

SITE INFORMATION

Report Type: Closure Report

General Site Information:

Site:	White Oak State Tank Battery				
Company:	COG Operating LLC				
Section, Township and Range	Unit P	Sec 23	T17S	R28E	
Lease Number:	API-30-015-29749				
County:	Eddy County				
GPS:	32.81503° N			104.13927° W	
Surface Owner:	State				
Mineral Owner:					
Directions:	In Loco Hills, from the intersection of Haggerman Cutoff and 82, travel west on Hwy 82 for 9.7 miles, turn right onto CR 209 and travel for 1.1 miles, turn right and travel for 0.5 miles, turn right and travel for 0.1 miles, turn right to site.				

Release Data:

Date Released:	12/1/2011	RECEIVED NOV 01 2012 CONCHO ARTESIA
Type Release:	Produced Water	
Source of Contamination:	Water Tank	
Fluid Released:	15 bbls	
Fluids Recovered:	5 bbls	

Official Communication:

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

Ranking Criteria

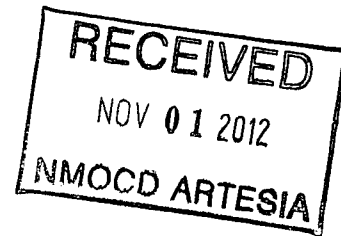
Depth to Groundwater:	Ranking Score	Site Data
<50 ft	20	
50-99 ft	10	
>100 ft.	0	0
Wellhead Protection:	Ranking Score	Site Data
Water Source <1,000 ft., Private <200 ft.	20	
Water Source >1,000 ft., Private >200 ft.	0	0
Surface Body of Water:	Ranking Score	Site Data
<200 ft.	20	
200 ft - 1,000 ft.	10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

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



TETRA TECH

October 15, 2012



Mr. Mike Bratcher
Environmental Engineer Specialist
Oil Conservation Division, District 2
811 S. First Street
Artesia, New Mexico 88210

Re: Closure Report for the COG Operating LLC., White Oak State Tank Battery, Unit P, Section 23, Township 17 South, Range 28 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the White Oak State Tank Battery located in Unit P, Section 23, Township 17 South, Range 28 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.81503°, W 104.13927°. 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 December 1, 2011, and released approximately fifteen (15) barrels of produced water from the water tank overflow. To alleviate the problem, COG personnel replaced the discharge line from the transfer pump. Five (5) barrels of standing fluids were recovered from the release. The spill initiated inside the tank battery and breached the facility berm migrating onto the pad. The area inside the tank battery berm measured approximately 10' X 130' and the pad area measured approximately 20' X 125'. The initial C-141 form is enclosed in Appendix A.

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559

Fax 432.682.3946

www.tetrattech.com



Groundwater

No water wells were listed within Section 23. According to the USGS, a well located in Section 22 reported a depth to groundwater at 79' below surface. In addition, the NMOCD groundwater map showed the groundwater depth in this area of approximately at 100' below surface. The groundwater data is shown on Figure B.

Regulatory

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

Soil Assessment and Analytical Results

On January 18, 2012, Tetra Tech personnel inspected and sampled the spill area. Seven (7) auger holes (AH-1 through AH-7) were installed using a stainless steel hand auger to assess the impacted soils. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory reports and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

The areas of AH-1, AH-5, AH-6 and AH-7 showed no TPH and BTEX concentrations above the RRAL. Auger holes (AH-2 and AH-3) showed TPH and BTEX concentrations above the RRAL, but declined below the RRAL 2.0' and 4.0', respectively. In addition, AH-4 was not vertically defined, with TPH and BTEX concentrations above the RRAL at 1-1.5' below surface.

No significant chloride impact was encountered in the areas of AH-3 and AH-7. Auger holes (AH-1 and AH-6) were vertically defined and declined with depth to 1,310 mg/kg at 4.0' and 554 mg/kg at 1.0', respectively. The areas of AH-2, AH-4 and AH-5 were not vertically defined and detected elevated chloride in the soils.



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Remediation and Conclusion

On April 9, 2012, Tetra Tech personnel supervised the excavation as outlined in the approved work plan. The excavation depths are highlighted in Table 1 and shown on Figure 4. The proposed excavated depths were met as discussed in the approved work plan. Approximately 260 yards of impacted material was removed and disposed of properly at the R360 facility.

The areas of AH-1, AH-2, AH-3 and AH-5 were excavated to a depth of 3.5' below surface and AH-4 to a depth of 3.0' below surface. The area of AH-6 was excavated to a depth of 1.0' below surface. As recommended in the work plan, a backhoe trench was installed in the AH-4 and showed a chloride declined of 781 mg/kg. The remaining areas (AH-5 and AH-6) could be trenched due to electrical lines in the areas and defer the remaining impact until abandonment. All of the excavated areas were backfilled with clean material to grade.

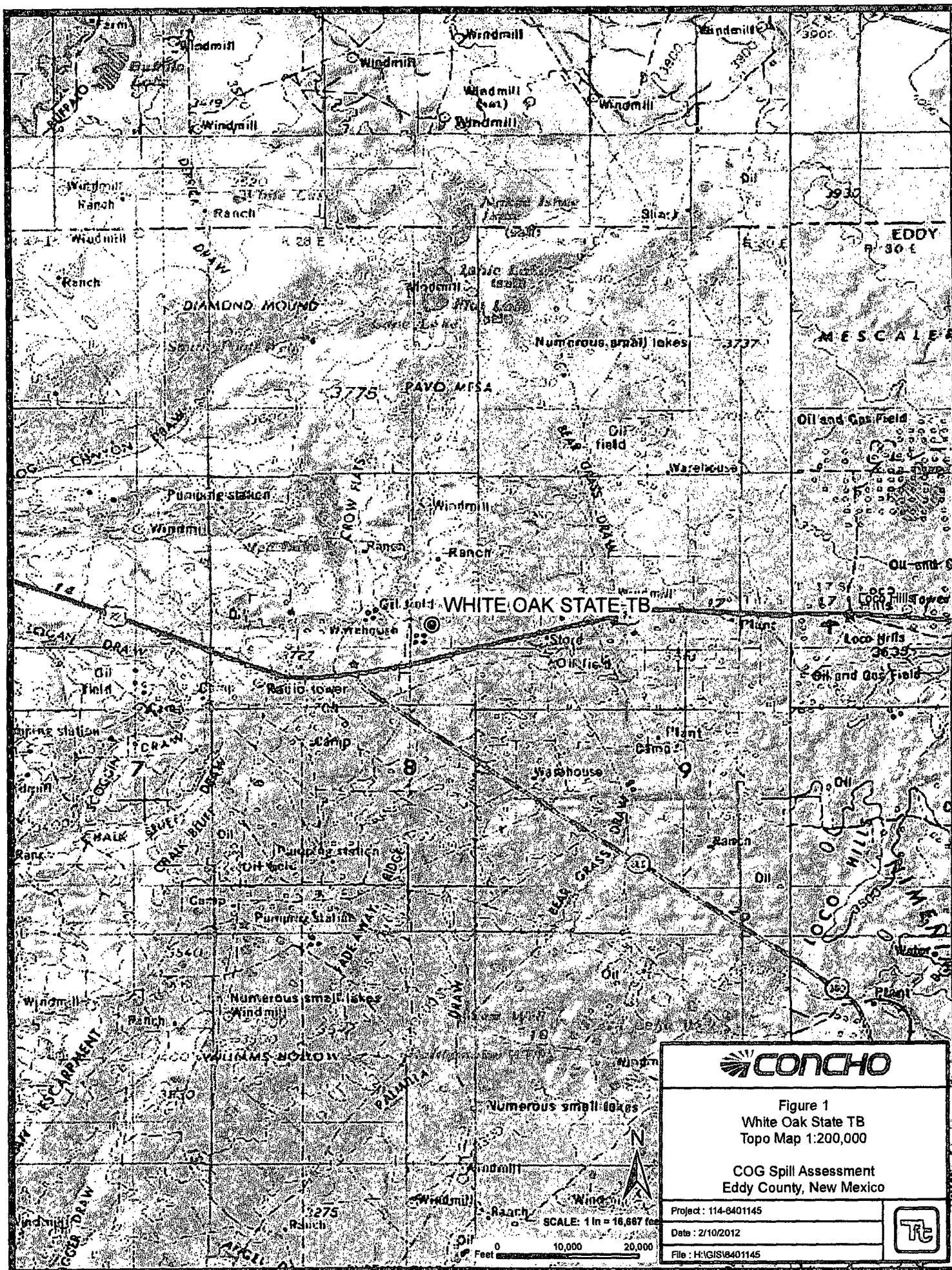
Based on the remediation activities performed at this location, COG request closure for site. The C-141 (Final) is included in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities performed at the site, please call me at (432) 682-4559.

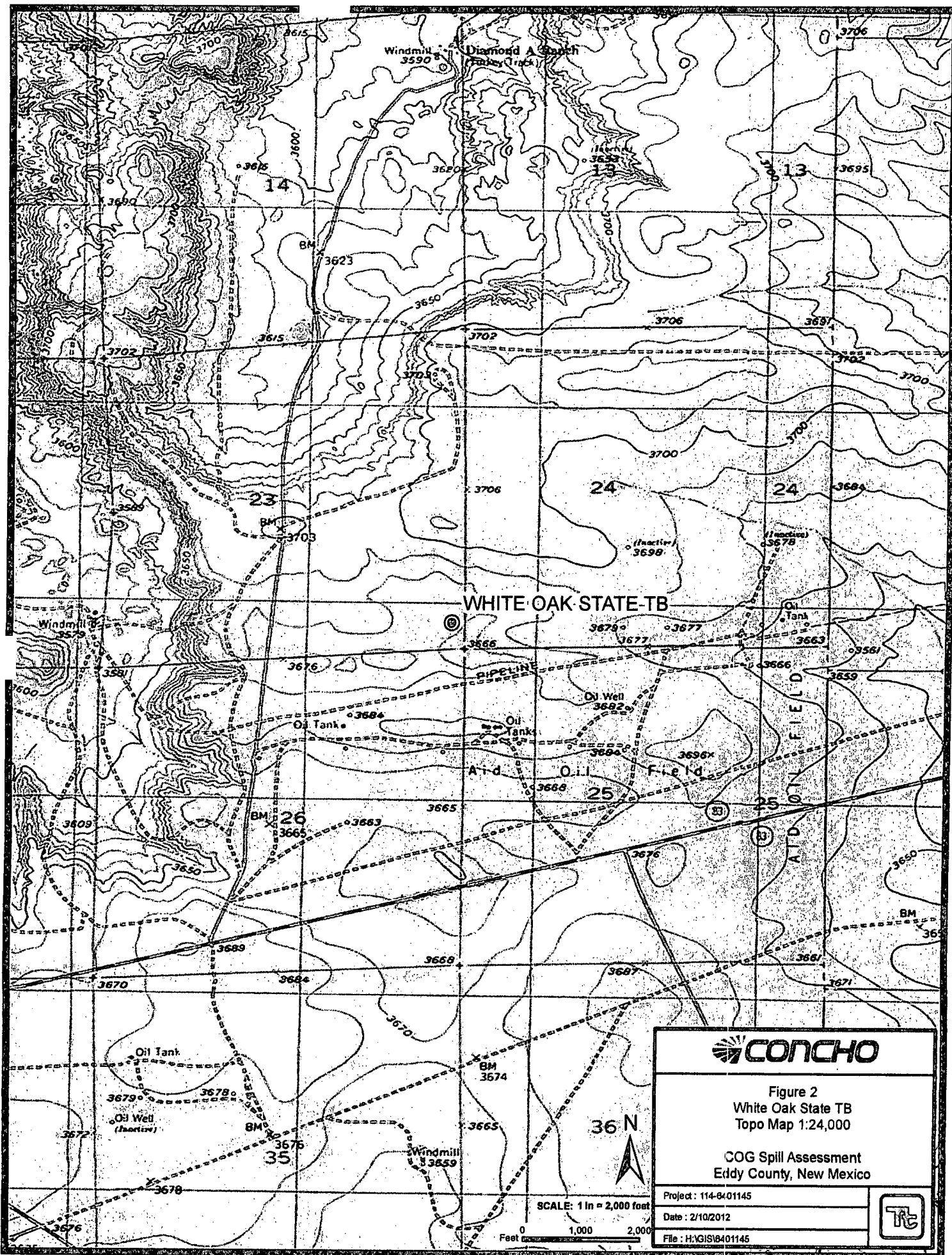
Respectfully submitted,
TETRA TECH

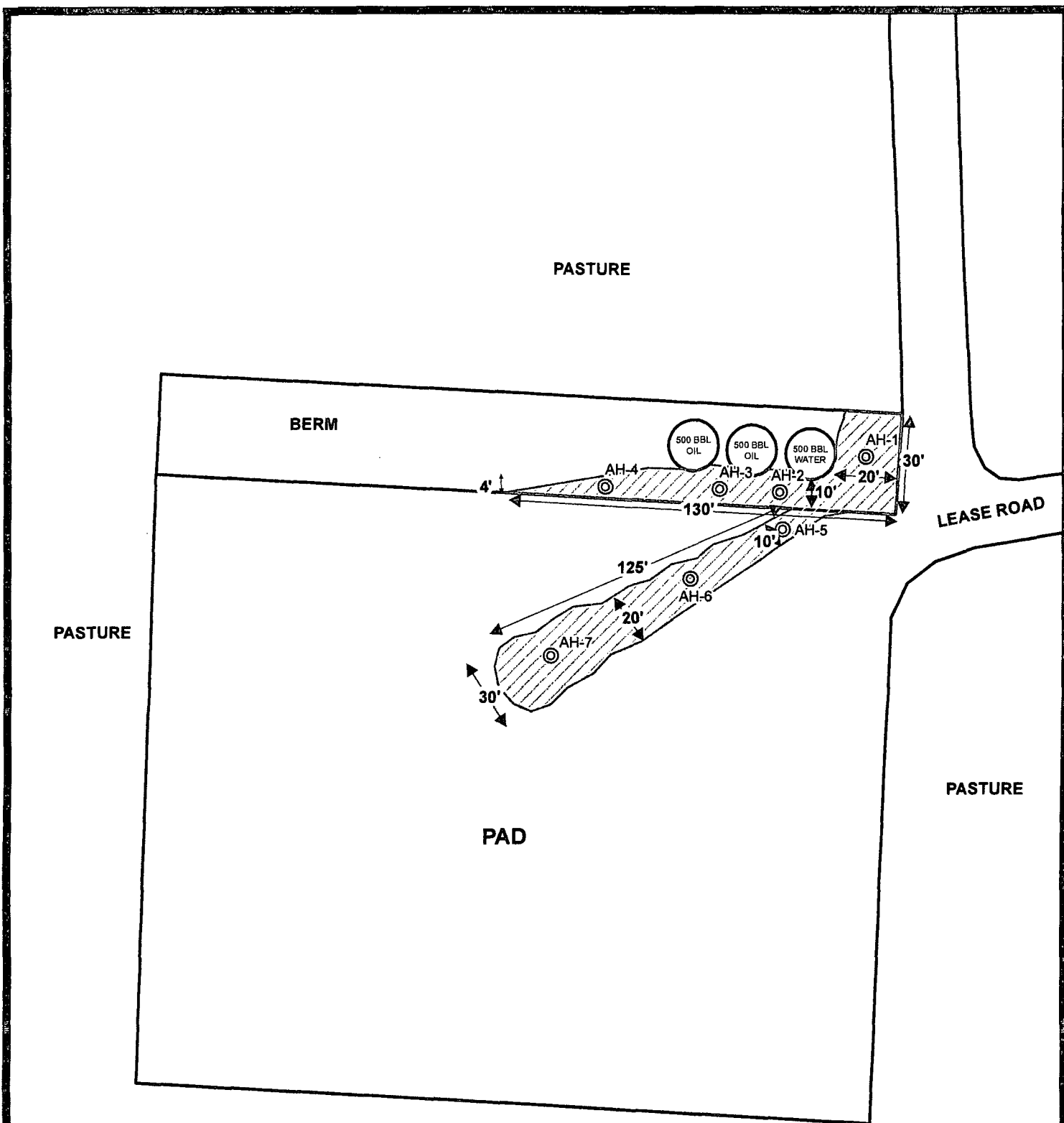
Ike Tavarez, PG
Senior Project Manager

cc: Pat Ellis – COG

Figures







EXPLANATION

⊙ AUGER HOLE SAMPLE LOCATIONS

▨ SPILL AREA

SCALE: 1 IN = 64 FEET

Feet 0 25 50



Figure 3

White Oak State TB

First Spill
Spill Assessment Map

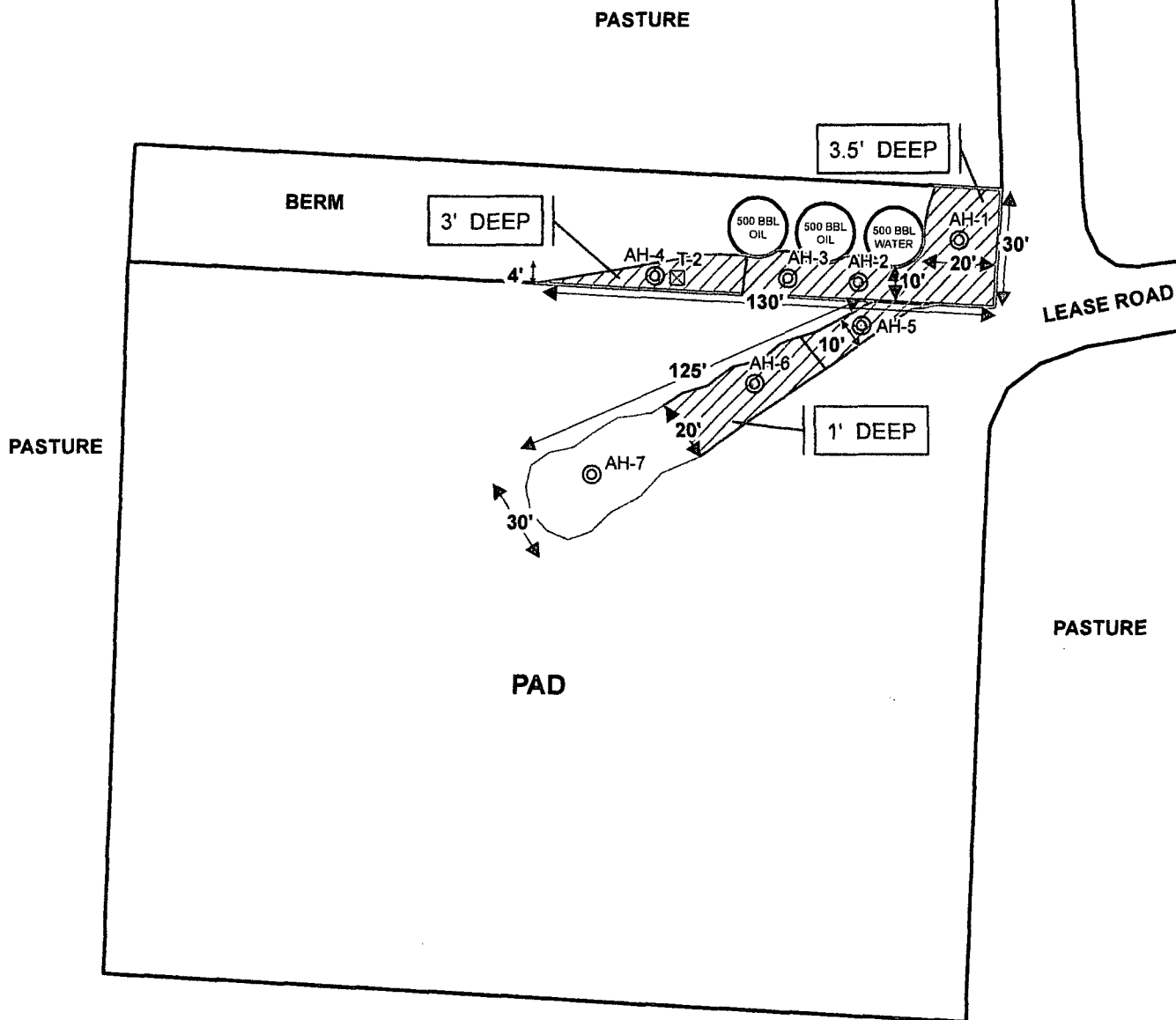
Eddy County, New Mexico

Project : 114-6401145

Date : 2/24/2012

File : H:\GIS\16401145





EXPLANATION

- ⊙ AUGER HOLE SAMPLE LOCATIONS
- ⊠ TRENCH LOCATION
- ▨ EXCAVATED AREA



SCALE: 1 IN = 57 FEET

Feet 0 25 50



Figure 4

White Oak State TB

First Spill
Excavation Areas & Depths Map

Eddy County, New Mexico

Project : 114-6401145

Date : 10/22/2012

File : H:\GIS\6401145



Tables

Table 1
COG Operating LLC.
White Oak State Tank Battery
Eddy County, New Mexico

[illegible]

Table 1
COG Operating LLC.
White Oak State Tank Battery
Eddy County, New Mexico

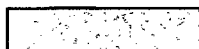
[illegible]

Table 1
COG Operating LLC.
White Oak State Tank Battery
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
AH-6	1/18/2012	0-1		X	356	211	567	<0.0200	2.28	4.30	8.07	14.65	4,360
	"	1-1.5	X		-	-	-	-	-	-	-	-	554
	"	2-2.5	X		-	-	-	-	-	-	-	-	<200
AH-7	1/18/2012	0-1	X		7.37	<50.0	7.37	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	498
		1-1.5	X		-	-	-	-	-	-	-	-	292
		2-2.5	X		-	-	-	-	-	-	-	-	211
		3-3.5	X		-	-	-	-	-	-	-	-	<200

(--)

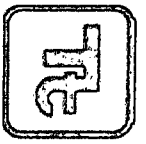
Not Analyzed



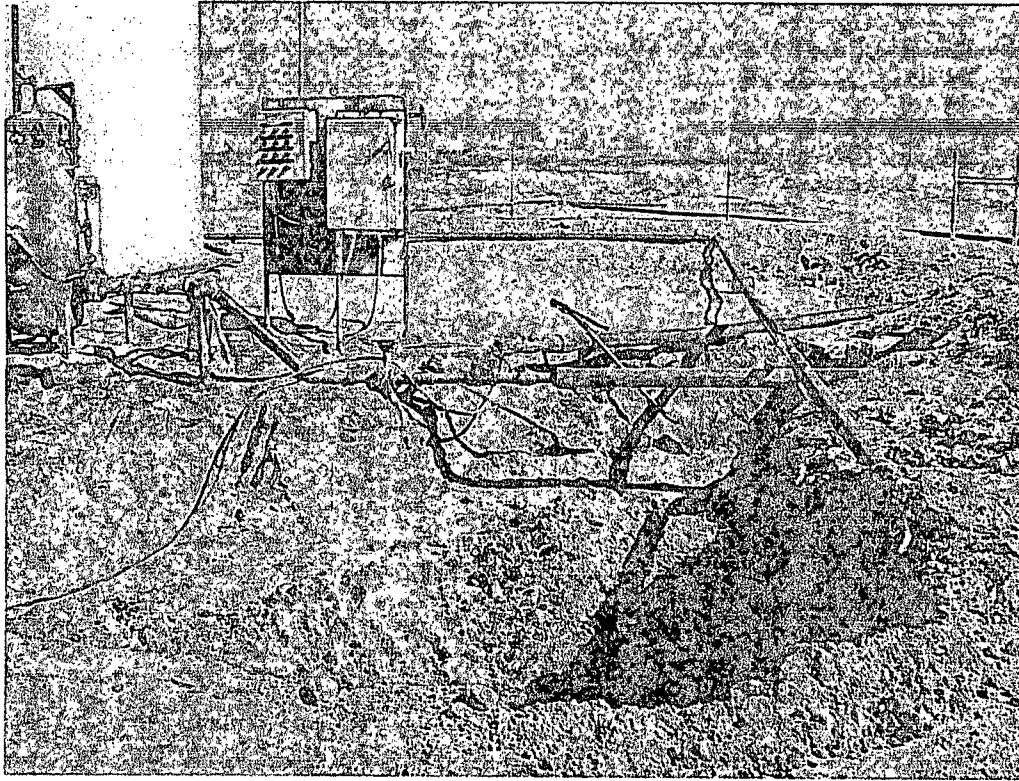
Excavated soil and depths

Photos

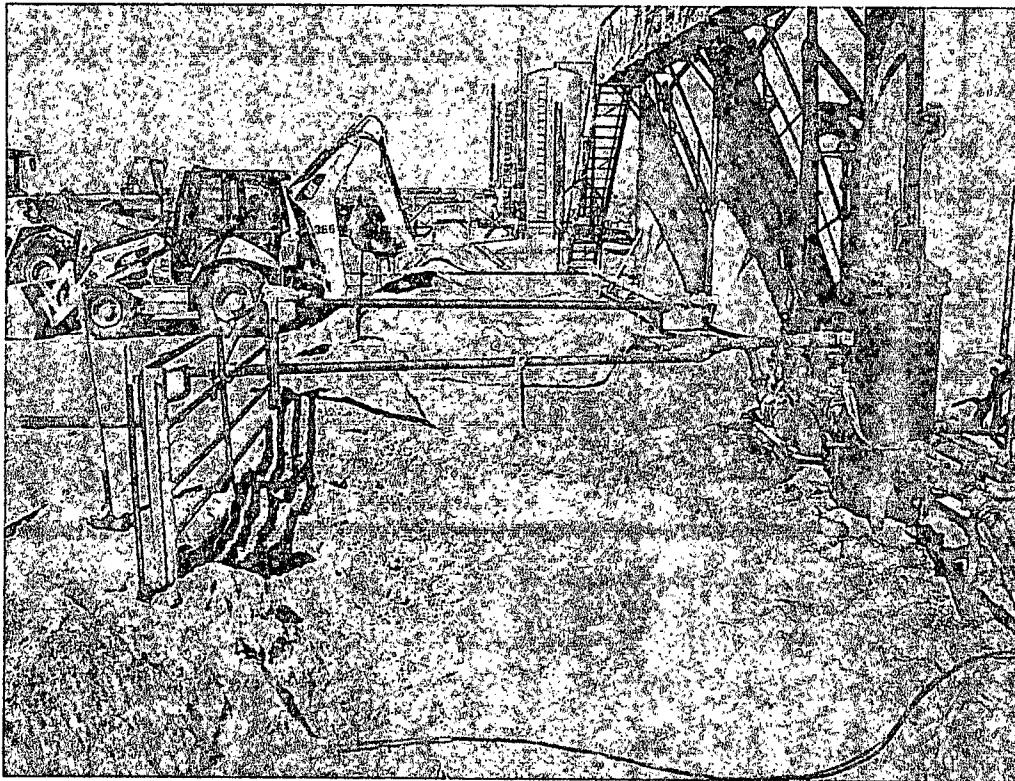
COG Operating LLC
White Oak State Tank Battery
Eddy County, New Mexico



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View North – Area of AH-1

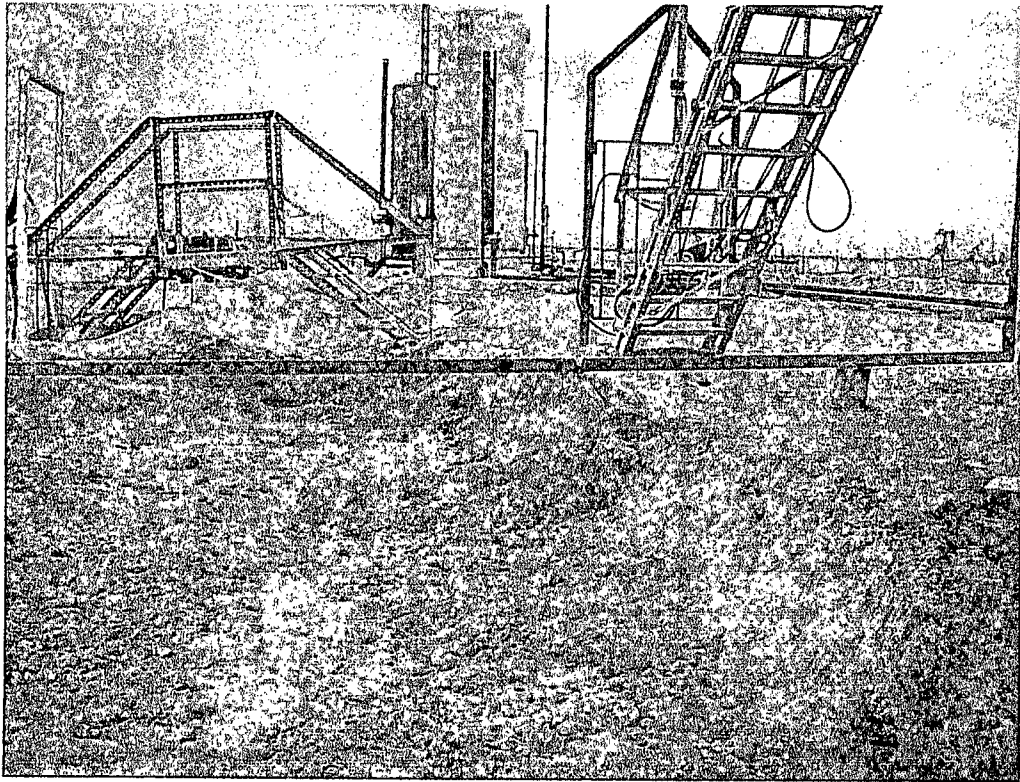


View West – Area of AH-2 and AH-3

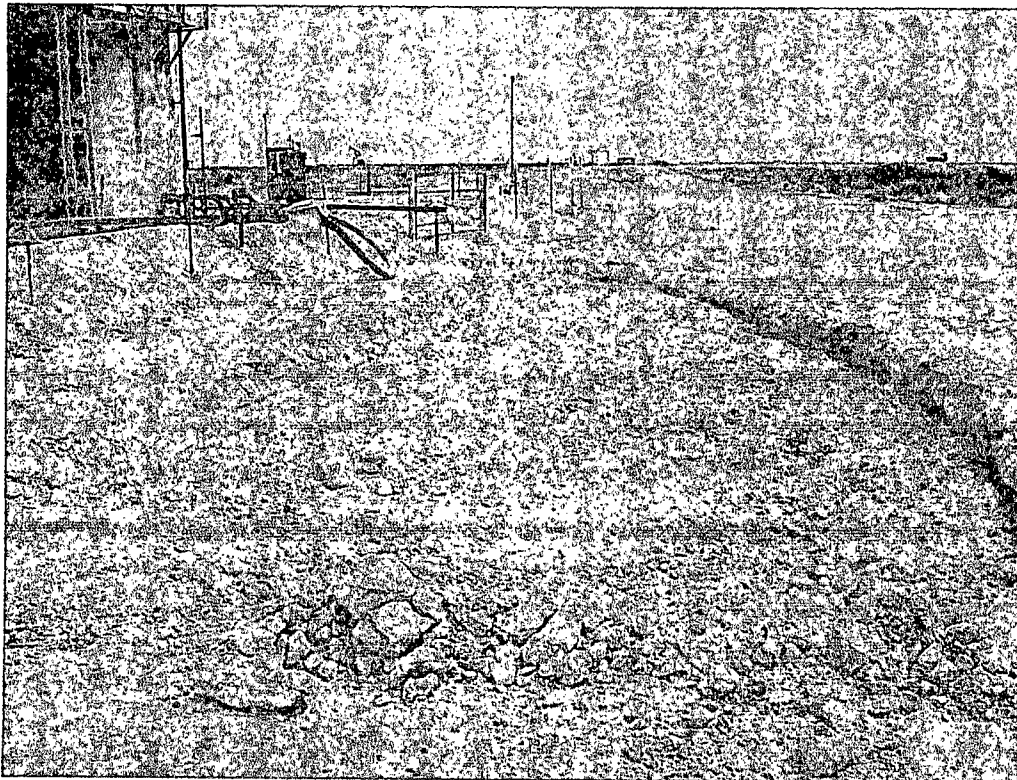
COG Operating LLC
White Oak State Tank Battery
Eddy County, New Mexico



TETRA TECH



View West – Area of AH-4

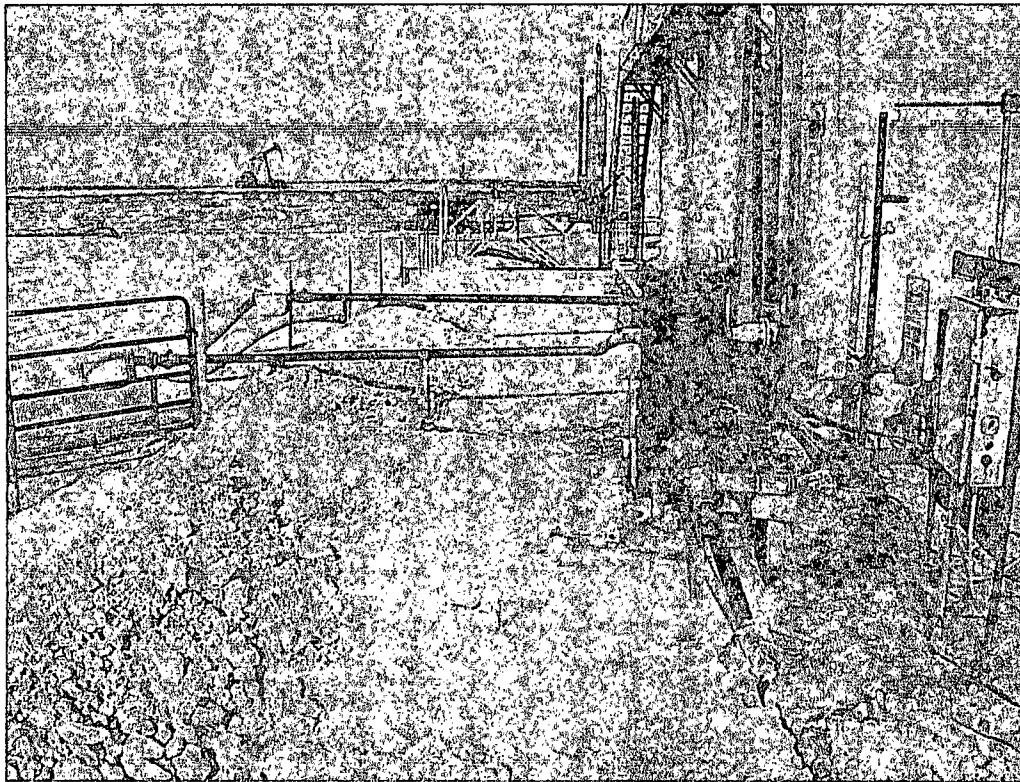


View Northeast – Area of AH-5 and AH-6

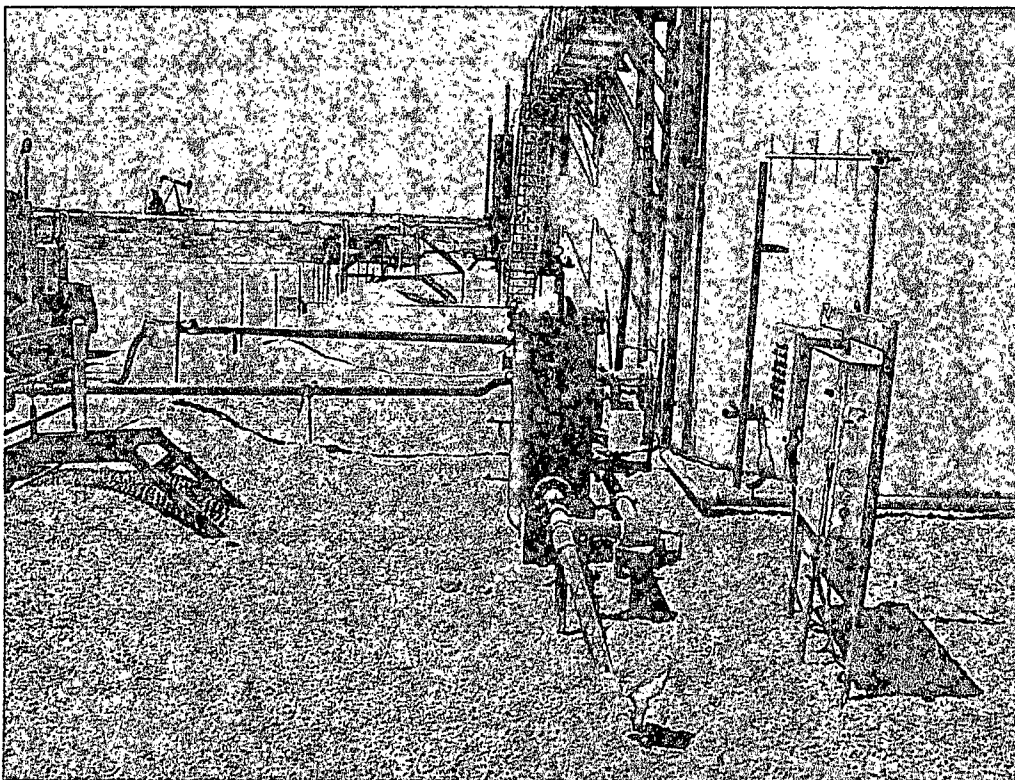
COG Operating LLC
White Oak State Tank Battery
Eddy County, New Mexico



TETRA TECH



View West – Backfill

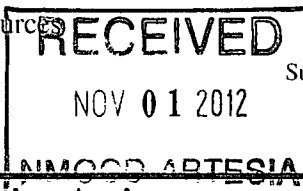


View West - Backfill

Appendix A

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

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



Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

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

Surface Owner	State	Mineral Owner		Lease No.	30-015-29749
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	23	17-S	28-E					Eddy

Latitude N 32.81503° Longitude W 104.13927°

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release 15 bbls	Volume Recovered 5 bbls
Source of Release Water Tank	Date and Hour of Occurrence 12/01/2011	Date and Hour of Discovery 12/01/2011 7:00 pm
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

The transfer pump could not discharge fluid through new SWD line. The water tank filled quickly and ran over. The discharge line from the transfer pump has been changed.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected site and collected samples to define spills extent. Soil with elevated chloride concentrations was removed and hauled away to Controlled Recovery, Inc., Hobbs, 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:	<u>OIL CONSERVATION DIVISION</u>		
Printed Name: Ike Tavarez	Approved by District Supervisor:		
Title: Project Manager	Approval Date:	Expiration Date:	
E-mail Address: ike.tavarez@tetrattech.com	Conditions of Approval:		Attached ☐
Date: 10-15-12	Phone: (432) 682-4559		

Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural Resources

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1220 South St. Francis Dr.
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Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	White Oak State Tank Battery	Facility Type	Tank Battery
Surface Owner	State	Mineral Owner	Lease No. (API#) 30-015-29749

LOCATION OF RELEASE

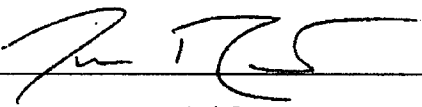
Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	23	17S	28E					Eddy

Latitude 32.8150 Longitude 104.1392

NATURE OF RELEASE

Type of Release	Produced water	Volume of Release	15bbls	Volume Recovered	5bbls
Source of Release	Water tank	Date and Hour of Occurrence	12/01/2011	Date and Hour of Discovery	12/01/2011 7:00 p.m.
Was Immediate Notice Given?	☐ Yes ☒ No ☒ Not Required	If YES, To Whom?			
By Whom?	Date and Hour				
Was a Watercourse Reached?	☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.			
If a Watercourse was Impacted, Describe Fully.*					
Describe Cause of Problem and Remedial Action Taken.*					
The transfer pump could not discharge fluid through new SWD line. The water tank filled up quickly and ran over. The discharge line from the transfer pump has been changed.					
Describe Area Affected and Cleanup Action Taken.*					
Initially 15bbls of produced water was released from the water tank and we were able to recover 5bbls with a vacuum truck. All free fluid remained on the location. All free fluid has been recovered and contaminated soil will be removed and hauled to disposal. 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 for approval prior to any significant remediation work.					
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.					

OIL CONSERVATION DIVISION

Signature: 	Approved by District Supervisor:		
Printed Name: Josh Russo	Approval Date:		
Title: HSE Coordinator	Expiration Date:		Attached ☐
E-mail Address: jrusso@conchoresources.com	Conditions of Approval:		
Date: 12/13/2011 Phone: 432-212-2399			

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - White Oal State Tank Battery
Eddy County, New Mexico

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

17 South			27 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

17 South			28 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

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

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

-  New Mexico State Engineers Well Reports
-  USGS Well Reports
-  Field water level
-  New Mexico Water and Infrastructure Data System
-  SITE

Appendix C

Summary Report

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

Report Date: January 31, 2012

Work Order: 12011931

Project Location: Eddy Co., NM
Project Name: COG/White Oak State TB
Project Number: 114-6401145

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
286896	AH- 0-1'	soil	2012-01-18	00:00	2012-01-19
286897	AH-1 1-1.5'	soil	2012-01-18	00:00	2012-01-19
286898	AH-1 2-2.5'	soil	2012-01-18	00:00	2012-01-19
286899	AH-1 3-3.5'	soil	2012-01-18	00:00	2012-01-19
286900	AH-1 4-4.5'	soil	2012-01-18	00:00	2012-01-19
286901	AH-1 5-5.5'	soil	2012-01-18	00:00	2012-01-19
286902	AH-1 6-6.5'	soil	2012-01-18	00:00	2012-01-19
286903	AH-1 7-7.5'	soil	2012-01-18	00:00	2012-01-19
286904	AH-2 0-1'	soil	2012-01-18	00:00	2012-01-19
286905	AH-2 1-1.5'	soil	2012-01-18	00:00	2012-01-19
286906	AH-2 2-2.5'	soil	2012-01-18	00:00	2012-01-19
286907	AH-2 3-3.5'	soil	2012-01-18	00:00	2012-01-19
286908	AH-3 0-1'	soil	2012-01-18	00:00	2012-01-19
286909	AH-3 1-1.5'	soil	2012-01-18	00:00	2012-01-19
286910	AH-3 2-2.5'	soil	2012-01-18	00:00	2012-01-19
286911	AH-3 3-3.5'	soil	2012-01-18	00:00	2012-01-19
286912	AH-3 4-4.5'	soil	2012-01-18	00:00	2012-01-19
286913	AH-3 5-5.5'	soil	2012-01-18	00:00	2012-01-19
286914	AH-4 0-1'	soil	2012-01-18	00:00	2012-01-19
286915	AH-4 1-1.5'	soil	2012-01-18	00:00	2012-01-19
286916	AH-5 0-1'	soil	2012-01-18	00:00	2012-01-19
286917	AH-5 1-1.5'	soil	2012-01-18	00:00	2012-01-19
286918	AH-6 0-1'	soil	2012-01-18	00:00	2012-01-19
286919	AH-6 1-1.5'	soil	2012-01-18	00:00	2012-01-19
286920	AH-6 2-2.5'	soil	2012-01-18	00:00	2012-01-19
286921	AH-7 0-1'	soil	2012-01-18	00:00	2012-01-19
286922	AH-7 1-1.5'	soil	2012-01-18	00:00	2012-01-19
286923	AH-7 2-2.5'	soil	2012-01-18	00:00	2012-01-19
286924	AH-7 3-3.5'	soil	2012-01-18	00:00	2012-01-19

Sample - Field Code	BTEX				TPH DRO - NEW	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
286896 - AH- 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	2.60
286904 - AH-2 0-1'	11.3	84.4 _{Je}	48.8 _{Je}	83.7 _{Je}	852	2540 _{Qs}
286905 - AH-2 1-1.5'	17.3	166	99.2	146	3140	4460 _{Qs}
286906 - AH-2 2-2.5'	<0.200	<0.200	<0.200	<0.200	<50.0	<20.0
286907 - AH-2 3-3.5'	<0.200	<0.200	<0.200	<0.200	<50.0	<20.0
286908 - AH-3 0-1'	8.33	93.1	59.7	108	939	3590 _{Qs}
286909 - AH-3 1-1.5'	25.9	169	96.1	144	4570	4500 _{Qs}
286910 - AH-3 2-2.5'	16.5	159	91.1	141	3320	4370
286911 - AH-3 3-3.5'	4.68	98.9	66.1	117	4230 _{Qr,Qs}	3380
286912 - AH-3 4-4.5'	<0.0200	<0.0200	<0.0200	<0.0200	<250 _{Qr,Qs}	3.96
286913 - AH-3 5-5.5'	<0.0200	<0.0200	<0.0200	0.0551	<250 _{Qr,Qs}	5.00
286914 - AH-4 0-1'	12.7	74.3 _{Je}	46.7 _{Je}	79.8 _{Je}	934	2710 _{Qs}
286915 - AH-4 1-1.5'	2.24	68.1	55.2	91.4	1520	2480 _{Qs}
286916 - AH-5 0-1'	<0.0200	<0.0200	0.0762	0.130	<50.0	23.7
286918 - AH-6 0-1'	<0.0200	2.28	4.30	8.07	211	356
286921 - AH-7 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	7.37

Sample: 286896 - AH- 0-1'

Param	Flag	Result	Units	RL
Chloride		7630	mg/Kg	4

Sample: 286897 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		2750	mg/Kg	4

Sample: 286898 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		3270	mg/Kg	4

Sample: 286899 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		3110	mg/Kg	4

Sample: 286900 - AH-1 4-4.5'

Param	Flag	Result	Units	RL
Chloride		1310	mg/Kg	4

Sample: 286901 - AH-1 5-5.5'

Param	Flag	Result	Units	RL
Chloride		277	mg/Kg	4

Sample: 286902 - AH-1 6-6.5'

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

Sample: 286903 - AH-1 7-7.5'

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

Sample: 286904 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		1840	mg/Kg	4

Sample: 286905 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		767	mg/Kg	4

Sample: 286906 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		2250	mg/Kg	4

Sample: 286907 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		1430	mg/Kg	4

Sample: 286908 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		206	mg/Kg	4

Sample: 286909 - AH-3 1-1.5'

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

Sample: 286910 - AH-3 2-2.5'

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

Sample: 286911 - AH-3 3-3.5'

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

Sample: 286912 - AH-3 4-4.5'

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

Sample: 286913 - AH-3 5-5.5'

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

Sample: 286914 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		2470	mg/Kg	4

Sample: 286915 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		4980	mg/Kg	4

Sample: 286916 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		11800	mg/Kg	4

Sample: 286917 - AH-5 1-1.5'

Param	Flag	Result	Units	RL
Chloride		2500	mg/Kg	4

Sample: 286918 - AH-6 0-1'

Param	Flag	Result	Units	RL
Chloride		4360	mg/Kg	4

Sample: 286919 - AH-6 1-1.5'

Param	Flag	Result	Units	RL
Chloride		554	mg/Kg	4

Sample: 286920 - AH-6 2-2.5'

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

Sample: 286921 - AH-7 0-1'

Param	Flag	Result	Units	RL
Chloride		498	mg/Kg	4

Sample: 286922 - AH-7 1-1.5'

Param	Flag	Result	Units	RL
Chloride		292	mg/Kg	4

Sample: 286923 - AH-7 2-2.5'

Param	Flag	Result	Units	RL
Chloride		211	mg/Kg	4

Sample: 286924 - AH-7 3-3.5'

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



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Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: January 31, 2012

Work Order: 12011931

Project Location: Edly Co., NM
Project Name: COG/White Oak State TB
Project Number: 114-6401145

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
286896	AH- 0-1'	soil	2012-01-18	00:00	2012-01-19
286897	AH-1 1-1.5'	soil	2012-01-18	00:00	2012-01-19
286898	AH-1 2-2.5'	soil	2012-01-18	00:00	2012-01-19
286899	AH-1 3-3.5'	soil	2012-01-18	00:00	2012-01-19
286900	AH-1 4-4.5'	soil	2012-01-18	00:00	2012-01-19
286901	AH-1 5-5.5'	soil	2012-01-18	00:00	2012-01-19
286902	AH-1 6-6.5'	soil	2012-01-18	00:00	2012-01-19
286903	AH-1 7-7.5'	soil	2012-01-18	00:00	2012-01-19
286904	AH-2 0-1'	soil	2012-01-18	00:00	2012-01-19
286905	AH-2 1-1.5'	soil	2012-01-18	00:00	2012-01-19
286906	AH-2 2-2.5'	soil	2012-01-18	00:00	2012-01-19
286907	AH-2 3-3.5'	soil	2012-01-18	00:00	2012-01-19
286908	AH-3 0-1'	soil	2012-01-18	00:00	2012-01-19
286909	AH-3 1-1.5'	soil	2012-01-18	00:00	2012-01-19
286910	AH-3 2-2.5'	soil	2012-01-18	00:00	2012-01-19
286911	AH-3 3-3.5'	soil	2012-01-18	00:00	2012-01-19
286912	AH-3 4-4.5'	soil	2012-01-18	00:00	2012-01-19
286913	AH-3 5-5.5'	soil	2012-01-18	00:00	2012-01-19

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
286914	AH-4 0-1'	soil	2012-01-18	00:00	2012-01-19
286915	AH-4 1-1.5'	soil	2012-01-18	00:00	2012-01-19
286916	AH-5 0-1'	soil	2012-01-18	00:00	2012-01-19
286917	AH-5 1-1.5'	soil	2012-01-18	00:00	2012-01-19
286918	AH-6 0-1'	soil	2012-01-18	00:00	2012-01-19
286919	AH-6 1-1.5'	soil	2012-01-18	00:00	2012-01-19
286920	AH-6 2-2.5'	soil	2012-01-18	00:00	2012-01-19
286921	AH-7 0-1'	soil	2012-01-18	00:00	2012-01-19
286922	AH-7 1-1.5'	soil	2012-01-18	00:00	2012-01-19
286923	AH-7 2-2.5'	soil	2012-01-18	00:00	2012-01-19
286924	AH-7 3-3.5'	soil	2012-01-18	00:00	2012-01-19

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

This report consists of a total of 67 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

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Case Narrative

Samples for project COG/White Oak State TB were received by TraceAnalysis, Inc. on 2012-01-19 and assigned to work order 12011931. Samples for work order 12011931 were received intact at a temperature of 5.1 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	74695	2012-01-20 at 09:00	87963	2012-01-23 at 10:00
BTEX	S 8021B	74757	2012-01-24 at 09:00	88045	2012-01-24 at 15:55
BTEX	S 8021B	74836	2012-01-27 at 10:10	88141	2012-01-27 at 14:28
BTEX	S 8021B	74862	2012-01-30 at 13:00	88171	2012-01-30 at 15:20
Chloride (Titration)	SM 4500-Cl B	74739	2012-01-24 at 08:56	88050	2012-01-25 at 11:05
Chloride (Titration)	SM 4500-Cl B	74739	2012-01-24 at 08:56	88051	2012-01-25 at 11:06
Chloride (Titration)	SM 4500-Cl B	74739	2012-01-24 at 08:56	88067	2012-01-25 at 15:11
Chloride (Titration)	SM 4500-Cl B	74739	2012-01-24 at 08:56	88068	2012-01-25 at 15:12
TPH DRO - NEW	S 8015 D	74693	2012-01-20 at 09:00	87960	2012-01-21 at 19:34
TPH DRO - NEW	S 8015 D	74693	2012-01-20 at 09:00	87961	2012-01-21 at 01:08
TPH DRO - NEW	S 8015 D	74819	2012-01-26 at 09:11	88125	2012-01-27 at 10:12
TPH DRO - NEW	S 8015 D	74852	2012-01-30 at 14:07	88175	2012-01-31 at 08:37
TPH GRO	S 8015 D	74695	2012-01-20 at 09:00	87964	2012-01-23 at 10:00
TPH GRO	S 8015 D	74757	2012-01-24 at 09:00	88054	2012-01-24 at 00:15
TPH GRO	S 8015 D	74836	2012-01-27 at 10:10	88146	2012-01-27 at 15:05
TPH GRO	S 8015 D	74862	2012-01-30 at 13:00	88172	2012-01-30 at 15:48

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 12011931 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: January 31, 2012
114-6401145

Work Order: 12011931
COG/White Oak State TB

Page Number: 7 of 67
Eddy Co., NM

Analytical Report

Sample: 286896 - AH- 0-1'

Laboratory: Midland

Analysis: BTEX

QC Batch: 87963

Prep Batch: 74695

Analytical Method: S 8021B

Date Analyzed: 2012-01-23

Sample Preparation: 2012-01-20

Prep Method: S 5035

Analyzed By: DA

Prepared By: DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.09	mg/Kg	1	2.00	104	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			1.92	mg/Kg	1	2.00	96	70.6 - 179

Sample: 286896 - AH- 0-1'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 88050

Prep Batch: 74739

Analytical Method: SM 4500-Cl B

Date Analyzed: 2012-01-25

Sample Preparation: 2012-01-24

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			7630	mg/Kg	100	4.00

Sample: 286896 - AH- 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 87960

Prep Batch: 74693

Analytical Method: S 8015 D

Date Analyzed: 2012-01-21

Sample Preparation: 2012-01-20

Prep Method: N/A

Analyzed By: tc

Prepared By: tc

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

Report Date: January 31, 2012
114-6401145

Work Order: 12011931
COG/White Oak State TB

Page Number: 8 of 67
Eddy Co., NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			86.7	mg/Kg	1	100	87	53.5 - 147.1

Sample: 286896 - AH- 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 87964
Prep Batch: 74695

Analytical Method: S 8015 D
Date Analyzed: 2012-01-23
Sample Preparation: 2012-01-20

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO			2.60	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.14	mg/Kg	1	2.00	107	30 - 134.6
4-Bromofluorobenzene (4-BFB)			1.86	mg/Kg	1	2.00	93	22.4 - 149

Sample: 286897 - AH-1 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 88051
Prep Batch: 74739

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-01-25
Sample Preparation: 2012-01-24

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			2750	mg/Kg	100	4.00

Sample: 286898 - AH-1 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 88051
Prep Batch: 74739

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-01-25
Sample Preparation: 2012-01-24

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

continued ...

Report Date: January 31, 2012
114-6401145

Work Order: 12011931
COG/White Oak State TB

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Eddy Co., NM

sample 286898 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			3270	mg/Kg	100	4.00

Sample: 286899 - AH-1 3-3.5'

Laboratory: Midland	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2012-01-25	Analyzed By: AR
QC Batch: 88051	Sample Preparation: 2012-01-24	Prepared By: AR
Prep Batch: 74739		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			3110	mg/Kg	100	4.00

Sample: 286900 - AH-1 4-4.5'

Laboratory: Midland	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2012-01-25	Analyzed By: AR
QC Batch: 88051	Sample Preparation: 2012-01-24	Prepared By: AR
Prep Batch: 74739		

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

Sample: 286901 - AH-1 5-5.5'

Laboratory: Midland	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2012-01-25	Analyzed By: AR
QC Batch: 88051	Sample Preparation: 2012-01-24	Prepared By: AR
Prep Batch: 74739		

Report Date: January 31, 2012
114-6401145

Work Order: 12011931
COG/White Oak State TB

Page Number: 10 of 67
Eddy Co., NM

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

Sample: 286902 - AH-1 6-6.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 88051 Date Analyzed: 2012-01-25 Analyzed By: AR
Prep Batch: 74739 Sample Preparation: 2012-01-24 Prepared By: AR

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

Sample: 286903 - AH-1 7-7.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 88051 Date Analyzed: 2012-01-25 Analyzed By: AR
Prep Batch: 74739 Sample Preparation: 2012-01-24 Prepared By: AR

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

Sample: 286904 - AH-2 0-1'

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	11.3	mg/Kg	5	0.0200
Toluene	Jo	1	84.4	mg/Kg	5	0.0200
Ethylbenzene	Jo	1	48.8	mg/Kg	5	0.0200

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Xylene	Ja	1	83.7	mg/Kg	5	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.32	mg/Kg	5	5.00	86	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	15.0	mg/Kg	5	5.00	300	70.6 - 179

Sample: 286904 - AH-2 0-1'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 88051

Prep Batch: 74739

Analytical Method: SM 4500-Cl B

Date Analyzed: 2012-01-25

Sample Preparation: 2012-01-24

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1840	mg/Kg	100	4.00

Sample: 286904 - AH-2 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 87960

Prep Batch: 74693

Analytical Method: S 8015 D

Date Analyzed: 2012-01-21

Sample Preparation: 2012-01-20

Prep Method: N/A

Analyzed By: tc

Prepared By: tc

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	852	mg/Kg	1	50.0

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

Sample: 286904 - AH-2 0-1'

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 88054

Prep Batch: 74757

Analytical Method: S 8015 D

Date Analyzed: 2012-01-24

Sample Preparation: 2012-01-24

Prep Method: S 5035

Analyzed By: tc

Prepared By: tc

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Q _s	1	2540	mg/Kg	20	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			20.1	mg/Kg	20	20.0	100	30 - 134.6
4-Bromofluorobenzene (4-BFB)	Q _{sr}	Q _{sr}	34.8	mg/Kg	20	20.0	174	22.4 - 149

Sample: 286905 - AH-2 1-1.5'

Laboratory: Midland

Analysis: BTEX

QC Batch: 88045

Prep Batch: 74757

Analytical Method: S 8021B

Date Analyzed: 2012-01-24

Sample Preparation: 2012-01-24

Prep Method: S 5035

Analyzed By: tc

Prepared By: tc

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	17.3	mg/Kg	20	0.0200
Toluene		1	166	mg/Kg	20	0.0200
Ethylbenzene		1	99.2	mg/Kg	20	0.0200
Xylene		1	146	mg/Kg	20	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			18.0	mg/Kg	20	20.0	90	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			32.5	mg/Kg	20	20.0	162	70.6 - 179

Sample: 286905 - AH-2 1-1.5'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 88051

Prep Batch: 74739

Analytical Method: SM 4500-Cl B

Date Analyzed: 2012-01-25

Sample Preparation: 2012-01-24

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			767	mg/Kg	50	4.00

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Sample: 286905 - AH-2 1-1.5'

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 88125 Date Analyzed: 2012-01-27 Analyzed By: DA
Prep Batch: 74819 Sample Preparation: 2012-01-26 Prepared By: DA

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	3140	mg/Kg	5	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Q _{sr}	Q _{sr}	188	mg/Kg	5	100	188	53.5 - 147.1

Sample: 286905 - AH-2 1-1.5'

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 88054 Date Analyzed: 2012-01-24 Analyzed By: tc
Prep Batch: 74757 Sample Preparation: 2012-01-24 Prepared By: tc

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Q _s	1	4460	mg/Kg	20	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			19.8	mg/Kg	20	20.0	99	30 - 134.6
4-Bromofluorobenzene (4-BFB)	Q _{sr}	Q _{sr}	42.8	mg/Kg	20	20.0	214	22.4 - 149

Sample: 286906 - AH-2 2-2.5'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 88141 Date Analyzed: 2012-01-27 Analyzed By: tc
Prep Batch: 74836 Sample Preparation: 2012-01-27 Prepared By: tc

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1	<0.200	mg/Kg	10	0.0200
Toluene	U	1	<0.200	mg/Kg	10	0.0200
Ethylbenzene	U	1	<0.200	mg/Kg	10	0.0200
Xylene	U	1	<0.200	mg/Kg	10	0.0200

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Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			9.86	mg/Kg	10	10.0	99	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			11.4	mg/Kg	10	10.0	114	70.6 - 179

Sample: 286906 - AH-2 2-2.5'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 88051

Prep Batch: 74739

Analytical Method: SM 4500-Cl B

Date Analyzed: 2012-01-25

Sample Preparation: 2012-01-24

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			2250	mg/Kg	100	4.00

Sample: 286906 - AH-2 2-2.5'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 88125

Prep Batch: 74819

Analytical Method: S 8015 D

Date Analyzed: 2012-01-27

Sample Preparation: 2012-01-26

Prep Method: N/A

Analyzed By: DA

Prepared By: DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			104	mg/Kg	1	100	104	53.5 - 147.1

Sample: 286906 - AH-2 2-2.5'

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 88146

Prep Batch: 74836

Analytical Method: S 8015 D

Date Analyzed: 2012-01-27

Sample Preparation: 2012-01-27

Prep Method: S 5035

Analyzed By: tc

Prepared By: tc

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		i	<20.0	mg/Kg	10	2.00

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Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			10.8	mg/Kg	10	10.0	108	30 - 134.6
4-Bromofluorobenzene (4-BFB)			10.1	mg/Kg	10	10.0	101	22.4 - 149

Sample: 286907 - AH-2 3-3.5'

Laboratory: Midland

Analysis: BTEX

QC Batch: 88141

Prep Batch: 74836

Analytical Method: S 8021B

Date Analyzed: 2012-01-27

Sample Preparation: 2012-01-27

Prep Method: S 5035

Analyzed By: tc

Prepared By: tc

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	u	1	<0.200	mg/Kg	10	0.0200
Toluene	u	1	<0.200	mg/Kg	10	0.0200
Ethylbenzene	u	1	<0.200	mg/Kg	10	0.0200
Xylene	u	1	<0.200	mg/Kg	10	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			10.5	mg/Kg	10	10.0	105	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			12.0	mg/Kg	10	10.0	120	70.6 - 179

Sample: 286907 - AH-2 3-3.5'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 88067

Prep Batch: 74739

Analytical Method: SM 4500-Cl B

Date Analyzed: 2012-01-25

Sample Preparation: 2012-01-24

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1430	mg/Kg	50	4.00

Sample: 286907 - AH-2 3-3.5'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 88125

Prep Batch: 74819

Analytical Method: S 8015 D

Date Analyzed: 2012-01-27

Sample Preparation: 2012-01-26

Prep Method: N/A

Analyzed By: DA

Prepared By: DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			101	mg/Kg	1	100	101	53.5 - 147.1

Sample: 286907 - AH-2 3-3.5'

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 88146

Prep Batch: 74836

Analytical Method: S 8015 D

Date Analyzed: 2012-01-27

Sample Preparation: 2012-01-27

Prep Method: S 5035

Analyzed By: tc

Prepared By: tc

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	<20.0	mg/Kg	10	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			10.8	mg/Kg	10	10.0	108	30 - 134.6
4-Bromofluorobenzene (4-BFB)			10.7	mg/Kg	10	10.0	107	22.4 - 149

Sample: 286908 - AH-3 0-1'

Laboratory: Midland

Analysis: BTEX

QC Batch: 88045

Prep Batch: 74757

Analytical Method: S 8021B

Date Analyzed: 2012-01-24

Sample Preparation: 2012-01-24

Prep Method: S 5035

Analyzed By: tc

Prepared By: tc

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	8.33	mg/Kg	20	0.0200
Toluene		1	93.1	mg/Kg	20	0.0200
Ethylbenzene		1	59.7	mg/Kg	20	0.0200
Xylene		1	108	mg/Kg	20	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	Qsr	Qsr	15.0	mg/Kg	20	20.0	75	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			26.6	mg/Kg	20	20.0	133	70.6 - 179

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Sample: 286908 - AH-3 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-01-25	Analyzed By:	AR
QC Batch:	88067	Sample Preparation:	2012-01-24	Prepared By:	AR
Prep Batch:	74739				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			206	mg/Kg	50	4.00

Sample: 286908 - AH-3 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2012-01-21	Analyzed By:	tc
QC Batch:	87960	Sample Preparation:	2012-01-20	Prepared By:	tc
Prep Batch:	74693				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	939	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			115	mg/Kg	1	100	115	53.5 - 147.1

Sample: 286908 - AH-3 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2012-01-24	Analyzed By:	tc
QC Batch:	88054	Sample Preparation:	2012-01-24	Prepared By:	tc
Prep Batch:	74757				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Qs	1	3590	mg/Kg	20	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			16.2	mg/Kg	20	20.0	81	30 - 134.6
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	41.0	mg/Kg	20	20.0	205	22.4 - 149

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Sample: 286909 - AH-3 1-1.5'

Laboratory: Midland
Analysis: BTEX
QC Batch: 88045
Prep Batch: 74757

Analytical Method: S 8021B
Date Analyzed: 2012-01-24
Sample Preparation: 2012-01-24

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	25.9	mg/Kg	20	0.0200
Toluene		1	169	mg/Kg	20	0.0200
Ethylbenzene		1	96.1	mg/Kg	20	0.0200
Xylene		1	144	mg/Kg	20	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	QSR	QSR	11.4	mg/Kg	20	20.0	57	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			31.8	mg/Kg	20	20.0	159	70.6 - 179

Sample: 286909 - AH-3 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 88067
Prep Batch: 74739

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-01-25
Sample Preparation: 2012-01-24

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

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

Sample: 286909 - AH-3 1-1.5'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 88125
Prep Batch: 74819

Analytical Method: S 8015 D
Date Analyzed: 2012-01-27
Sample Preparation: 2012-01-26

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	4570	mg/Kg	5	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	QSR	QSR	249	mg/Kg	5	100	249	53.5 - 147.1

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Sample: 286909 - AH-3 1-1.5'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 88054
Prep Batch: 74757

Analytical Method: S 8015 D
Date Analyzed: 2012-01-24
Sample Preparation: 2012-01-24

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Q _s	1	4500	mg/Kg	20	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			12.4	mg/Kg	20	20.0	62	30 - 134.6
4-Bromofluorobenzene (4-BFB)	Q _{sr}	Q _{sr}	36.9	mg/Kg	20	20.0	184	22.4 - 149

Sample: 286910 - AH-3 2-2.5'

Laboratory: Midland
Analysis: BTEX
QC Batch: 88141
Prep Batch: 74836

Analytical Method: S 8021B
Date Analyzed: 2012-01-27
Sample Preparation: 2012-01-27

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	16.5	mg/Kg	100	0.0200
Toluene		1	159	mg/Kg	100	0.0200
Ethylbenzene		1	91.1	mg/Kg	100	0.0200
Xylene		1	141	mg/Kg	100	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			97.4	mg/Kg	100	100	97	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			134	mg/Kg	100	100	134	70.6 - 179

Sample: 286910 - AH-3 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 88067
Prep Batch: 74739

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-01-25
Sample Preparation: 2012-01-24

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

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

Sample: 286910 - AH-3 2-2.5'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 88125
Prep Batch: 74819

Analytical Method: S 8015 D
Date Analyzed: 2012-01-27
Sample Preparation: 2012-01-26

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		i	3320	mg/Kg	5	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	216	mg/Kg	5	100	216	53.5 - 147.1

Sample: 286910 - AH-3 2-2.5'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 88146
Prep Batch: 74836

Analytical Method: S 8015 D
Date Analyzed: 2012-01-27
Sample Preparation: 2012-01-27

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		i	4370	mg/Kg	100	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			103	mg/Kg	100	100	103	30 - 134.6
4-Bromofluorobenzene (4-BFB)			130	mg/Kg	100	100	130	22.4 - 149

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Sample: 286911 - AH-3 3-3.5'

Laboratory: Midland

Analysis: BTEX

QC Batch: 88141

Prep Batch: 74836

Analytical Method: S 8021B

Date Analyzed: 2012-01-27

Sample Preparation: 2012-01-27

Prep Method: S 5035

Analyzed By: tc

Prepared By: tc

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	4.68	mg/Kg	100	0.0200
Toluene		1	98.9	mg/Kg	100	0.0200
Ethylbenzene		1	66.1	mg/Kg	100	0.0200
Xylene		1	117	mg/Kg	100	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			100	mg/Kg	100	100	100	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			131	mg/Kg	100	100	131	70.6 - 179

Sample: 286911 - AH-3 3-3.5'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 88067

Prep Batch: 74739

Analytical Method: SM 4500-Cl B

Date Analyzed: 2012-01-25

Sample Preparation: 2012-01-24

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

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

Sample: 286911 - AH-3 3-3.5'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 88175

Prep Batch: 74852

Analytical Method: S 8015 D

Date Analyzed: 2012-01-31

Sample Preparation: 2012-01-30

Prep Method: N/A

Analyzed By: DA

Prepared By: DA

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Qr, Qs	1	4230	mg/Kg	5	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	500	mg/Kg	5	100	500	53.5 - 147.1

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Sample: 286911 - AH-3 3-3.5'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 88146
Prep Batch: 74836

Analytical Method: S 8015 D
Date Analyzed: 2012-01-27
Sample Preparation: 2012-01-27

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	3380	mg/Kg	100	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			104	mg/Kg	100	100	104	30 - 134.6
4-Bromofluorobenzene (4-BFB)			130	mg/Kg	100	100	130	22.4 - 149

Sample: 286912 - AH-3 4-4.5'

Laboratory: Midland
Analysis: BTEX
QC Batch: 88171
Prep Batch: 74862

Analytical Method: S 8021B
Date Analyzed: 2012-01-30
Sample Preparation: 2012-01-30

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.86	mg/Kg	1	2.00	93	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			2.18	mg/Kg	1	2.00	109	70.6 - 179

Sample: 286912 - AH-3 4-4.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 88067
Prep Batch: 74739

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-01-25
Sample Preparation: 2012-01-24

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

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sample 286912 continued . . .

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

Sample: 286912 - AH-3 4-4.5'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 88175

Prep Batch: 74852

Analytical Method: S 8015 D

Date Analyzed: 2012-01-31

Sample Preparation: 2012-01-30

Prep Method: N/A

Analyzed By: DA

Prepared By: DA

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Qr, Qs, U	i	<250	mg/Kg	5	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	421	mg/Kg	5	100	421	53.5 - 147.1

Sample: 286912 - AH-3 4-4.5'

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 88172

Prep Batch: 74862

Analytical Method: S 8015 D

Date Analyzed: 2012-01-30

Sample Preparation: 2012-01-30

Prep Method: S 5035

Analyzed By: tc

Prepared By: tc

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		i	3.96	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.96	mg/Kg	1	2.00	98	30 - 134.6
4-Bromofluorobenzene (4-BFB)			1.94	mg/Kg	1	2.00	97	22.4 - 149

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Sample: 286913 - AH-3 5-5.5'

Laboratory: Midland

Analysis: BTEX

QC Batch: 88171

Prep Batch: 74862

Analytical Method: S 8021B

Date Analyzed: 2012-01-30

Sample Preparation: 2012-01-30

Prep Method: S 5035

Analyzed By: tc

Prepared By: tc

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	u	1	<0.0200	mg/Kg	1	0.0200
Toluene	u	1	<0.0200	mg/Kg	1	0.0200
Ethylbenzene	u	1	<0.0200	mg/Kg	1	0.0200
Xylene		1	0.0551	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.02	mg/Kg	1	2.00	101	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			2.37	mg/Kg	1	2.00	118	70.6 - 179

Sample: 286913 - AH-3 5-5.5'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 88067

Prep Batch: 74739

Analytical Method: SM 4500-Cl B

Date Analyzed: 2012-01-25

Sample Preparation: 2012-01-24

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

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

Sample: 286913 - AH-3 5-5.5'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 88175

Prep Batch: 74852

Analytical Method: S 8015 D

Date Analyzed: 2012-01-31

Sample Preparation: 2012-01-30

Prep Method: N/A

Analyzed By: DA

Prepared By: DA

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Qr, Qs	1	<250	mg/Kg	5	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	410	mg/Kg	5	100	410	53.5 - 147.1

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Sample: 286913 - AH-3 5-5.5'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 88172
Prep Batch: 74862

Analytical Method: S 8015 D
Date Analyzed: 2012-01-30
Sample Preparation: 2012-01-30

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	5.00	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.14	mg/Kg	1	2.00	107	30 - 134.6
4-Bromofluorobenzene (4-BFB)			2.12	mg/Kg	1	2.00	106	22.4 - 149

Sample: 286914 - AH-4 0-1'

Laboratory: Midland
Analysis: BTEX
QC Batch: 87963
Prep Batch: 74695

Analytical Method: S 8021B
Date Analyzed: 2012-01-23
Sample Preparation: 2012-01-20

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	12.7	mg/Kg	5	0.0200
Toluene	Je	1	74.3	mg/Kg	5	0.0200
Ethylbenzene	Je	1	46.7	mg/Kg	5	0.0200
Xylene	Je	1	79.8	mg/Kg	5	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.49	mg/Kg	5	5.00	90	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	13.8	mg/Kg	5	5.00	276	70.6 - 179

Sample: 286914 - AH-4 0-1'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 88067
Prep Batch: 74739

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-01-25
Sample Preparation: 2012-01-24

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

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sample 286914 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			2470	mg/Kg	100	4.00

Sample: 286914 - AH-4 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 87960

Prep Batch: 74693

Analytical Method: S 8015 D

Date Analyzed: 2012-01-21

Sample Preparation: 2012-01-20

Prep Method: N/A

Analyzed By: tc

Prepared By: tc

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	934	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			116	mg/Kg	1	100	116	53.5 - 147.1

Sample: 286914 - AH-4 0-1'

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 88054

Prep Batch: 74757

Analytical Method: S 8015 D

Date Analyzed: 2012-01-24

Sample Preparation: 2012-01-24

Prep Method: S 5035

Analyzed By: tc

Prepared By: tc

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Qs	1	2710	mg/Kg	20	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			20.1	mg/Kg	20	20.0	100	30 - 134.6
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	32.1	mg/Kg	20	20.0	160	22.4 - 149

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Sample: 286915 - AH-4 1-1.5'

Laboratory: Midland

Analysis: BTEX

QC Batch: 88045

Prep Batch: 74757

Analytical Method: S 8021B

Date Analyzed: 2012-01-24

Sample Preparation: 2012-01-24

Prep Method: S 5035

Analyzed By: tc

Prepared By: tc

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	2.24	mg/Kg	20	0.0200
Toluene		1	68.1	mg/Kg	20	0.0200
Ethylbenzene		1	55.2	mg/Kg	20	0.0200
Xylene		1	91.4	mg/Kg	20	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			18.8	mg/Kg	20	20.0	94	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)	Q _{NT}	Q _{NT}	36.3	mg/Kg	20	20.0	182	70.6 - 179

Sample: 286915 - AH-4 1-1.5'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 88067

Prep Batch: 74739

Analytical Method: SM 4500-Cl B

Date Analyzed: 2012-01-25

Sample Preparation: 2012-01-24

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			4980	mg/Kg	100	4.00

Sample: 286915 - AH-4 1-1.5'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 88125

Prep Batch: 74819

Analytical Method: S 8015 D

Date Analyzed: 2012-01-27

Sample Preparation: 2012-01-26

Prep Method: N/A

Analyzed By: DA

Prepared By: DA

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	1520	mg/Kg	5	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			147	mg/Kg	5	100	147	53.5 - 147.1

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Sample: 286915 - AH-4 1-1.5'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 88054
Prep Batch: 74757

Analytical Method: S 8015 D
Date Analyzed: 2012-01-24
Sample Preparation: 2012-01-24

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Q _S	1	2480	mg/Kg	20	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			19.7	mg/Kg	20	20.0	98	30 - 134.6
4-Bromofluorobenzene (4-BFB)	Q _{SR}	Q _{SR}	34.6	mg/Kg	20	20.0	173	22.4 - 149

Sample: 286916 - AH-5 0-1'

Laboratory: Midland
Analysis: BTEX
QC Batch: 87963
Prep Batch: 74695

Analytical Method: S 8021B
Date Analyzed: 2012-01-23
Sample Preparation: 2012-01-20

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1	<0.0200	mg/Kg	1	0.0200
Toluene	U	1	<0.0200	mg/Kg	1	0.0200
Ethylbenzene		1	0.0762	mg/Kg	1	0.0200
Xylene		1	0.130	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.13	mg/Kg	1	2.00	106	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			2.13	mg/Kg	1	2.00	106	70.6 - 179

Sample: 286916 - AH-5 0-1'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 88067
Prep Batch: 74739

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-01-25
Sample Preparation: 2012-01-24

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

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			11800	mg/Kg	100	4.00

Sample: 286916 - AH-5 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 87961

Prep Batch: 74693

Analytical Method: S 8015 D

Date Analyzed: 2012-01-21

Sample Preparation: 2012-01-20

Prep Method: N/A

Analyzed By: tc

Prepared By: tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			80.5	mg/Kg	1	100	80	53.5 - 147.1

Sample: 286916 - AH-5 0-1'

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 87964

Prep Batch: 74695

Analytical Method: S 8015 D

Date Analyzed: 2012-01-23

Sample Preparation: 2012-01-20

Prep Method: S 5035

Analyzed By: DA

Prepared By: DA

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		"	23.7	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.17	mg/Kg	1	2.00	108	30 - 134.6
4-Bromofluorobenzene (4-BFB)			2.14	mg/Kg	1	2.00	107	22.4 - 149

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Sample: 286917 - AH-5 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 88068 Date Analyzed: 2012-01-25 Analyzed By: AR
Prep Batch: 74739 Sample Preparation: 2012-01-24 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			2500	mg/Kg	100	4.00

Sample: 286918 - AH-6 0-1'

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	u	1	<0.0200	mg/Kg	1	0.0200
Toluene		1	2.28	mg/Kg	1	0.0200
Ethylbenzene		1	4.30	mg/Kg	1	0.0200
Xylene		1	8.07	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.99	mg/Kg	1	2.00	100	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			3.52	mg/Kg	1	2.00	176	70.6 - 179

Sample: 286918 - AH-6 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 88068 Date Analyzed: 2012-01-25 Analyzed By: AR
Prep Batch: 74739 Sample Preparation: 2012-01-24 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			4360	mg/Kg	100	4.00

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Sample: 286918 - AH-6 0-1'

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO			211	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			85.5	mg/Kg	1	100	86	53.5 - 147.1

Sample: 286918 - AH-6 0-1'

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO			356	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.07	mg/Kg	1	2.00	104	30 - 134.6
4-Bromofluorobenzene (4-BFB)	Q _{sr}	Q _{sr}	3.69	mg/Kg	1	2.00	184	22.4 - 149

Sample: 286919 - AH-6 1-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-01-25	Analyzed By:	AR
QC Batch:	88068	Sample Preparation:	2012-01-24	Prepared By:	AR
Prep Batch:	74739				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			554	mg/Kg	50	4.00

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Sample: 286920 - AH-6 2-2.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-01-25	Analyzed By:	AR
QC Batch:	88068	Sample Preparation:	2012-01-24	Prepared By:	AR
Prep Batch:	74739				

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

Sample: 286921 - AH-7 0-1'

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.94	mg/Kg	1	2.00	97	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			1.82	mg/Kg	1	2.00	91	70.6 - 179

Sample: 286921 - AH-7 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-01-25	Analyzed By:	AR
QC Batch:	88068	Sample Preparation:	2012-01-24	Prepared By:	AR
Prep Batch:	74739				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			498	mg/Kg	50	4.00

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Sample: 286921 - AH-7 0-1'

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			77.9	mg/Kg	1	100	78	53.5 - 147.1

Sample: 286921 - AH-7 0-1'

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	7.37	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.05	mg/Kg	1	2.00	102	30 - 134.6
4-Bromofluorobenzene (4-BFB)			1.84	mg/Kg	1	2.00	92	22.4 - 149

Sample: 286922 - AH-7 1-1.5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	88068	Date Analyzed:	2012-01-25
Prep Batch:	74739	Sample Preparation:	2012-01-24
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			292	mg/Kg	50	4.00

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Sample: 286923 - AH-7 2-2.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-01-25	Analyzed By:	AR
QC Batch:	88068	Sample Preparation:	2012-01-24	Prepared By:	AR
Prep Batch:	74739				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			211	mg/Kg	50	4.00

Sample: 286924 - AH-7 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-01-25	Analyzed By:	AR
QC Batch:	88068	Sample Preparation:	2012-01-24	Prepared By:	AR
Prep Batch:	74739				

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

Method Blanks

Method Blank (1) QC Batch: 87960

QC Batch: 87960
Prep Batch: 74693

Date Analyzed: 2012-01-21
QC Preparation: 2012-01-20

Analyzed By: tc
Prepared By: tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			81.4	mg/Kg	1	100	81	52.7 - 133.8

Method Blank (1) QC Batch: 87961

QC Batch: 87961
Prep Batch: 74693

Date Analyzed: 2012-01-21
QC Preparation: 2012-01-20

Analyzed By: tc
Prepared By: tc

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

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

Method Blank (1) QC Batch: 87963

QC Batch: 87963
Prep Batch: 74695

Date Analyzed: 2012-01-23
QC Preparation: 2012-01-20

Analyzed By: DA
Prepared By: DA

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

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Parameter	Flag	Cert	MDL Result	Units	RL
Xylene		1	<0.00613	mg/Kg	0.02

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

Method Blank (1) QC Batch: 87964

QC Batch: 87964
Prep Batch: 74695

Date Analyzed: 2012-01-23
QC Preparation: 2012-01-20

Analyzed By: DA
Prepared By: DA

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

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

Method Blank (1) QC Batch: 88045

QC Batch: 88045
Prep Batch: 74757

Date Analyzed: 2012-01-24
QC Preparation: 2012-01-24

Analyzed By: tc
Prepared By: tc

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

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

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Method Blank (1) QC Batch: 88050

QC Batch: 88050
Prep Batch: 74739

Date Analyzed: 2012-01-25
QC Preparation: 2012-01-24

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 88051

QC Batch: 88051
Prep Batch: 74739

Date Analyzed: 2012-01-25
QC Preparation: 2012-01-24

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 88054

QC Batch: 88054
Prep Batch: 74757

Date Analyzed: 2012-01-24
QC Preparation: 2012-01-24

Analyzed By: tc
Prepared By: tc

Parameter	Flag	Cert	MDL Result	Units	RL
GRO			0.957	mg/Kg	2

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.96	mg/Kg	1	2.00	98	67.6 - 150
4-Bromofluorobenzene (4-BFB)			1.48	mg/Kg	1	2.00	74	52.4 - 130

Method Blank (1) QC Batch: 88067

QC Batch: 88067
Prep Batch: 74739

Date Analyzed: 2012-01-25
QC Preparation: 2012-01-24

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 88068

QC Batch: 88068
Prep Batch: 74739

Date Analyzed: 2012-01-25
QC Preparation: 2012-01-24

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 88125

QC Batch: 88125
Prep Batch: 74819

Date Analyzed: 2012-01-27
QC Preparation: 2012-01-26

Analyzed By: DA
Prepared By: DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			121	mg/Kg	1	100	121	52.7 - 133.8

Method Blank (1) QC Batch: 88141

QC Batch: 88141
Prep Batch: 74836

Date Analyzed: 2012-01-27
QC Preparation: 2012-01-27

Analyzed By: tc
Prepared By: tc

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

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Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.98	mg/Kg	1	2.00	99	65.9 - 111.8
4-Bromofluorobenzene (4-BFB)			2.10	mg/Kg	1	2.00	105	48.4 - 123.1

Method Blank (1) QC Batch: 88146

QC Batch: 88146
Prep Batch: 74836

Date Analyzed: 2012-01-27
QC Preparation: 2012-01-27

Analyzed By: tc
Prepared By: tc

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		,	1.05	mg/Kg	2

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.12	mg/Kg	1	2.00	106	67.6 - 150
4-Bromofluorobenzene (4-BFB)			1.88	mg/Kg	1	2.00	94	52.4 - 130

Method Blank (1) QC Batch: 88171

QC Batch: 88171
Prep Batch: 74862

Date Analyzed: 2012-01-30
QC Preparation: 2012-01-30

Analyzed By: tc
Prepared By: tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.94	mg/Kg	1	2.00	97	65.9 - 111.8
4-Bromofluorobenzene (4-BFB)			2.03	mg/Kg	1	2.00	102	48.4 - 123.1

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Method Blank (1) QC Batch: 88172

QC Batch: 88172
Prep Batch: 74862

Date Analyzed: 2012-01-30
QC Preparation: 2012-01-30

Analyzed By: tc
Prepared By: tc

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	1.04	mg/Kg	2

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.11	mg/Kg	1	2.00	106	67.6 - 150
4-Bromofluorobenzene (4-BFB)			1.83	mg/Kg	1	2.00	92	52.4 - 130

Method Blank (1) QC Batch: 88175

QC Batch: 88175
Prep Batch: 74852

Date Analyzed: 2012-01-31
QC Preparation: 2012-01-30

Analyzed By: DA
Prepared By: DA

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	16.4	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			108	mg/Kg	1	100	108	52.7 - 133.8

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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 87960
Prep Batch: 74693

Date Analyzed: 2012-01-21
QC Preparation: 2012-01-20

Analyzed By: tc
Prepared By: tc

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	236	mg/Kg	1	250	<14.5	94	64.5 - 146.9

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	238	mg/Kg	1	250	<14.5	95	64.5 - 146.9	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	102	98.1	mg/Kg	1	100	102	98	65.3 - 135.8

Laboratory Control Spike (LCS-1)

QC Batch: 87961
Prep Batch: 74693

Date Analyzed: 2012-01-21
QC Preparation: 2012-01-20

Analyzed By: tc
Prepared By: tc

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

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

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

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

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

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Laboratory Control Spike (LCS-1)

QC Batch: 87963
Prep Batch: 74695

Date Analyzed: 2012-01-23
QC Preparation: 2012-01-20

Analyzed By: DA
Prepared By: DA

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

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 87964
Prep Batch: 74695

Date Analyzed: 2012-01-23
QC Preparation: 2012-01-20

Analyzed By: DA
Prepared By: DA

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

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 88045
Prep Batch: 74757

Date Analyzed: 2012-01-24
QC Preparation: 2012-01-24

Analyzed By: tc
Prepared By: tc

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.93	mg/Kg	1	2.00	<0.0118	96	77.4 - 121.7
Toluene		1	1.81	mg/Kg	1	2.00	<0.00600	90	88.6 - 121.6
Ethylbenzene		1	1.68	mg/Kg	1	2.00	<0.00850	84	74.3 - 117.9
Xylene		1	4.99	mg/Kg	1	6.00	<0.00613	83	73.4 - 118.8

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 88050
Prep Batch: 74739

Date Analyzed: 2012-01-25
QC Preparation: 2012-01-24

Analyzed By: AR
Prepared By: AR

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Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			95.0	mg/Kg	1	100	<3.85	95	85 - 115

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 88051
Prep Batch: 74739

Date Analyzed: 2012-01-25
QC Preparation: 2012-01-24

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			97.1	mg/Kg	1	100	<3.85	97	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			105	mg/Kg	1	100	<3.85	105	85 - 115	8	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 88054
Prep Batch: 74757

Date Analyzed: 2012-01-24
QC Preparation: 2012-01-24

Analyzed By: tc
Prepared By: tc

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO			13.3	mg/Kg	1	20.0	<0.753	66	60.9 - 105.4

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO			14.9	mg/Kg	1	20.0	<0.753	74	60.9 - 105.4	11	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)	2.01	1.83	mg/Kg	1	2.00	100	92	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.72	1.55	mg/Kg	1	2.00	86	78	56.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 88067
Prep Batch: 74739

Date Analyzed: 2012-01-25
QC Preparation: 2012-01-24

Analyzed By: AR
Prepared By: AR

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 88068
Prep Batch: 74739

Date Analyzed: 2012-01-25
QC Preparation: 2012-01-24

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			96.0	mg/Kg	1	100	<3.85	96	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			102	mg/Kg	1	100	<3.85	102	85 - 115	6	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 88125
Prep Batch: 74819

Date Analyzed: 2012-01-27
QC Preparation: 2012-01-26

Analyzed By: DA
Prepared By: DA

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Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	219	mg/Kg	1	250	<14.5	88	64.5 - 146.9

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	224	mg/Kg	1	250	<14.5	90	64.5 - 146.9	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
n-Tricosane	95.6	97.2	mg/Kg	1	100	96	97	65.3 - 135.8

Laboratory Control Spike (LCS-1)

QC Batch: 88141
Prep Batch: 74836

Date Analyzed: 2012-01-27
QC Preparation: 2012-01-27

Analyzed By: tc
Prepared By: tc

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.87	mg/Kg	1	2.00	<0.0118	94	77.4 - 121.7
Toluene		1	1.87	mg/Kg	1	2.00	<0.00600	94	88.6 - 121.6
Ethylbenzene		1	1.80	mg/Kg	1	2.00	<0.00850	90	74.3 - 117.9
Xylene		1	5.60	mg/Kg	1	6.00	<0.00613	93	73.4 - 118.8

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.94	mg/Kg	1	2.00	<0.0118	97	77.4 - 121.7	4	20
Toluene		1	1.94	mg/Kg	1	2.00	<0.00600	97	88.6 - 121.6	4	20
Ethylbenzene		1	1.90	mg/Kg	1	2.00	<0.00850	95	74.3 - 117.9	5	20
Xylene		1	5.90	mg/Kg	1	6.00	<0.00613	98	73.4 - 118.8	5	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.04	1.97	mg/Kg	1	2.00	102	98	65.5 - 116.7
4-Bromofluorobenzene (4-BFB)	2.45	2.37	mg/Kg	1	2.00	122	118	56.2 - 132.1

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Laboratory Control Spike (LCS-1)

QC Batch: 88146
Prep Batch: 74836

Date Analyzed: 2012-01-27
QC Preparation: 2012-01-27

Analyzed By: tc
Prepared By: tc

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	16.7	mg/Kg	1	20.0	<0.753	84	60.9 - 105.4

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	17.5	mg/Kg	1	20.0	<0.753	88	60.9 - 105.4	5	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.08	2.14	mg/Kg	1	2.00	104	107	61.9 - 142
4-Bromofluorobenzene (4-BFB)	2.00	2.05	mg/Kg	1	2.00	100	102	56.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 88171
Prep Batch: 74862

Date Analyzed: 2012-01-30
QC Preparation: 2012-01-30

Analyzed By: tc
Prepared By: tc

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.86	mg/Kg	1	2.00	<0.0118	93	77.4 - 121.7
Toluene		1	1.87	mg/Kg	1	2.00	<0.00600	94	88.6 - 121.6
Ethylbenzene		1	1.86	mg/Kg	1	2.00	<0.00850	93	74.3 - 117.9
Xylene		1	5.78	mg/Kg	1	6.00	<0.00613	96	73.4 - 118.8

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.99	mg/Kg	1	2.00	<0.0118	100	77.4 - 121.7	7	20
Toluene		1	1.97	mg/Kg	1	2.00	<0.00600	98	88.6 - 121.6	5	20
Ethylbenzene		1	1.96	mg/Kg	1	2.00	<0.00850	98	74.3 - 117.9	5	20
Xylene		1	6.09	mg/Kg	1	6.00	<0.00613	102	73.4 - 118.8	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
Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.07	1.94	mg/Kg	1	2.00	104	97	65.5 - 116.7
4-Bromofluorobenzene (4-BFB)	2.44	2.29	mg/Kg	1	2.00	122	114	56.2 - 132.1

Laboratory Control Spike (LCS-1)

QC Batch: 88172
Prep Batch: 74862

Date Analyzed: 2012-01-30
QC Preparation: 2012-01-30

Analyzed By: tc
Prepared By: tc

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	17.9	mg/Kg	1	20.0	<0.753	90	60.9 - 105.4

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	18.4	mg/Kg	1	20.0	<0.753	92	60.9 - 105.4	3	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.04	2.17	mg/Kg	1	2.00	102	108	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.96	2.08	mg/Kg	1	2.00	98	104	56.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 88175
Prep Batch: 74852

Date Analyzed: 2012-01-31
QC Preparation: 2012-01-30

Analyzed By: DA
Prepared By: DA

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	299	mg/Kg	1	250	<14.5	120	64.5 - 146.9

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

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Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	254	mg/Kg	1	250	<14.5	102	64.5 - 146.9	16	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	123	108	mg/Kg	1	100	123	108	65.3 - 135.8

Matrix Spike (MS-1) Spiked Sample: 286894

QC Batch: 87960
Prep Batch: 74693

Date Analyzed: 2012-01-21
QC Preparation: 2012-01-20

Analyzed By: tc
Prepared By: tc

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	186	mg/Kg	1	250	<14.5	74	38.8 - 153.3

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	197	mg/Kg	1	250	<14.5	79	38.8 - 153.3	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
n-Tricosane	86.5	86.9	mg/Kg	1	100	86	87	54.6 - 149.8

Matrix Spike (MS-1) Spiked Sample: 286958

QC Batch: 87961
Prep Batch: 74693

Date Analyzed: 2012-01-21
QC Preparation: 2012-01-20

Analyzed By: tc
Prepared By: tc

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

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

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

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

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

Matrix Spike (MS-1) Spiked Sample: 286864

QC Batch: 87963
Prep Batch: 74695

Date Analyzed: 2012-01-23
QC Preparation: 2012-01-20

Analyzed By: DA
Prepared By: DA

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

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

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

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

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

Matrix Spike (MS-1) Spiked Sample: 286946

QC Batch: 87964
Prep Batch: 74695

Date Analyzed: 2012-01-23
QC Preparation: 2012-01-20

Analyzed By: DA
Prepared By: DA

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

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

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

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

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

Matrix Spike (MS-1) Spiked Sample: 287112

QC Batch: 88045
Prep Batch: 74757

Date Analyzed: 2012-01-24
QC Preparation: 2012-01-24

Analyzed By: tc
Prepared By: tc

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.10	mg/Kg	1	2.00	<0.0118	105	69.4 - 123.6
Toluene		1	2.02	mg/Kg	1	2.00	<0.00600	101	75.4 - 134.3
Ethylbenzene		1	2.06	mg/Kg	1	2.00	<0.00850	103	58.8 - 133.7
Xylene		1	6.16	mg/Kg	1	6.00	<0.00613	103	57 - 134.2

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.06	mg/Kg	1	2.00	<0.0118	103	69.4 - 123.6	2	20
Toluene		1	1.97	mg/Kg	1	2.00	<0.00600	98	75.4 - 134.3	2	20
Ethylbenzene		1	2.01	mg/Kg	1	2.00	<0.00850	100	58.8 - 133.7	2	20
Xylene		1	5.98	mg/Kg	1	6.00	<0.00613	100	57 - 134.2	3	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.03	2.11	mg/Kg	1	2	102	106	79.4 - 141.1
4-Bromofluorobenzene (4-BFB)	2.03	2.04	mg/Kg	1	2	102	102	71 - 167

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Matrix Spike (MS-1) Spiked Sample: 286896

QC Batch: 88050
Prep Batch: 74739

Date Analyzed: 2012-01-25
QC Preparation: 2012-01-24

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			16300	mg/Kg	100	10000	7630	87	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			16800	mg/Kg	100	10000	7630	92	79.4 - 120.6	3	20

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

Matrix Spike (MS-1) Spiked Sample: 286906

QC Batch: 88051
Prep Batch: 74739

Date Analyzed: 2012-01-25
QC Preparation: 2012-01-24

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			12500	mg/Kg	100	10000	2250	102	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			13000	mg/Kg	100	10000	2250	108	79.4 - 120.6	4	20

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

Matrix Spike (MS-1) Spiked Sample: 286888

QC Batch: 88054
Prep Batch: 74757

Date Analyzed: 2012-01-24
QC Preparation: 2012-01-24

Analyzed By: tc
Prepared By: tc

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	Qs	Qs	11.6	mg/Kg	1	20.0	<0.753	58	61.8 - 114

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

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Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	Q*	Q*	11.7	mg/Kg	1	20.0	<0.753	58	61.8 - 114	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.86	1.38	mg/Kg	1	2	93	69	29.4 - 161.7
4-Bromofluorobenzene (4-BFB)	1.69	1.28	mg/Kg	1	2	84	64	37.3 - 162

Matrix Spike (MS-1) Spiked Sample: 286916

QC Batch: 88067
Prep Batch: 74739

Date Analyzed: 2012-01-25
QC Preparation: 2012-01-24

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			22000	mg/Kg	100	10000	11800	102	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			23000	mg/Kg	100	10000	11800	112	79.4 - 120.6	4	20

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

Matrix Spike (MS-1) Spiked Sample: 286930

QC Batch: 88068
Prep Batch: 74739

Date Analyzed: 2012-01-25
QC Preparation: 2012-01-24

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			11700	mg/Kg	100	10000	1200	105	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			12300	mg/Kg	100	10000	1200	111	79.4 - 120.6	5	20

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

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Matrix Spike (MS-1) Spiked Sample: 286888

QC Batch: 88125
Prep Batch: 74819

Date Analyzed: 2012-01-27
QC Preparation: 2012-01-26

Analyzed By: DA
Prepared By: DA

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	202	mg/Kg	5	250	<72.5	81	38.8 - 153.3

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	196	mg/Kg	5	250	<72.5	78	38.8 - 153.3	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
n-Tricosane	92.0	95.2	mg/Kg	5	100	92	95	54.6 - 149.8

Matrix Spike (MS-1) Spiked Sample: 287209

QC Batch: 88141
Prep Batch: 74836

Date Analyzed: 2012-01-27
QC Preparation: 2012-01-27

Analyzed By: tc
Prepared By: tc

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.74	mg/Kg	1	2.00	<0.0118	87	69.4 - 123.6
Toluene		1	1.73	mg/Kg	1	2.00	<0.00600	86	75.4 - 134.3
Ethylbenzene		1	1.74	mg/Kg	1	2.00	0.0236	86	58.8 - 133.7
Xylene		1	5.48	mg/Kg	1	6.00	0.0558	90	57 - 134.2

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.96	mg/Kg	1	2.00	<0.0118	98	69.4 - 123.6	12	20
Toluene		1	1.94	mg/Kg	1	2.00	<0.00600	97	75.4 - 134.3	11	20
Ethylbenzene		1	1.95	mg/Kg	1	2.00	0.0236	96	58.8 - 133.7	11	20
Xylene		1	6.15	mg/Kg	1	6.00	0.0558	102	57 - 134.2	12	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)	1.89	1.64	mg/Kg	1	2	94	82	79.4 - 141.1

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Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
4-Bromofluorobenzene (4-BFB)	2.43	2.29	mg/Kg	1	2	122	114	71 - 167

Matrix Spike (MS-1) Spiked Sample: 286907

QC Batch: 88146
Prep Batch: 74836

Date Analyzed: 2012-01-27
QC Preparation: 2012-01-27

Analyzed By: tc
Prepared By: tc

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	98.5	mg/Kg	10	100	12.8211	86	61.8 - 114

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	103	mg/Kg	10	100	12.8211	90	61.8 - 114	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
Trifluorotoluene (TFT)	10.1	10.5	mg/Kg	10	10	101	105	29.4 - 161.7
4-Bromofluorobenzene (4-BFB)	10.5	10.8	mg/Kg	10	10	105	108	37.3 - 162

Matrix Spike (MS-1) Spiked Sample: 287711

QC Batch: 88171
Prep Batch: 74862

Date Analyzed: 2012-01-30
QC Preparation: 2012-01-30

Analyzed By: tc
Prepared By: tc

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.90	mg/Kg	1	2.00	<0.0118	95	69.4 - 123.6
Toluene		1	1.95	mg/Kg	1	2.00	<0.00600	98	75.4 - 134.3
Ethylbenzene		1	2.04	mg/Kg	1	2.00	<0.00850	102	58.8 - 133.7
Xylene		1	6.35	mg/Kg	1	6.00	<0.00613	106	57 - 134.2

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.90	mg/Kg	1	2.00	<0.0118	95	69.4 - 123.6	0	20

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Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Toluene		1	1.97	mg/Kg	1	2.00	<0.00600	98	75.4 - 134.3	1	20
Ethylbenzene		1	2.07	mg/Kg	1	2.00	<0.00850	104	58.8 - 133.7	1	20
Xylene		1	6.46	mg/Kg	1	6.00	<0.00613	108	57 - 134.2	2	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.02	2.07	mg/Kg	1	2	101	104	79.4 - 141.1
4-Bromofluorobenzene (4-BFB)	2.50	2.64	mg/Kg	1	2	125	132	71 - 167

Matrix Spike (MS-1) Spiked Sample: 286912

QC Batch: 88172
Prep Batch: 74862

Date Analyzed: 2012-01-30
QC Preparation: 2012-01-30

Analyzed By: tc
Prepared By: tc

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	19.1	mg/Kg	1	20.0	3.9656	76	61.8 - 114

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	17.7	mg/Kg	1	20.0	3.9656	69	61.8 - 114	8	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.73	1.62	mg/Kg	1	2	86	81	29.4 - 161.7
4-Bromofluorobenzene (4-BFB)	1.90	1.72	mg/Kg	1	2	95	86	37.3 - 162

Matrix Spike (MS-1) Spiked Sample: 286913

QC Batch: 88175
Prep Batch: 74852

Date Analyzed: 2012-01-31
QC Preparation: 2012-01-30

Analyzed By: DA
Prepared By: DA

Param			F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	Q*	Q*		1	198	mg/Kg	5	250	106	37	38.8 - 153.3

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

Param				MSD		Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
	F	C	Result	Units								
DRO	Q _r	Q _r	1	332	mg/Kg	5	250	106	90	38.8 - 153.3	51	20

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

Surrogate			MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	Q _{sr}	Q _{sr}	323	506	mg/Kg	5	100	323	506	54.6 - 149.8

Calibration Standards

Standard (CCV-3)

QC Batch: 87960

Date Analyzed: 2012-01-21

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	200	80	80 - 120	2012-01-21

Standard (CCV-4)

QC Batch: 87960

Date Analyzed: 2012-01-21

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	215	86	80 - 120	2012-01-21

Standard (CCV-1)

QC Batch: 87961

Date Analyzed: 2012-01-21

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	208	83	80 - 120	2012-01-21

Standard (CCV-2)

QC Batch: 87961

Date Analyzed: 2012-01-21

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	211	84	80 - 120	2012-01-21

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Standard (CCV-1)

QC Batch: 87963

Date Analyzed: 2012-01-23

Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.105	105	80 - 120	2012-01-23
Toluene		1	mg/Kg	0.100	0.100	100	80 - 120	2012-01-23
Ethylbenzene		1	mg/Kg	0.100	0.0944	94	80 - 120	2012-01-23
Xylene		1	mg/Kg	0.300	0.280	93	80 - 120	2012-01-23

Standard (CCV-2)

QC Batch: 87963

Date Analyzed: 2012-01-23

Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.102	102	80 - 120	2012-01-23
Toluene		1	mg/Kg	0.100	0.0977	98	80 - 120	2012-01-23
Ethylbenzene		1	mg/Kg	0.100	0.0893	89	80 - 120	2012-01-23
Xylene		1	mg/Kg	0.300	0.266	89	80 - 120	2012-01-23

Standard (CCV-3)

QC Batch: 87963

Date Analyzed: 2012-01-23

Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.102	102	80 - 120	2012-01-23
Toluene		1	mg/Kg	0.100	0.0972	97	80 - 120	2012-01-23
Ethylbenzene		1	mg/Kg	0.100	0.0921	92	80 - 120	2012-01-23
Xylene		1	mg/Kg	0.300	0.276	92	80 - 120	2012-01-23

Standard (CCV-1)

QC Batch: 87964

Date Analyzed: 2012-01-23

Analyzed By: DA

Report Date: January 31, 2012
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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.914	91	80 - 120	2012-01-23

Standard (CCV-2)

QC Batch: 87964

Date Analyzed: 2012-01-23

Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.924	92	80 - 120	2012-01-23

Standard (CCV-3)

QC Batch: 87964

Date Analyzed: 2012-01-23

Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.18	118	80 - 120	2012-01-23

Standard (CCV-2)

QC Batch: 88045

Date Analyzed: 2012-01-24

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.100	100	80 - 120	2012-01-24
Toluene		1	mg/Kg	0.100	0.0951	95	80 - 120	2012-01-24
Ethylbenzene		1	mg/Kg	0.100	0.0867	87	80 - 120	2012-01-24
Xylene		1	mg/Kg	0.300	0.258	86	80 - 120	2012-01-24

Standard (CCV-3)

QC Batch: 88045

Date Analyzed: 2012-01-24

Analyzed By: tc

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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene			mg/Kg	0.100	0.101	101	80 - 120	2012-01-24
Toluene			mg/Kg	0.100	0.0941	94	80 - 120	2012-01-24
Ethylbenzene			mg/Kg	0.100	0.0880	88	80 - 120	2012-01-24
Xylene			mg/Kg	0.300	0.262	87	80 - 120	2012-01-24

Standard (ICV-1)

QC Batch: 88050

Date Analyzed: 2012-01-25

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.4	99	85 - 115	2012-01-25

Standard (CCV-1)

QC Batch: 88050

Date Analyzed: 2012-01-25

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2012-01-25

Standard (ICV-1)

QC Batch: 88051

Date Analyzed: 2012-01-25

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-01-25

Standard (CCV-1)

QC Batch: 88051

Date Analyzed: 2012-01-25

Analyzed By: AR

Report Date: January 31, 2012
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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.9	100	85 - 115	2012-01-25

Standard (CCV-2)

QC Batch: 88054

Date Analyzed: 2012-01-24

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.929	93	80 - 120	2012-01-24

Standard (CCV-3)

QC Batch: 88054

Date Analyzed: 2012-01-24

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.09	109	80 - 120	2012-01-24

Standard (ICV-1)

QC Batch: 88067

Date Analyzed: 2012-01-25

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.7	100	85 - 115	2012-01-25

Standard (CCV-1)

QC Batch: 88067

Date Analyzed: 2012-01-25

Analyzed By: AR

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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-01-25

Standard (ICV-1)

QC Batch: 88068

Date Analyzed: 2012-01-25

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-01-25

Standard (CCV-1)

QC Batch: 88068

Date Analyzed: 2012-01-25

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.7	100	85 - 115	2012-01-25

Standard (CCV-1)

QC Batch: 88125

Date Analyzed: 2012-01-27

Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO			mg/Kg	250	258	103	80 - 120	2012-01-27

Standard (CCV-2)

QC Batch: 88125

Date Analyzed: 2012-01-27

Analyzed By: DA

Report Date: January 31, 2012
114-6401145

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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	245	98	80 - 120	2012-01-27

Standard (CCV-3)

QC Batch: 88125

Date Analyzed: 2012-01-27

Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	266	106	80 - 120	2012-01-27

Standard (CCV-1)

QC Batch: 88141

Date Analyzed: 2012-01-27

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.0878	88	80 - 120	2012-01-27
Toluene		1	mg/Kg	0.100	0.0850	85	80 - 120	2012-01-27
Ethylbenzene		1	mg/Kg	0.100	0.0837	84	80 - 120	2012-01-27
Xylene		1	mg/Kg	0.300	0.260	87	80 - 120	2012-01-27

Standard (CCV-2)

QC Batch: 88141

Date Analyzed: 2012-01-27

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.0998	100	80 - 120	2012-01-27
Toluene		1	mg/Kg	0.100	0.0983	98	80 - 120	2012-01-27
Ethylbenzene		1	mg/Kg	0.100	0.0942	94	80 - 120	2012-01-27
Xylene		1	mg/Kg	0.300	0.293	98	80 - 120	2012-01-27

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Standard (CCV-1)

QC Batch: 88146

Date Analyzed: 2012-01-27

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.02	102	80 - 120	2012-01-27

Standard (CCV-2)

QC Batch: 88146

Date Analyzed: 2012-01-27

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.07	107	80 - 120	2012-01-27

Standard (CCV-1)

QC Batch: 88171

Date Analyzed: 2012-01-30

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.0881	88	80 - 120	2012-01-30
Toluene		1	mg/Kg	0.100	0.0888	89	80 - 120	2012-01-30
Ethylbenzene		1	mg/Kg	0.100	0.0848	85	80 - 120	2012-01-30
Xylene		1	mg/Kg	0.300	0.265	88	80 - 120	2012-01-30

Standard (CCV-2)

QC Batch: 88171

Date Analyzed: 2012-01-30

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.0948	95	80 - 120	2012-01-30
Toluene		1	mg/Kg	0.100	0.0955	96	80 - 120	2012-01-30
Ethylbenzene		1	mg/Kg	0.100	0.0938	94	80 - 120	2012-01-30
Xylene		1	mg/Kg	0.300	0.292	97	80 - 120	2012-01-30

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Eddy Co., NM

Standard (CCV-1)

QC Batch: 88172

Date Analyzed: 2012-01-30

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.10	110	80 - 120	2012-01-30

Standard (CCV-2)

QC Batch: 88172

Date Analyzed: 2012-01-30

Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.12	112	80 - 120	2012-01-30

Standard (CCV-2)

QC Batch: 88175

Date Analyzed: 2012-01-31

Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	287	115	80 - 120	2012-01-31

Standard (CCV-3)

QC Batch: 88175

Date Analyzed: 2012-01-31

Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	295	118	80 - 120	2012-01-31

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-11-3	Midland

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less than ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	<i>Estimated concentration exceeding calibration range.</i>
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

#12011931

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: 3

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:

COG

SITE MANAGER:

Ike Tavaraz

PROJECT NO.:

114-6401145

PROJECT NAME:

COG/ White Oak State TB

Eddy Co, NM

SAMPLE IDENTIFICATION

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP	GRAB	Edley G, NM SAMPLE IDENTIFICATION	NUMBER OF	FILTERED (	HCL	HNO3	ICE	NONE	BTEX 8021B	PH 8015	PAH 8270	RCRA Metals	TCLP Metals	TCLP Volatili	TCLP Semi	RCI	GC/MS Vol.	GC/MS Semi	PCB's 8080	Pest. 808/60	Chloride	Gamma Spe	Alpha Beta	PLM (Asbes	Major Anion		
286896	1/16		S		X	AH-1 0'-1'	1				X		X	X										X							
897						AH-1 1'-1.5'							ND	ND																	
898						AH-1 2'-2.5'																									
899						AH-1 3'-3.5'																									
900						AH-1 4'-4.5'																									
901						AH-1 5'-5.5'																									
902						AH-1 6'-6.5'																									
903						AH-1 7'-7.5'																									
904						AH-2 0'-1'							X	X																	
905						AH-2 1'-1.5'							X	X																	
All tests Metadland																															

RELINQUISHED BY: (Signature)

Date: 1-19-12

RECEIVED BY: (Signature)

Date: 1/19/12

SAMPLED BY: (Print & Initial)

JT/BH

Date: 1/18/12

RELINQUISHED BY: (Signature)

Date: 1-15-12

RECEIVED BY: (Signature)

Date: 1-15-12

SAMPLE SHIPPED BY: (Circle)

FEDEX

BUS

AIRBILL #:

HAND DELIVERED

UPS

OTHER:

RELINQUISHED BY: (Signature)

Date:

RECEIVED BY: (Signature)

Date:

TETRA TECH CONTACT PERSON:

Results by:

RECEIVING LABORATORY:

ADDRESS:

CITY: Midland

STATE: TX

ZIP:

CONTACT:

PHONE:

RECEIVED BY: (Signature)

DATE:

TIME:

SAMPLE CONDITION WHEN RECEIVED:

REMARKS:

5.1' Intact

If total TPH exceeds 1,000 mg/kg run deeper sample / If Benzene exceeds 10 mg/kg

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

or Total BTEX exceeds 50 mg/kg run deeper samples

#12011931

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) 682-3946

 ANALYSIS REQUEST
 (Circle or Specify Method No.)

CLIENT NAME:			SITE MANAGER:			NUMBER OF CONTAINERS	PRESERVATIVE METHOD					BTEX 8021B	TPH 8015 MOD	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	FCL	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	
LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP	GRAB		PROJECT NO.:	PROJECT NAME:	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL																		HNO3
COG			Ike Tavarre																										
114-6401145			COG			White Oak State TB																							
						Eddy Co, NM																							
						SAMPLE IDENTIFICATION																							
906	1/18		S	X				AH-2 2'-2.5'					X																
907								AH-2 3'-3.5'																					
908								AH-3 0-1'					X	X															
909								AH-3 1'-1.5'					X																
910								AH-3 2'-2.5'																					
911								AH-3 3'-3.5'																					
912								AH-3 4'-4.5'																					
913								AH-3 5'-5.5'																					
914								AH-4 0-1'					X	X															
915								AH-4 1'-1.5'					X																
RELINQUISHED BY: (Signature)			Date: 1-19-12			RECEIVED BY: (Signature)			Date: 1/19/12			SAMPLED BY: (Print & Initial)			Date: 1/18/12														
RELINQUISHED BY: (Signature)			Time: 1515			RECEIVED BY: (Signature)			Time: 1515			SAMPLE SHIPPED BY: (Circle)			AIRBILL #:														
RELINQUISHED BY: (Signature)			Date: _____			RECEIVED BY: (Signature)			Date: _____			FEDEX			BUS			OTHER:											
RELINQUISHED BY: (Signature)			Time: _____			RECEIVED BY: (Signature)			Time: _____			HAND DELIVERED			UPS														
RECEIVING LABORATORY:			Trace			RECEIVED BY: (Signature)			Date: _____			TETRA TECH CONTACT PERSON:			Ike Tavarre			Results by:											
ADDRESS:			Midland			RECEIVED BY: (Signature)			Date: _____									RUSH Charges			Authorized:								
CITY:			TX			RECEIVED BY: (Signature)			Date: _____									Yes			No								
CONTACT:			PHONE: _____			RECEIVED BY: (Signature)			Date: _____																				
SAMPLE CONDITION WHEN RECEIVED:			510 intact			RECEIVED BY: (Signature)			Date: _____																				
REMARKS:						RECEIVED BY: (Signature)			Date: _____																				

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

#12011931

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) 682-3946

 ANALYSIS REQUEST
 (Circle or Specify Method No.)

CLIENT NAME:

COG

SITE MANAGER:

Ike Tavaraz

PROJECT NO.:

114-6401145

PROJECT NAME:

COG / White Oak State TB

LAB I.D.
NUMBERDATE
2012

TIME

MATRIX
COMP.
GRAB

NUMBER OF CONTAINERS

FILTERED (Y/N)

HCL

HNO3

ICE

NONE

PRESERVATIVE
METHOD

(BTEX 8021B)

(TPH 8015 MOD)

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

PCBs 8080/608

Pest. 808/608

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

RELINQUISHED BY: (Signature)

Date:

1-19-12

Time:

1515

RECEIVED BY: (Signature)

Date:

1/19/12

Time:

5/5

SAMPLED BY: (Print & Initial)

JT / BH

Date:

1/18/12

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

SAMPLE SHIPPED BY: (Circle)

FEDEX

AIRBILL #:

OTHER:

HAND DELIVERED

BUS

UPS

TETRA TECH CONTACT PERSON:

Results by:

RECEIVING LABORATORY:

Tetra

RECEIVED BY: (Signature)

ADDRESS:

CITY:

Midland

STATE:

TX

ZIP:

CONTACT:

PHONE:

DATE:

TIME:

SAMPLE CONDITION WHEN RECEIVED:

REMARKS:

51° inside

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

Summary Report

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

Report Date: May 29, 2012

Work Order: 12052116



Project Location: Eddy Co., NM
Project Name: COG/White Oak State #1
Project Number: 114-6401363

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
298016	Trench-1 6' (AH-1 Second Spill)	soil	2012-05-17	00:00	2012-05-21
298017	Trench-1 8' (AH-1 Second Spill)	soil	2012-05-17	00:00	2012-05-21
298018	Trench-1 10' (AH-1 Second Spill)	soil	2012-05-17	00:00	2012-05-21
298019	Bottom Hole 5' (AH-1 Second Spill)	soil	2012-05-17	00:00	2012-05-21
298020	Trench-2 4' (AH-4 First Spill)	soil	2012-05-18	00:00	2012-05-21

Sample - Field Code	BTEX				TPH DRO - NEW	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
298019 - Bottom Hole 5' (AH-1 Second Spill)	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
298020 - Trench-2 4' (AH-4 First Spill)	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00

Sample: 298016 - Trench-1 6' (AH-1 Second Spill)

Param	Flag	Result	Units	RL
Chloride		24.9	mg/Kg	4

Sample: 298017 - Trench-1 8' (AH-1 Second Spill)

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 298018 - Trench-1 10' (AH-1 Second Spill)

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Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 298020 - Trench-2 4' (AH-4 First Spill)

Param	Flag	Result	Units	RL
Chloride		781	mg/Kg	4
