Prep Batch: 54958

Analytical Method: Mod. 8015B

Date Analyzed: 2009-10-09

Sample Preparation: 2009-10-09

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		347	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		109	mg/Kg	1	100	109	13.2 - 219.3

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Sample: 211491 - T-3(SE) 3-3.5' 3'BEB

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 64209
Prep Batch: 54839

Analytical Method: S 8015B
Date Analyzed: 2009-10-06
Sample Preparation: 2009-10-06

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		80.2	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.92	mg/Kg	1	2.00	96	65.3 - 109.9
4-Bromofluorobenzene (4-BFB)	²⁷	4.10	mg/Kg	1	2.00	205	61.7 - 119.9

Sample: 211492 - T-4(NE) 0-1' 3.5' BEB

Laboratory: Midland
Analysis: BTEX
QC Batch: 64189
Prep Batch: 54819

Analytical Method: S 8021B
Date Analyzed: 2009-10-05
Sample Preparation: 2009-10-05

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		1.46	mg/Kg	10	0.0100
Toluene		30.9	mg/Kg	10	0.0100
Ethylbenzene		44.2	mg/Kg	10	0.0100
Xylene		84.1	mg/Kg	10	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		9.08	mg/Kg	10	10.0	91	64.4 - 111.2
4-Bromofluorobenzene (4-BFB)	²⁸	26.3	mg/Kg	10	10.0	263	43.1 - 128.4

Sample: 211492 - T-4(NE) 0-1' 3.5' BEB

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 64162
Prep Batch: 54781

Analytical Method: SM 4500-Cl B
Date Analyzed: 2009-10-05
Sample Preparation: 2009-10-05

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

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

²⁷High surrogate recovery due to peak interference.

²⁸High surrogate recovery due to peak interference.

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Sample: 211492 - T-4(NE) 0-1' 3.5' BEB

Laboratory: Midland
Analysis: TPH DRO
QC Batch: 64164
Prep Batch: 54798

Analytical Method: Mod. 8015B
Date Analyzed: 2009-10-05
Sample Preparation: 2009-10-05

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		5360	mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	²⁹	354	mg/Kg	5	100	354	13.2 - 219.3

Sample: 211492 - T-4(NE) 0-1' 3.5' BEB

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 64190
Prep Batch: 54819

Analytical Method: S 8015B
Date Analyzed: 2009-10-05
Sample Preparation: 2009-10-05

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		2220	mg/Kg	10	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		10.0	mg/Kg	10	10.0	100	65.3 - 109.9
4-Bromofluorobenzene (4-BFB)	³⁰	77.7	mg/Kg	10	10.0	777	61.7 - 119.9

Sample: 211493 - T-4(NE) 1-1.5' 3.5' BEB

Laboratory: Midland
Analysis: BTEX
QC Batch: 64208
Prep Batch: 54839

Analytical Method: S 8021B
Date Analyzed: 2009-10-06
Sample Preparation: 2009-10-06

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		39.7	mg/Kg	50	0.0100
Toluene		200	mg/Kg	50	0.0100
Ethylbenzene		111	mg/Kg	50	0.0100
Xylene		150	mg/Kg	50	0.0100

²⁹High surrogate recovery due to peak interference.

³⁰High surrogate recovery due to peak interference.

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		43.8	mg/Kg	50	50.0	88	64.4 - 111.2
4-Bromofluorobenzene (4-BFB)	³¹	67.9	mg/Kg	50	50.0	136	43.1 - 128.4

Sample: 211493 - T-4(NE) 1-1.5' 3.5' BEB

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 64162 Date Analyzed: 2009-10-05 Analyzed By: AR
Prep Batch: 54781 Sample Preparation: 2009-10-05 Prepared By: AR

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

Sample: 211493 - T-4(NE) 1-1.5' 3.5' BEB

Laboratory: Midland
Analysis: TPH DRO Analytical Method: Mod. 8015B Prep Method: N/A
QC Batch: 64188 Date Analyzed: 2009-10-06 Analyzed By: kg
Prep Batch: 54818 Sample Preparation: 2009-10-06 Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		6600	mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	³²	231	mg/Kg	5	100	231	13.2 - 219.3

Sample: 211493 - T-4(NE) 1-1.5' 3.5' BEB

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035
QC Batch: 64209 Date Analyzed: 2009-10-06 Analyzed By: AG
Prep Batch: 54839 Sample Preparation: 2009-10-06 Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		4620	mg/Kg	50	1.00

³¹High surrogate recovery due to peak interference.

³²High surrogate recovery due to peak interference.

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		47.4	mg/Kg	50	50.0	95	65.3 - 109.9
4-Bromofluorobenzene (4-BFB)	³³	140	mg/Kg	50	50.0	280	61.7 - 119.9

Sample: 211494 - T-4(NE) 2-2.5' 3.5' BEB

Laboratory: Midland

Analysis: BTEX

QC Batch: 64208

Prep Batch: 54839

Analytical Method: S 8021B

Date Analyzed: 2009-10-06

Sample Preparation: 2009-10-06

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.0506	mg/Kg	1	0.0100
Toluene		6.56	mg/Kg	1	0.0100
Ethylbenzene		10.3	mg/Kg	1	0.0100
Xylene		15.5	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.80	mg/Kg	1	2.00	90	64.4 - 111.2
4-Bromofluorobenzene (4-BFB)	³⁴	4.38	mg/Kg	1	2.00	219	43.1 - 128.4

Sample: 211494 - T-4(NE) 2-2.5' 3.5' BEB

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 64162

Prep Batch: 54781

Analytical Method: SM 4500-Cl B

Date Analyzed: 2009-10-05

Sample Preparation: 2009-10-05

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

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

Sample: 211494 - T-4(NE) 2-2.5' 3.5' BEB

Laboratory: Midland

Analysis: TPH DRO

QC Batch: 64267

Prep Batch: 54883

Analytical Method: Mod. 8015B

Date Analyzed: 2009-10-07

Sample Preparation: 2009-10-07

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

³³High surrogate recovery due to peak interference.

³⁴High surrogate recovery due to peak interference.

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Parameter	Flag	RL Result	Units	Dilution	RL
DRO		460	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		107	mg/Kg	1	100	107	13.2 - 219.3

Sample: 211494 - T-4(NE) 2-2.5' 3.5' BEB

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 64209
Prep Batch: 54839

Analytical Method: S 8015B
Date Analyzed: 2009-10-06
Sample Preparation: 2009-10-06

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		335	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.92	mg/Kg	1	2.00	96	65.3 - 109.9
4-Bromofluorobenzene (4-BFB)	³⁵	10.6	mg/Kg	1	2.00	530	61.7 - 119.9

Sample: 211495 - T-4(NE) 3-3.5' 3.5' BEB

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 64162
Prep Batch: 54781

Analytical Method: SM 4500-Cl B
Date Analyzed: 2009-10-05
Sample Preparation: 2009-10-05

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 64160

QC Batch: 64160
Prep Batch: 54780

Date Analyzed: 2009-10-05
QC Preparation: 2009-10-05

Analyzed By: AR
Prepared By: AR

³⁵High surrogate recovery due to peak interference.

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

Method Blank (1) QC Batch: 64162

QC Batch: 64162
Prep Batch: 54781

Date Analyzed: 2009-10-05
QC Preparation: 2009-10-05

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 64164

QC Batch: 64164
Prep Batch: 54798

Date Analyzed: 2009-10-05
QC Preparation: 2009-10-05

Analyzed By: kg
Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		64.1	mg/Kg	1	100	64	13 - 178.5

Method Blank (1) QC Batch: 64188

QC Batch: 64188
Prep Batch: 54818

Date Analyzed: 2009-10-06
QC Preparation: 2009-10-06

Analyzed By: kg
Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		99.4	mg/Kg	1	100	99	13 - 178.5

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Method Blank (1) QC Batch: 64189

QC Batch: 64189
Prep Batch: 54819

Date Analyzed: 2009-10-05
QC Preparation: 2009-10-05

Analyzed By: AG
Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.80	mg/Kg	1	2.00	90	64.9 - 122.7
4-Bromofluorobenzene (4-BFB)		1.57	mg/Kg	1	2.00	78	43.9 - 121.9

Method Blank (1) QC Batch: 64190

QC Batch: 64190
Prep Batch: 54819

Date Analyzed: 2009-10-05
QC Preparation: 2009-10-05

Analyzed By: AG
Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.04	mg/Kg	1	2.00	102	66.2 - 125
4-Bromofluorobenzene (4-BFB)		1.66	mg/Kg	1	2.00	83	62 - 120.5

Method Blank (1) QC Batch: 64208

QC Batch: 64208
Prep Batch: 54839

Date Analyzed: 2009-10-06
QC Preparation: 2009-10-06

Analyzed By: AG
Prepared By: AG

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

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.83	mg/Kg	1	2.00	92	64.9 - 122.7
4-Bromofluorobenzene (4-BFB)		1.68	mg/Kg	1	2.00	84	43.9 - 121.9

Method Blank (1) QC Batch: 64209

QC Batch: 64209
Prep Batch: 54839

Date Analyzed: 2009-10-06
QC Preparation: 2009-10-06

Analyzed By: AG
Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.98	mg/Kg	1	2.00	99	66.2 - 125
4-Bromofluorobenzene (4-BFB)		1.73	mg/Kg	1	2.00	86	62 - 120.5

Method Blank (1) QC Batch: 64265

QC Batch: 64265
Prep Batch: 54881

Date Analyzed: 2009-10-07
QC Preparation: 2009-10-07

Analyzed By: AG
Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.75	mg/Kg	1	2.00	88	64.9 - 122.7
4-Bromofluorobenzene (4-BFB)		1.67	mg/Kg	1	2.00	84	43.9 - 121.9

Method Blank (1) QC Batch: 64266

QC Batch: 64266
Prep Batch: 54881

Date Analyzed: 2009-10-07
QC Preparation: 2009-10-07

Analyzed By: AG
Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.95	mg/Kg	1	2.00	98	66.2 - 125
4-Bromofluorobenzene (4-BFB)		1.83	mg/Kg	1	2.00	92	62 - 120.5

Method Blank (1) QC Batch: 64267

QC Batch: 64267 Date Analyzed: 2009-10-07 Analyzed By: kg
Prep Batch: 54883 QC Preparation: 2009-10-07 Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		120	mg/Kg	1	100	120	13 - 178.5

Method Blank (1) QC Batch: 64358

QC Batch: 64358 Date Analyzed: 2009-10-09 Analyzed By: kg
Prep Batch: 54958 QC Preparation: 2009-10-09 Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		106	mg/Kg	1	100	106	13 - 178.5

Laboratory Control Spike (LCS-1)

QC Batch: 64160 Date Analyzed: 2009-10-05 Analyzed By: AR
Prep Batch: 54780 QC Preparation: 2009-10-05 Prepared By: AR

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control spikes continued . . .

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.8	mg/Kg	1	100	<2.18	99	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	99.5	mg/Kg	1	100	<2.18	100	85 - 115	1	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 64162
Prep Batch: 54781

Date Analyzed: 2009-10-05
QC Preparation: 2009-10-05

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	101	mg/Kg	1	100	<2.18	101	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	98.6	mg/Kg	1	100	<2.18	99	85 - 115	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 64164
Prep Batch: 54798

Date Analyzed: 2009-10-05
QC Preparation: 2009-10-05

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	172	mg/Kg	1	250	<5.86	69	57.4 - 133.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	180	mg/Kg	1	250	<5.86	72	57.4 - 133.4	4	20

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

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Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	63.6	85.9	mg/Kg	1	100	64	86	48.5 - 146.7

Laboratory Control Spike (LCS-1)

QC Batch: 64188
Prep Batch: 54818

Date Analyzed: 2009-10-06
QC Preparation: 2009-10-06

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	196	mg/Kg	1	250	<5.86	78	57.4 - 133.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	190	mg/Kg	1	250	<5.86	76	57.4 - 133.4	3	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	107	102	mg/Kg	1	100	107	102	48.5 - 146.7

Laboratory Control Spike (LCS-1)

QC Batch: 64189
Prep Batch: 54819

Date Analyzed: 2009-10-05
QC Preparation: 2009-10-05

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.85	mg/Kg	1	2.00	<0.00410	92	75.4 - 115.7
Toluene	1.82	mg/Kg	1	2.00	<0.00310	91	78.4 - 113.6
Ethylbenzene	1.74	mg/Kg	1	2.00	<0.00240	87	76 - 114.2
Xylene	5.24	mg/Kg	1	6.00	<0.00650	87	76.9 - 113.6

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.87	mg/Kg	1	2.00	<0.00410	94	75.4 - 115.7	1	20
Toluene	1.83	mg/Kg	1	2.00	<0.00310	92	78.4 - 113.6	0	20
Ethylbenzene	1.75	mg/Kg	1	2.00	<0.00240	88	76 - 114.2	1	20
Xylene	5.33	mg/Kg	1	6.00	<0.00650	89	76.9 - 113.6	2	20

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

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Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.78	1.80	mg/Kg	1	2.00	89	90	65 - 122.9
4-Bromofluorobenzene (4-BFB)	1.80	1.80	mg/Kg	1	2.00	90	90	43.8 - 124.9

Laboratory Control Spike (LCS-1)

QC Batch: 64190
Prep Batch: 54819

Date Analyzed: 2009-10-05
QC Preparation: 2009-10-05

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	17.1	mg/Kg	1	20.0	<0.396	86	52.5 - 114.3

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	17.6	mg/Kg	1	20.0	<0.396	88	52.5 - 114.3	3	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.02	2.03	mg/Kg	1	2.00	101	102	66.2 - 128.7
4-Bromofluorobenzene (4-BFB)	1.83	1.81	mg/Kg	1	2.00	92	90	64.1 - 127.4

Laboratory Control Spike (LCS-1)

QC Batch: 64208
Prep Batch: 54839

Date Analyzed: 2009-10-06
QC Preparation: 2009-10-06

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.98	mg/Kg	1	2.00	<0.00410	99	75.4 - 115.7
Toluene	1.93	mg/Kg	1	2.00	<0.00310	96	78.4 - 113.6
Ethylbenzene	1.83	mg/Kg	1	2.00	<0.00240	92	76 - 114.2
Xylene	5.55	mg/Kg	1	6.00	<0.00650	92	76.9 - 113.6

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.99	mg/Kg	1	2.00	<0.00410	100	75.4 - 115.7	0	20
Toluene	1.96	mg/Kg	1	2.00	<0.00310	98	78.4 - 113.6	2	20
Ethylbenzene	1.87	mg/Kg	1	2.00	<0.00240	94	76 - 114.2	2	20
Xylene	5.67	mg/Kg	1	6.00	<0.00650	94	76.9 - 113.6	2	20

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

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Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.82	1.81	mg/Kg	1	2.00	91	90	65 - 122.9
4-Bromofluorobenzene (4-BFB)	1.85	1.83	mg/Kg	1	2.00	92	92	43.8 - 124.9

Laboratory Control Spike (LCS-1)

QC Batch: 64209
Prep Batch: 54839

Date Analyzed: 2009-10-06
QC Preparation: 2009-10-06

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	16.8	mg/Kg	1	20.0	<0.396	84	52.5 - 114.3

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	18.7	mg/Kg	1	20.0	<0.396	94	52.5 - 114.3	11	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.98	2.02	mg/Kg	1	2.00	99	101	66.2 - 128.7
4-Bromofluorobenzene (4-BFB)	1.84	1.94	mg/Kg	1	2.00	92	97	64.1 - 127.4

Laboratory Control Spike (LCS-1)

QC Batch: 64265
Prep Batch: 54881

Date Analyzed: 2009-10-07
QC Preparation: 2009-10-07

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.03	mg/Kg	1	2.00	<0.00410	102	75.4 - 115.7
Toluene	1.99	mg/Kg	1	2.00	<0.00310	100	78.4 - 113.6
Ethylbenzene	1.89	mg/Kg	1	2.00	<0.00240	94	76 - 114.2
Xylene	5.72	mg/Kg	1	6.00	<0.00650	95	76.9 - 113.6

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.09	mg/Kg	1	2.00	<0.00410	104	75.4 - 115.7	3	20
Toluene	2.06	mg/Kg	1	2.00	<0.00310	103	78.4 - 113.6	3	20
Ethylbenzene	1.98	mg/Kg	1	2.00	<0.00240	99	76 - 114.2	5	20
Xylene	6.00	mg/Kg	1	6.00	<0.00650	100	76.9 - 113.6	5	20

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

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Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.77	1.77	mg/Kg	1	2.00	88	88	65 - 122.9
4-Bromofluorobenzene (4-BFB)	1.87	1.87	mg/Kg	1	2.00	94	94	43.8 - 124.9

Laboratory Control Spike (LCS-1)

QC Batch: 64266
Prep Batch: 54881

Date Analyzed: 2009-10-07
QC Preparation: 2009-10-07

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	17.8	mg/Kg	1	20.0	<0.396	89	52.5 - 114.3

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	18.9	mg/Kg	1	20.0	<0.396	94	52.5 - 114.3	6	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.00	2.00	mg/Kg	1	2.00	100	100	66.2 - 128.7
4-Bromofluorobenzene (4-BFB)	1.94	1.96	mg/Kg	1	2.00	97	98	64.1 - 127.4

Laboratory Control Spike (LCS-1)

QC Batch: 64267
Prep Batch: 54883

Date Analyzed: 2009-10-07
QC Preparation: 2009-10-07

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	190	mg/Kg	1	250	<5.86	76	57.4 - 133.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	190	mg/Kg	1	250	<5.86	76	57.4 - 133.4	0	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	82.8	84.3	mg/Kg	1	100	83	84	48.5 - 146.7

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Laboratory Control Spike (LCS-1)

QC Batch: 64358
Prep Batch: 54958

Date Analyzed: 2009-10-09
QC Preparation: 2009-10-09

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	163	mg/Kg	1	250	<5.86	65	57.4 - 133.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	164	mg/Kg	1	250	<5.86	66	57.4 - 133.4	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	93.7	97.5	mg/Kg	1	100	94	98	48.5 - 146.7

Matrix Spike (MS-1) Spiked Sample: 211488

QC Batch: 64160
Prep Batch: 54780

Date Analyzed: 2009-10-05
QC Preparation: 2009-10-05

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	9940	mg/Kg	100	10000	<218	99	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10000	mg/Kg	100	10000	<218	100	85 - 115	1	20

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

Matrix Spike (MS-1) Spiked Sample: 211495

QC Batch: 64162
Prep Batch: 54781

Date Analyzed: 2009-10-05
QC Preparation: 2009-10-05

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10200	mg/Kg	100	10000	<218	102	85 - 115

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

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Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10200	mg/Kg	100	10000	<218	102	85 - 115	0	20

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

Matrix Spike (MS-1) Spiked Sample: 211516

QC Batch: 64164
Prep Batch: 54798

Date Analyzed: 2009-10-05
QC Preparation: 2009-10-05

Analyzed By: kg
Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	195	mg/Kg	1	250	<5.86	78	35.2 - 167.1

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	201	mg/Kg	1	250	<5.86	80	35.2 - 167.1	3	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	89.2	89.8	mg/Kg	1	100	89	90	34.5 - 178.4

Matrix Spike (MS-1) Spiked Sample: 211151

QC Batch: 64188
Prep Batch: 54818

Date Analyzed: 2009-10-06
QC Preparation: 2009-10-06

Analyzed By: kg
Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	220	mg/Kg	1	250	<5.86	88	35.2 - 167.1

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	228	mg/Kg	1	250	<5.86	91	35.2 - 167.1	4	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	101	102	mg/Kg	1	100	101	102	34.5 - 178.4

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Matrix Spike (MS-1) Spiked Sample: 211517

QC Batch: 64189
Prep Batch: 54819

Date Analyzed: 2009-10-05
QC Preparation: 2009-10-05

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.90	mg/Kg	1	2.00	<0.00410	95	57.7 - 140.7
Toluene	1.87	mg/Kg	1	2.00	<0.00310	94	53.4 - 146.6
Ethylbenzene	1.84	mg/Kg	1	2.00	<0.00240	92	62.1 - 141.6
Xylene	5.64	mg/Kg	1	6.00	<0.00650	94	61.2 - 142.7

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.01	mg/Kg	1	2.00	<0.00410	100	57.7 - 140.7	6	20
Toluene	1.99	mg/Kg	1	2.00	<0.00310	100	53.4 - 146.6	6	20
Ethylbenzene	1.97	mg/Kg	1	2.00	<0.00240	98	62.1 - 141.6	7	20
Xylene	5.99	mg/Kg	1	6.00	<0.00650	100	61.2 - 142.7	6	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.80	1.83	mg/Kg	1	2	90	92	62.7 - 119.6
4-Bromofluorobenzene (4-BFB)	1.96	1.96	mg/Kg	1	2	98	98	49.6 - 136.7

Matrix Spike (MS-1) Spiked Sample: 211517

QC Batch: 64190
Prep Batch: 54819

Date Analyzed: 2009-10-05
QC Preparation: 2009-10-05

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	17.6	mg/Kg	1	20.0	1.6	80	10 - 198.3

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	18.2	mg/Kg	1	20.0	1.6	83	10 - 198.3	3	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.01	2.05	mg/Kg	1	2	100	102	65.5 - 123
4-Bromofluorobenzene (4-BFB)	2.17	2.22	mg/Kg	1	2	108	111	58.6 - 140

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Matrix Spike (MS-1) Spiked Sample: 211305

QC Batch: 64208
Prep Batch: 54839

Date Analyzed: 2009-10-06
QC Preparation: 2009-10-06

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.00	mg/Kg	1	2.00	<0.00410	100	57.7 - 140.7
Toluene	2.00	mg/Kg	1	2.00	<0.00310	100	53.4 - 146.6
Ethylbenzene	1.95	mg/Kg	1	2.00	<0.00240	98	62.1 - 141.6
Xylene	5.93	mg/Kg	1	6.00	<0.00650	99	61.2 - 142.7

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

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	³⁶	2.59	mg/Kg	1	2.00	<0.00410	130	57.7 - 140.7	26	20
Toluene	³⁷	2.57	mg/Kg	1	2.00	<0.00310	128	53.4 - 146.6	25	20
Ethylbenzene	³⁸	2.55	mg/Kg	1	2.00	<0.00240	128	62.1 - 141.6	27	20
Xylene	³⁹	7.76	mg/Kg	1	6.00	<0.00650	129	61.2 - 142.7	27	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.80	1.80	mg/Kg	1	2	90	90	62.7 - 119.6
4-Bromofluorobenzene (4-BFB)	1.91	1.94	mg/Kg	1	2	96	97	49.6 - 136.7

Matrix Spike (MS-1) Spiked Sample: 211305

QC Batch: 64209
Prep Batch: 54839

Date Analyzed: 2009-10-06
QC Preparation: 2009-10-06

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	16.0	mg/Kg	1	20.0	<0.396	80	10 - 198.3

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	17.8	mg/Kg	1	20.0	<0.396	89	10 - 198.3	11	20

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

³⁶MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

³⁷MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

³⁸MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

³⁹MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

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Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.98	1.90	mg/Kg	1	2	99	95	65.5 - 123
4-Bromofluorobenzene (4-BFB)	2.01	1.94	mg/Kg	1	2	100	97	58.6 - 140

Matrix Spike (MS-1) Spiked Sample: 211757

QC Batch: 64265
Prep Batch: 54881

Date Analyzed: 2009-10-07
QC Preparation: 2009-10-07

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.91	mg/Kg	1	2.00	<0.00410	96	57.7 - 140.7
Toluene	1.90	mg/Kg	1	2.00	<0.00310	95	53.4 - 146.6
Ethylbenzene	1.86	mg/Kg	1	2.00	<0.00240	93	62.1 - 141.6
Xylene	5.62	mg/Kg	1	6.00	<0.00650	94	61.2 - 142.7

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.00	mg/Kg	1	2.00	<0.00410	100	57.7 - 140.7	5	20
Toluene	2.00	mg/Kg	1	2.00	<0.00310	100	53.4 - 146.6	5	20
Ethylbenzene	1.98	mg/Kg	1	2.00	<0.00240	99	62.1 - 141.6	6	20
Xylene	6.03	mg/Kg	1	6.00	<0.00650	100	61.2 - 142.7	7	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.78	1.76	mg/Kg	1	2	89	88	62.7 - 119.6
4-Bromofluorobenzene (4-BFB)	1.89	1.88	mg/Kg	1	2	94	94	49.6 - 136.7

Matrix Spike (MS-1) Spiked Sample: 211757

QC Batch: 64266
Prep Batch: 54881

Date Analyzed: 2009-10-07
QC Preparation: 2009-10-07

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	16.3	mg/Kg	1	20.0	<0.396	82	10 - 198.3

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	17.0	mg/Kg	1	20.0	<0.396	85	10 - 198.3	4	20

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

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Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.91	1.97	mg/Kg	1	2	96	98	65.5 - 123
4-Bromofluorobenzene (4-BFB)	1.98	2.03	mg/Kg	1	2	99	102	58.6 - 140

Matrix Spike (MS-1) Spiked Sample: 211747

QC Batch: 64267
Prep Batch: 54883

Date Analyzed: 2009-10-07
QC Preparation: 2009-10-07

Analyzed By: kg
Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	204	mg/Kg	1	250	<5.86	82	35.2 - 167.1

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	228	mg/Kg	1	250	<5.86	91	35.2 - 167.1	11	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	87.4	92.5	mg/Kg	1	100	87	92	34.5 - 178.4

Matrix Spike (MS-1) Spiked Sample: 212071

QC Batch: 64358
Prep Batch: 54958

Date Analyzed: 2009-10-09
QC Preparation: 2009-10-09

Analyzed By: kg
Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	194	mg/Kg	1	250	<5.86	78	35.2 - 167.1

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	201	mg/Kg	1	250	<5.86	80	35.2 - 167.1	4	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	97.8	96.3	mg/Kg	1	100	98	96	34.5 - 178.4

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114-6400277

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Standard (ICV-1)

QC Batch: 64160

Date Analyzed: 2009-10-05

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	102	102	85 - 115	2009-10-05

Standard (CCV-1)

QC Batch: 64160

Date Analyzed: 2009-10-05

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.8	98	85 - 115	2009-10-05

Standard (ICV-1)

QC Batch: 64162

Date Analyzed: 2009-10-05

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2009-10-05

Standard (CCV-1)

QC Batch: 64162

Date Analyzed: 2009-10-05

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.8	100	85 - 115	2009-10-05

Standard (CCV-2)

QC Batch: 64164

Date Analyzed: 2009-10-05

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	214	86	80 - 120	2009-10-05

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Standard (CCV-3)

QC Batch: 64164

Date Analyzed: 2009-10-05

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	224	90	80 - 120	2009-10-05

Standard (CCV-4)

QC Batch: 64164

Date Analyzed: 2009-10-05

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	228	91	80 - 120	2009-10-05

Standard (CCV-2)

QC Batch: 64188

Date Analyzed: 2009-10-06

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	236	94	80 - 120	2009-10-06

Standard (CCV-3)

QC Batch: 64188

Date Analyzed: 2009-10-06

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	249	100	80 - 120	2009-10-06

Standard (CCV-1)

QC Batch: 64189

Date Analyzed: 2009-10-05

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0938	94	80 - 120	2009-10-05
Toluene		mg/Kg	0.100	0.0926	93	80 - 120	2009-10-05

continued ...

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standard continued ...

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Ethylbenzene		mg/Kg	0.100	0.0896	90	80 - 120	2009-10-05
Xylene		mg/Kg	0.300	0.273	91	80 - 120	2009-10-05

Standard (CCV-2)

QC Batch: 64189

Date Analyzed: 2009-10-05

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0892	89	80 - 120	2009-10-05
Toluene		mg/Kg	0.100	0.0863	86	80 - 120	2009-10-05
Ethylbenzene		mg/Kg	0.100	0.0820	82	80 - 120	2009-10-05
Xylene		mg/Kg	0.300	0.248	83	80 - 120	2009-10-05

Standard (CCV-1)

QC Batch: 64190

Date Analyzed: 2009-10-05

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.10	110	80 - 120	2009-10-05

Standard (CCV-2)

QC Batch: 64190

Date Analyzed: 2009-10-05

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.02	102	80 - 120	2009-10-05

Standard (CCV-1)

QC Batch: 64208

Date Analyzed: 2009-10-06

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0997	100	80 - 120	2009-10-06

continued ...

Report Date: October 12, 2009
114-6400277

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standard continued ...

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Toluene		mg/Kg	0.100	0.0985	98	80 - 120	2009-10-06
Ethylbenzene		mg/Kg	0.100	0.0937	94	80 - 120	2009-10-06
Xylene		mg/Kg	0.300	0.286	95	80 - 120	2009-10-06

Standard (CCV-2)

QC Batch: 64208

Date Analyzed: 2009-10-06

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0951	95	80 - 120	2009-10-06
Toluene		mg/Kg	0.100	0.0936	94	80 - 120	2009-10-06
Ethylbenzene		mg/Kg	0.100	0.0888	89	80 - 120	2009-10-06
Xylene		mg/Kg	0.300	0.269	90	80 - 120	2009-10-06

Standard (CCV-3)

QC Batch: 64208

Date Analyzed: 2009-10-06

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.100	100	80 - 120	2009-10-06
Toluene		mg/Kg	0.100	0.0983	98	80 - 120	2009-10-06
Ethylbenzene		mg/Kg	0.100	0.0921	92	80 - 120	2009-10-06
Xylene		mg/Kg	0.300	0.279	93	80 - 120	2009-10-06

Standard (CCV-2)

QC Batch: 64209

Date Analyzed: 2009-10-06

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.13	113	80 - 120	2009-10-06

Standard (CCV-3)

QC Batch: 64209

Date Analyzed: 2009-10-06

Analyzed By: AG

Report Date: October 12, 2009
114-6400277

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.15	115	80 - 120	2009-10-06

Standard (CCV-2)

QC Batch: 64265

Date Analyzed: 2009-10-07

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0996	100	80 - 120	2009-10-07
Toluene		mg/Kg	0.100	0.0983	98	80 - 120	2009-10-07
Ethylbenzene		mg/Kg	0.100	0.0929	93	80 - 120	2009-10-07
Xylene		mg/Kg	0.300	0.280	93	80 - 120	2009-10-07

Standard (CCV-3)

QC Batch: 64265

Date Analyzed: 2009-10-07

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0970	97	80 - 120	2009-10-07
Toluene		mg/Kg	0.100	0.0952	95	80 - 120	2009-10-07
Ethylbenzene		mg/Kg	0.100	0.0879	88	80 - 120	2009-10-07
Xylene		mg/Kg	0.300	0.270	90	80 - 120	2009-10-07

Standard (CCV-2)

QC Batch: 64266

Date Analyzed: 2009-10-07

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.991	99	80 - 120	2009-10-07

Standard (CCV-3)

QC Batch: 64266

Date Analyzed: 2009-10-07

Analyzed By: AG

Report Date: October 12, 2009
114-6400277

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.10	110	80 - 120	2009-10-07

Standard (CCV-1)

QC Batch: 64267

Date Analyzed: 2009-10-07

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	257	103	80 - 120	2009-10-07

Standard (CCV-2)

QC Batch: 64267

Date Analyzed: 2009-10-07

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	268	107	80 - 120	2009-10-07

Standard (CCV-3)

QC Batch: 64267

Date Analyzed: 2009-10-07

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	268	107	80 - 120	2009-10-07

Standard (CCV-1)

QC Batch: 64358

Date Analyzed: 2009-10-09

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	211	84	80 - 120	2009-10-09

Standard (CCV-2)

QC Batch: 64358

Date Analyzed: 2009-10-09

Analyzed By: kg

Report Date: October 12, 2009
114-6400277

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	217	87	80 - 120	2009-10-09

Order #: 9100231

Analysis Request of Chain of Custody Record

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**TETRA TECH**1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946ANALYSIS REQUEST
(Circle or Specify Method No.)CLIENT NAME:
COGSITE MANAGER:
Ike TavarozPROJECT NO.:
114-6400277PROJECT NAME:
COG/MC Fed #3LAB I.D. NUMBER DATE TIME MATRIX COMF GRAB SAMPLE IDENTIFICATION
211479 10/1NUMBER OF CONTAINERS
FILTERED (Y/N)
HCL HNO3 ICE NONE
PRESERVATIVE METHODBTEX 8021B
TPH 8015 MOD
PAH 8270
TX1005 (Ext. to C35)RCRA Metals Ag As Ba Cd Cr Pb Hg Se
TCLP Metals Ag As Ba Cd Vr Pd Hg SeTCLP Volatiles
TCLP Semi VolatilesGC/MS Vol. 8240/8260/624
GC/MS Semi. Vol. 8270/625PCBs 8080/608
Pest. 808/608Chloride
Gamma Spec.Alpha Beta (Air)
PLM (Asbestos)

Major Anions/Cations, pH, TDS

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMF	GRAB	SAMPLE IDENTIFICATION
211479	10/1		S	X		T-1 (NW) 0-1' 3.5' BEB
480						T-1 (NW) 1-1.5' 3.5' BEB
481						T-1 (NW) 2-2.5' 3.5' BEB
482						T-1 (NW) 3-3.5' 3.5' BEB
483						T-1 (NW) 4-4.5' 3.5' BEB
484						T-2 (SW) 0-1' 4' BEB
485						T-2 (SW) 1-1.5' 4' BEB
486						T-2 (SW) 2-2.5' 4' BEB
487						T-2 (SW) 3-3.5' 4' BEB
488						T-3 (SE) 0-1' 3' BEB

RELINQUISHED BY: (Signature) Date: 10/2/09 Time: 1645

RECEIVED BY: (Signature) Date: 10/2/09 Time: 1645

SAMPLED BY: (Print & Initial) Kim Date: 10/2/09 Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

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

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

TETRA TECH CONTACT PERSON: Results by:

RECEIVING LABORATORY: TRACE ADDRESS: CITY: Midland STATE: TX ZIP: CONTACT: PHONE: DATE: TIME:

RECEIVED BY: (Signature) DATE: TIME:

TETRA TECH CONTACT PERSON: Ike Tavaroz RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:
6.3°C intactREMARKS:
IF TPH > 5,000 mg/kg Run deeper samples

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

IF BTEX > 50 Run deeper samples -OR- If Benzene > 10 Run deeper samples

Analysis Request of Chain of Custody Record

PAGE: 2 OF: 2



TETRA TECH

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:

COG

SITE MANAGER:

Ike Tavaraz

PROJECT NO.:

1146400277

PROJECT NAME:

COG / MC Fed #3

LAB I.D.
NUMBER

DATE
2009

TIME

MATRIX

COMP.

GRAB

loc Co., NM
SAMPLE IDENTIFICATION

NUMBER OF CONTAINERS

FILTERED (Y/N)

PRESERVATIVE
METHOD

HCL

HNO3

ICE

NONE

BTEX 80213

TPH 8015 MOD TX1005 (Ext. to C35)

PAH 8270

RCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8260/624

GC/MS Semi. Vol. 8270/625

PCB's 8080/608

Pest. 808/608

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

RELINQUISHED BY: (Signature)

Date: 10/21/09
Time: 1645

RECEIVED BY: (Signature)

Date: 10/21/09
Time: 16143

SAMPLED BY: (Print & Initial)

Kim

Date: 10/21/09
Time:

RELINQUISHED BY: (Signature)

Date: _____
Time: _____

RECEIVED BY: (Signature)

Date: _____
Time: _____

SAMPLE SHIPPED BY: (Circle)

FEDEX

BUS

AIRBILL #: _____

HAND DELIVERED

UPS

OTHER: _____

RECEIVING LABORATORY:

TRACE

RECEIVED BY: (Signature)

ADDRESS:

CITY: Midland

STATE: TX

ZIP: _____

CONTACT:

PHONE: _____

DATE: _____

TIME: _____

TETRA TECH CONTACT PERSON:

Ike Tavaraz

Results by:

RUSH Charges
Authorized:

Yes No

SAMPLE CONDITION WHEN RECEIVED:

6.3c intact

REMARKS:

If TPH > 75,000 mg/kg Run deeper samples

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

If BTEX > 50 Run deeper samples -OR- If Benzene > 10 Run deeper samples

Summary Report

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

Report Date: October 20, 2009

Work Order: 9101617



Project Location: Lea Co, NM
Project Name: COG/MC Fed. #3 TB
Project Number: 114-6400277

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
212443	T-1 (West) Bottom hole 0-1' (8' BEB)	soil	2009-10-15	00:00	2009-10-16
212444	T-1 (West) 2' (8' BEB)	soil	2009-10-15	00:00	2009-10-16

Sample - Field Code	BTEX				TPH DRO	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
212443 - T-1 (West) Bottom hole 0-1' (8' BEB)	0.136	2.02	0.490	3.64	148	139
212444 - T-1 (West) 2' (8' BEB)	<0.0100	0.220	0.130	0.996	<50.0	54.1



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
5007 Basin Street Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

Certifications

WBENC: 237019

HUB: 1752439743100-86536
NCTRCA WFWB38444Y0909

DBE: VN 20657

NELAP Certifications

Lubbock: T104704219-08-TX
LELAP-02003
Kansas E-10317

El Paso: T104704221-08-TX
LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

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

Report Date: October 20, 2009

Work Order: 9101617



Project Location: Lea Co, NM
Project Name: COG/MC Fed. #3 TB
Project Number: 114-6400277

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
212443	T-1 (West) Bottom hole 0-1' (8' BEB)	soil	2009-10-15	00:00	2009-10-16
212444	T-1 (West) 2' (8' BEB)	soil	2009-10-15	00:00	2009-10-16

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 11 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.



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

Standard Flags

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

Case Narrative

Samples for project COG/MC Fed. #3 TB were received by TraceAnalysis, Inc. on 2009-10-16 and assigned to work order 9101617. Samples for work order 9101617 were received intact at a temperature of 5.4 deg. C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	55085	2009-10-16 at 11:00	64513	2009-10-16 at 13:12
TPH DRO	Mod. 8015B	55086	2009-10-16 at 11:58	64515	2009-10-16 at 11:58
TPH GRO	S 8015B	55085	2009-10-16 at 11:00	64514	2009-10-16 at 13:39

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 9101617 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.

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114-6400277

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Analytical Report

Sample: 212443 - T-1 (West) Bottom hole 0-1' (8' BEB)

Laboratory: Midland

Analysis: BTEX

QC Batch: 64513

Prep Batch: 55085

Analytical Method: S 8021B

Date Analyzed: 2009-10-16

Sample Preparation: 2009-10-16

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.136	mg/Kg	1	0.0100
Toluene		2.02	mg/Kg	1	0.0100
Ethylbenzene		0.490	mg/Kg	1	0.0100
Xylene		3.64	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.83	mg/Kg	1	2.00	92	64.4 - 111.2
4-Bromofluorobenzene (4-BFB)	¹	2.91	mg/Kg	1	2.00	146	43.1 - 128.4

Sample: 212443 - T-1 (West) Bottom hole 0-1' (8' BEB)

Laboratory: Midland

Analysis: TPH DRO

QC Batch: 64515

Prep Batch: 55086

Analytical Method: Mod. 8015B

Date Analyzed: 2009-10-16

Sample Preparation: 2009-10-16

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		148	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		115	mg/Kg	1	100	115	13.2 - 219.3

Sample: 212443 - T-1 (West) Bottom hole 0-1' (8' BEB)

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 64514

Prep Batch: 55085

Analytical Method: S 8015B

Date Analyzed: 2009-10-16

Sample Preparation: 2009-10-16

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

continued ...

¹High surrogate recovery due to peak interference

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114-6400277

Work Order: 9101617
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Lea Co, NM

sample 212443 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
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Parameter	Flag	RL Result	Units	Dilution	RL
GRO		139	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.83	mg/Kg	1	2.00	92	65.3 - 109.9
4-Bromofluorobenzene (4-BFB)	²	5.91	mg/Kg	1	2.00	296	61.7 - 119.9

Sample: 212444 - T-1 (West) 2' (8' BEB)

Laboratory: Midland

Analysis: BTEX

QC Batch: 64513

Prep Batch: 55085

Analytical Method: S 8021B

Date Analyzed: 2009-10-16

Sample Preparation: 2009-10-16

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		0.220	mg/Kg	1	0.0100
Ethylbenzene		0.130	mg/Kg	1	0.0100
Xylene		0.996	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.91	mg/Kg	1	2.00	96	64.4 - 111.2
4-Bromofluorobenzene (4-BFB)		2.38	mg/Kg	1	2.00	119	43.1 - 128.4

Sample: 212444 - T-1 (West) 2' (8' BEB)

Laboratory: Midland

Analysis: TPH DRO

QC Batch: 64515

Prep Batch: 55086

Analytical Method: Mod. 8015B

Date Analyzed: 2009-10-16

Sample Preparation: 2009-10-16

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

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

²High surrogate recovery due to peak interference.

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		114	mg/Kg	1	100	114	13.2 - 219.3

Sample: 212444 - T-1 (West) 2' (8' BEB)

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 64514
Prep Batch: 55085

Analytical Method: S 8015B
Date Analyzed: 2009-10-16
Sample Preparation: 2009-10-16

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		54.1	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.93	mg/Kg	1	2.00	96	65.3 - 109.9
4-Bromofluorobenzene (4-BFB)	³	3.38	mg/Kg	1	2.00	169	61.7 - 119.9

Method Blank (1) QC Batch: 64513

QC Batch: 64513
Prep Batch: 55085

Date Analyzed: 2009-10-16
QC Preparation: 2009-10-16

Analyzed By: AG
Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.96	mg/Kg	1	2.00	98	64.9 - 122.7
4-Bromofluorobenzene (4-BFB)		1.79	mg/Kg	1	2.00	90	43.9 - 121.9

Method Blank (1) QC Batch: 64514

QC Batch: 64514
Prep Batch: 55085

Date Analyzed: 2009-10-16
QC Preparation: 2009-10-16

Analyzed By: AG
Prepared By: AG

³High surrogate recovery due to peak interference.

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.97	mg/Kg	1	2.00	98	66.2 - 125
4-Bromofluorobenzene (4-BFB)		1.71	mg/Kg	1	2.00	86	62 - 120.5

Method Blank (1) QC Batch: 64515

QC Batch: 64515
Prep Batch: 55086

Date Analyzed: 2009-10-16
QC Preparation: 2009-10-16

Analyzed By: kg
Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		124	mg/Kg	1	100	124	13 - 178.5

Laboratory Control Spike (LCS-1)

QC Batch: 64513
Prep Batch: 55085

Date Analyzed: 2009-10-16
QC Preparation: 2009-10-16

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.07	mg/Kg	1	2.00	<0.00410	104	75.4 - 115.7
Toluene	2.06	mg/Kg	1	2.00	<0.00310	103	78.4 - 113.6
Ethylbenzene	2.06	mg/Kg	1	2.00	<0.00240	103	76 - 114.2
Xylene	6.17	mg/Kg	1	6.00	<0.00650	103	76.9 - 113.6

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.05	mg/Kg	1	2.00	<0.00410	102	75.4 - 115.7	1	20
Toluene	2.06	mg/Kg	1	2.00	<0.00310	103	78.4 - 113.6	0	20
Ethylbenzene	2.09	mg/Kg	1	2.00	<0.00240	104	76 - 114.2	1	20
Xylene	6.29	mg/Kg	1	6.00	<0.00650	105	76.9 - 113.6	2	20

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

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Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.93	1.95	mg/Kg	1	2.00	96	98	65 - 122.9
4-Bromofluorobenzene (4-BFB)	2.06	2.07	mg/Kg	1	2.00	103	104	43.8 - 124.9

Laboratory Control Spike (LCS-1)

QC Batch: 64514
Prep Batch: 55085

Date Analyzed: 2009-10-16
QC Preparation: 2009-10-16

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	16.5	mg/Kg	1	20.0	<0.396	82	52.5 - 114.3

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	15.2	mg/Kg	1	20.0	<0.396	76	52.5 - 114.3	8	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.03	2.00	mg/Kg	1	2.00	102	100	66.2 - 128.7
4-Bromofluorobenzene (4-BFB)	2.00	1.98	mg/Kg	1	2.00	100	99	64.1 - 127.4

Laboratory Control Spike (LCS-1)

QC Batch: 64515
Prep Batch: 55086

Date Analyzed: 2009-10-16
QC Preparation: 2009-10-16

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	148	mg/Kg	1	250	<5.86	59	57.4 - 133.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	153	mg/Kg	1	250	<5.86	61	57.4 - 133.4	3	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	92.8	97.0	mg/Kg	1	100	93	97	48.5 - 146.7

Matrix Spike (MS-1) Spiked Sample: 212444

QC Batch: 64513
Prep Batch: 55085

Date Analyzed: 2009-10-16
QC Preparation: 2009-10-16

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.08	mg/Kg	1	2.00	<0.00410	104	57.7 - 140.7
Toluene	2.25	mg/Kg	1	2.00	0.2199	102	53.4 - 146.6
Ethylbenzene	2.60	mg/Kg	1	2.00	0.1304	123	62.1 - 141.6
Xylene	7.42	mg/Kg	1	6.00	0.9956	107	61.2 - 142.7

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.16	mg/Kg	1	2.00	<0.00410	108	57.7 - 140.7	4	20
Toluene	2.26	mg/Kg	1	2.00	0.2199	102	53.4 - 146.6	0	20
Ethylbenzene	2.54	mg/Kg	1	2.00	0.1304	120	62.1 - 141.6	2	20
Xylene	7.40	mg/Kg	1	6.00	0.9956	107	61.2 - 142.7	0	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.95	2.01	mg/Kg	1	2	98	100	62.7 - 119.6
4-Bromofluorobenzene (4-BFB)	2.68	2.58	mg/Kg	1	2	134	129	49.6 - 136.7

Matrix Spike (MS-1) Spiked Sample: 212444

QC Batch: 64514
Prep Batch: 55085

Date Analyzed: 2009-10-16
QC Preparation: 2009-10-16

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	⁴ 48.6	mg/Kg	1	20.0	48.659	0	10 - 198.3

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	⁵ 65.5	mg/Kg	1	20.0	48.659	57	10 - 198.3	30	20

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

⁴Matrix spike recovery out of control limits due to peak interference Use LCS/LCSD to demonstrate analysis is under control.

⁵MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

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Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.94	1.88	mg/Kg	1	2	97	94	65.5 - 123
4-Bromofluorobenzene (4-BFB) ^{6 7}	2.98	3.43	mg/Kg	1	2	149	172	58.6 - 140

Matrix Spike (MS-1) Spiked Sample: 212444

QC Batch: 64515
Prep Batch: 55086

Date Analyzed: 2009-10-16
QC Preparation: 2009-10-16

Analyzed By: kg
Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	213	mg/Kg	1	250	30.2	73	35.2 - 167.1

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	232	mg/Kg	1	250	30.2	81	35.2 - 167.1	8	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	108	110	mg/Kg	1	100	108	110	34.5 - 178.4

Standard (CCV-1)

QC Batch: 64513

Date Analyzed: 2009-10-16

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.105	105	80 - 120	2009-10-16
Toluene		mg/Kg	0.100	0.107	107	80 - 120	2009-10-16
Ethylbenzene		mg/Kg	0.100	0.108	108	80 - 120	2009-10-16
Xylene		mg/Kg	0.300	0.325	108	80 - 120	2009-10-16

Standard (CCV-2)

QC Batch: 64513

Date Analyzed: 2009-10-16

Analyzed By: AG

⁶High surrogate recovery due to peak interference.

⁷High surrogate recovery due to peak interference.

Report Date: October 20, 2009
114-6400277

Work Order: 9101617
COG/MC Fed. #3 TB

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0949	95	80 - 120	2009-10-16
Toluene		mg/Kg	0.100	0.0956	96	80 - 120	2009-10-16
Ethylbenzene		mg/Kg	0.100	0.0949	95	80 - 120	2009-10-16
Xylene		mg/Kg	0.300	0.286	95	80 - 120	2009-10-16

Standard (CCV-1)

QC Batch: 64514

Date Analyzed: 2009-10-16

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.920	92	80 - 120	2009-10-16

Standard (CCV-2)

QC Batch: 64514

Date Analyzed: 2009-10-16

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.896	90	80 - 120	2009-10-16

Standard (CCV-1)

QC Batch: 64515

Date Analyzed: 2009-10-16

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	286	114	80 - 120	2009-10-16

Standard (CCV-2)

QC Batch: 64515

Date Analyzed: 2009-10-16

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	278	111	80 - 120	2009-10-16

Order #: 9101617

Analysis Request of Chain of Custody Record

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

PAGE:

OF:

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:

COG

SITE MANAGER:

Ike Tavares

PROJECT NO.:

114-6400277

PROJECT NAME:

COG/MC Fed #3 TB

Lex Co., NM

SAMPLE IDENTIFICATION

LAB I.D.
NUMBERDATE
2009

TIME

MATRIX

COMB

GRAB

NUMBER OF CONTAINERS

FILTERED (Y/N)

PRESERVATIVE
METHOD

HCL

HNO3

ICE

NONE

BTEX 8021B
REF 8015 MOTO
TX1005 (Ext. to C95)

PAH 8270

RCHA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCL

GC/MS Vol. 8240/8260/624

GC/MS Semi. Vol. 8270/625

PCB's 8080/608

Pest. 808/608

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

212443

10/15

S

X

T-1 (west) Bottom hole 0-1' (8' BEB)

1

X

XX

444

10/15

S

X

T-1 (west) 2' (8' BEB)

1

X

XX

445

10/15

S

X

T-1 (west) 4' (8' BEB)

1

X

446

10/15

S

X

T-1 (west) 6' (8' BEB)

1

X

447

10/15

S

X

T-1 (west) 8' (8' BEB)

1

X

448

10/15

S

X

T-1 (west) 11' (8' BEB)

1

X

RELINQUISHED BY: (Signature)

Date: 10/16/09

Time: 11:00

RECEIVED BY: (Signature)

Date: 10/16/09

Time: 11:00

SAMPLED BY: (Print & Initial)

K. Dorey

Date: 10/16/09

Time:

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

SAMPLE SHIPPED BY: (Circle)

FEDEX BUS
HAND DELIVERED UPS

AIRBILL #:

OTHER:

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

TETRA TECH CONTACT PERSON:

Ike Tavares

Results by:

RECEIVING LABORATORY:

RECEIVED BY: (Signature)

ADDRESS:

CITY:

STATE:

ZIP:

CONTACT:

PHONE:

DATE:

TIME:

SAMPLE CONDITION WHEN RECEIVED:

REMARKS:

5.4°C intact

If Benzene > 10 mg/kg - or - BTEX > 50 mg/kg - or - TPH exceeds 5,000 mg/kg Run deeper

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

Samples