

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 Federal 11 20 34 #3	Facility Type Well location

Surface Owner Federal	Mineral Owner	Lease No. 30-025-30424
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LOCATION OF RELEASE

Unit Letter L	Section 11	Township 20S	Range 34E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
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Latitude N 32.5856° Longitude W 103.5374°

NATURE OF RELEASE

Type of Release: Produced water and crude oil	Volume of Release 520 bbls	Volume Recovered 440 bbls
Source of Release Open water tank	Date and Hour of Occurrence 11/20/2012	Date and Hour of Discovery 11/20/2012 5:00 p.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? NMOCD - Geoffrey Leking BLM - Jim Amos	
By Whom? Josh Russo	Date and Hour 11/21/2012 4:30 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

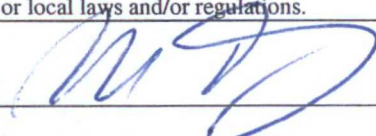
Describe Cause of Problem and Remedial Action Taken.*

The open top water tank overflowed at the well pad location. This spill event was caused by an increasing volume of produced fluid due to the nearby completion activities on the Tiger Federal 11 #1H well.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected and collected samples to define spill extents. None of the samples exceeded the RRAL for TPH and BTEX. Chloride were detected in the soils do not appear significant or an environmental concern. Based on the results, COG requested closure of the site. Tetra Tech prepared closure report and submitted to NMOCD for review.

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

Signature: 	OIL CONSERVATION DIVISION		
Printed Name: Ike Tavarez (agent for COG)	Approved by District Supervisor:		
Title: Project Manager	Approval Date:	Expiration Date:	
E-mail Address: ike.tavarez@tetrattech.com	Conditions of Approval:		Attached ☐
Date: 3-6-13 Phone: (432) 682-4559			

* Attach Additional Sheets If Necessary

HOBBS OCD

pJXK1681129683
4096

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APR 23 2013

State of New Mexico
Energy Minerals and Natural Resources

RECEIVED

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

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side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	600 West Illinois Avenue, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Federal 11 20 34 #3	Facility Type	Well location

Surface Owner	Federal	Mineral Owner		Lease No. (API#)	30-025-30424
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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
L	11	20S	34E					Lea

Latitude 32.5856 Longitude 103.5374

NATURE OF RELEASE

Type of Release Produced water / Crude oil	Volume of Release 520bbls	Volume Recovered 440bbls
Source of Release Open top water tank	Date and Hour of Occurrence 11/20/2012	Date and Hour of Discovery 11/20/2012 5:00 p.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Geoffrey Leking-OCD Jim Amos-BLM Terry Gregston-BLM	
By Whom? Michelle Mullins	Date and Hour 11/21/2012 4:30 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

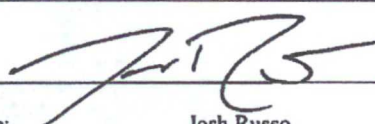
Describe Cause of Problem and Remedial Action Taken.*

The open top water tank overflowed at the well pad location. This spill event was caused by an increased volume of produced fluid due to the nearby completion activities on the Tiger Federal 11 #1H well.

Describe Area Affected and Cleanup Action Taken.*

Initially 520bbls were released from the open top water tank at the Federal 11 20 34 #3 well location and we were able to recover 440bbls with vacuum trucks. The released fluid traveled from the pad area into the pasture adjacent to the location. We have performed a scrape of the pasture area to reduce the surface impact of the release. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD/BLM for approval prior to any significant remediation work.

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

Signature: 		OIL CONSERVATION DIVISION	
Printed Name: Josh Russo		Approved by District Supervisor:	
Title: Senior Environmental Coordinator	Approval Date:	Expiration Date:	
E-mail Address: jrusso@concho.com	Conditions of Approval:	Attached ☐	
Date: 12/04/2012 Phone: 432-212-2399			

* Attach Additional Sheets If Necessary

SITE INFORMATION

Report Type: Closure Report

General Site Information:

Site:	Federal 11 20 34 #3 Well Site					
Company:	COG Operating LLC					
Section, Township and Range	Unit L	Sec 11	T20S	R34E		
Lease Number:	API-30-025-30424					
County:	Lea County					
GPS:	32.58533° N			103.53707° W		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	At the intersection of Hwy 62/180 and Hwy 529, travel southwest on Hwy 62/180 for 8.7 miles, turn left on Marathon Rd and travel 3.2 miles, turn right and travel 0.8 miles, turn left and travel 0.3 miles, turn right and travel 0.2 miles to the site.					

Release Data:

Date Released:	11/20/2012
Type Release:	Produced Water/Crude Oil
Source of Contamination:	Open top water tank
Fluid Released:	520 bbls
Fluids Recovered:	440 bbls

Official Communication:

Name:	Pat Ellis	Ike Tavaréz
Company:	COG Operating, LLC	Tetra Tech
Address:	One Concho Center	1910 N. Big Spring
P.O. Box	600 W. Illinois Ave.	
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

HOBBS OCD

APR 23 2013

RECEIVED



TETRA TECH

March 6, 2013

HOBBS OCD

APR 23 2013

RECEIVED

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

Re: Closure Request for the COG Operating LLC., Federal 11 20 34 #3, Well Site, Unit L, Section 11, Township 20 South, Range 34 East, Lea County, New Mexico.

Mr. Leking:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Federal 11 20 34 #3, Well Site, Unit L, Section 11, Township 20 South, Range 34 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.58533°, W 103.53707°. 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 November 20, 2013, and released approximately five hundred and twenty (520) barrels of oil and produced water from an open top water tank, with four hundred and forty (440) barrels of standing fluids recovered. The spill initiated inside of the facility and then breached the facility firewall migrating south into the pasture and measured approximately 40' x 50', 60' x 110' and 15' x 145'. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 11. According to the NMOCD groundwater map, the average depth to groundwater in this area is greater than 140' below surface. The average depth to groundwater map is shown in Appendix B.

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559

Fax 432.682.3946

www.tetrattech.com



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 December 11, 2013, Tetra Tech personnel inspected and sampled the spill area. Ten (10) auger holes (AH-1 through AH-10) were installed using a stainless steel hand auger to assess the impacted soils. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The spill area and auger hole locations are shown on Figure 3.

Referring to Table 1, none of the samples exceeded the RRAL for TPH and BTEX. Auger holes (AH-1 and AH-6) detected a shallow chloride of 1,590 mg/kg and 1,130 mg/kg at 0-1.0', which significantly declined at 1.5' below surface. Auger holes (AH-8, AH-9 and AH-10) at 2.0' detected chloride concentrations of 1,690 mg/kg, 1,160 mg/kg and 1,000 mg/kg, respectively. The chloride spike at 2.0' depth interval appears to be related to the pipeline right-of-way and the chlorides detected are limited and does not appear to be significant or an environmental concern.

Recommendations

Based on the depth to groundwater (125'), the surface chloride detected on the pad and pasture does not appear to be an environmental concern. COG proposes to perform some general housekeeping on the pad to remove some of the surficial chlorides. The remaining chlorides in the pasture will be deferred until abandonment.



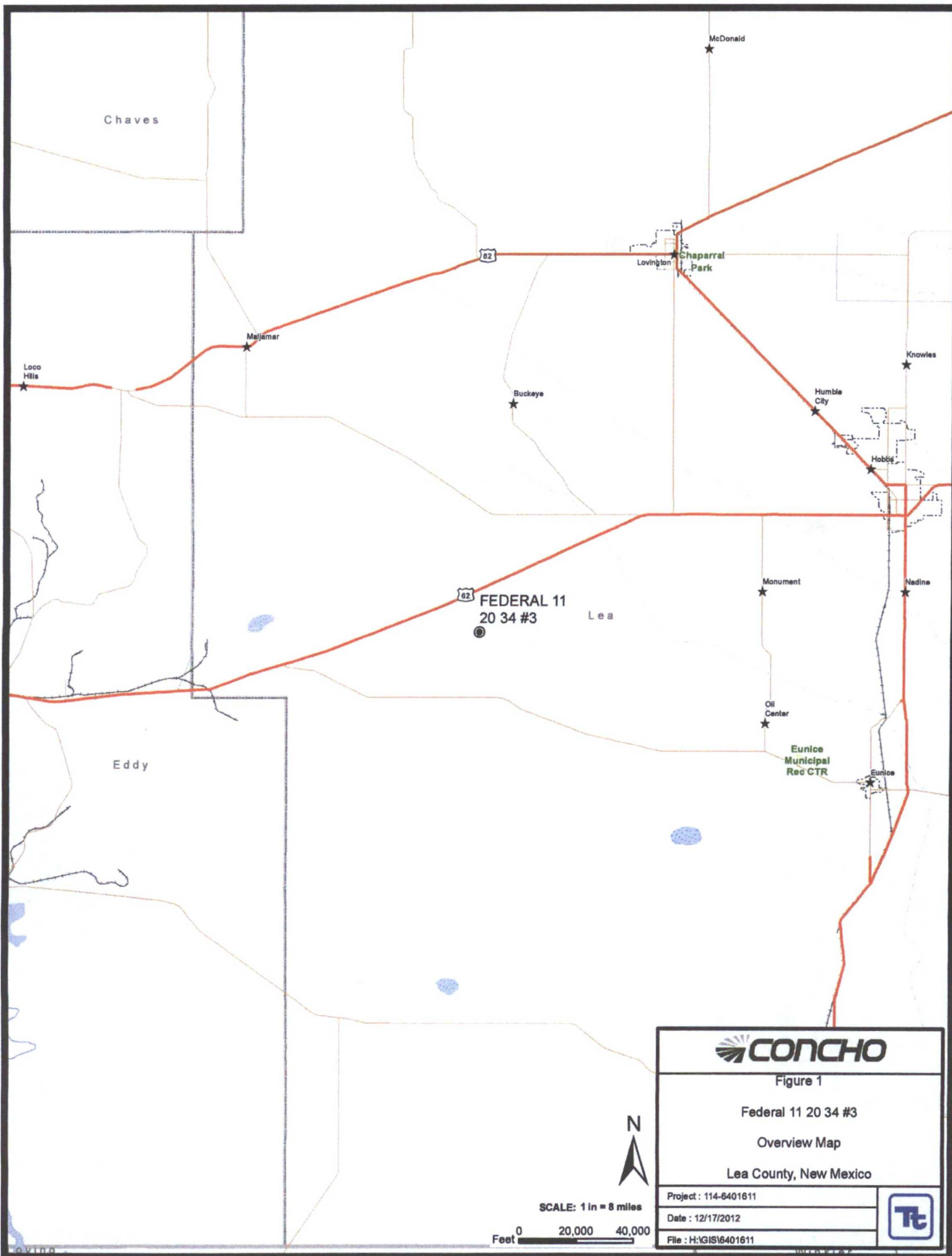
TETRA TECH

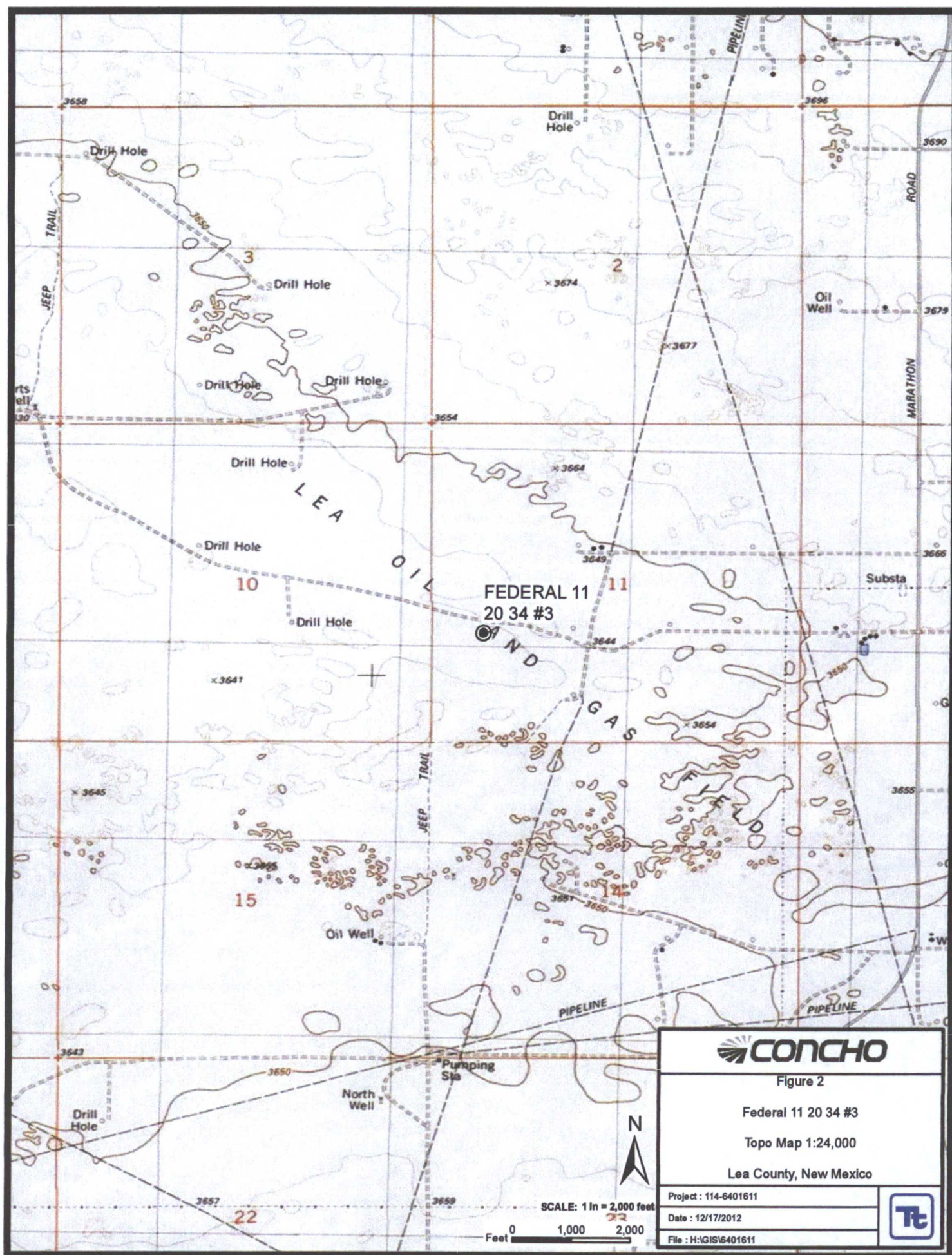
Based on the data, COG request closure of the site. A copy of the C-141 (Final) is included in Appendix A. If you have any questions or comments concerning the assessment data, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Ike Tavaréz, PG
Senior Project Manager

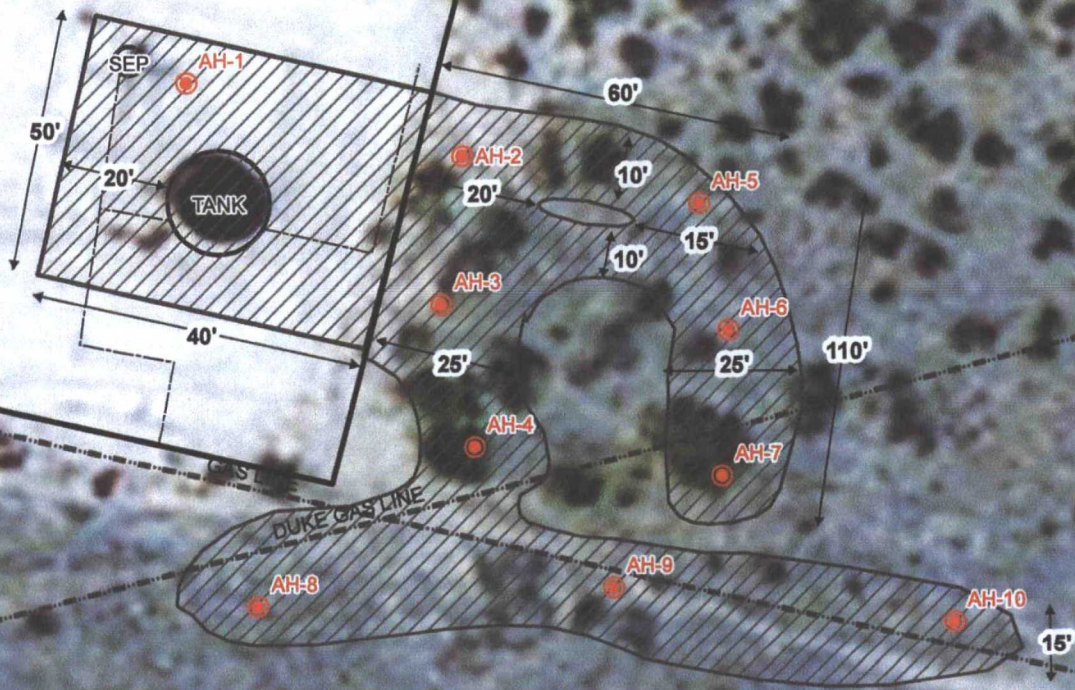
cc: Pat Ellis – COG
cc: Jim Amos - BLM





PAD

PASTURE



EXPLANATION

- AUGER HOLE SAMPLE LOCATIONS
- ▨ SPILL AREA

SCALE: 1 IN = 38 FEET

Feet 0 20 40



Figure 3

Federal 11 20 34 #3

Spill Assessment Map

Lea County, New Mexico

Project : 114-6401611

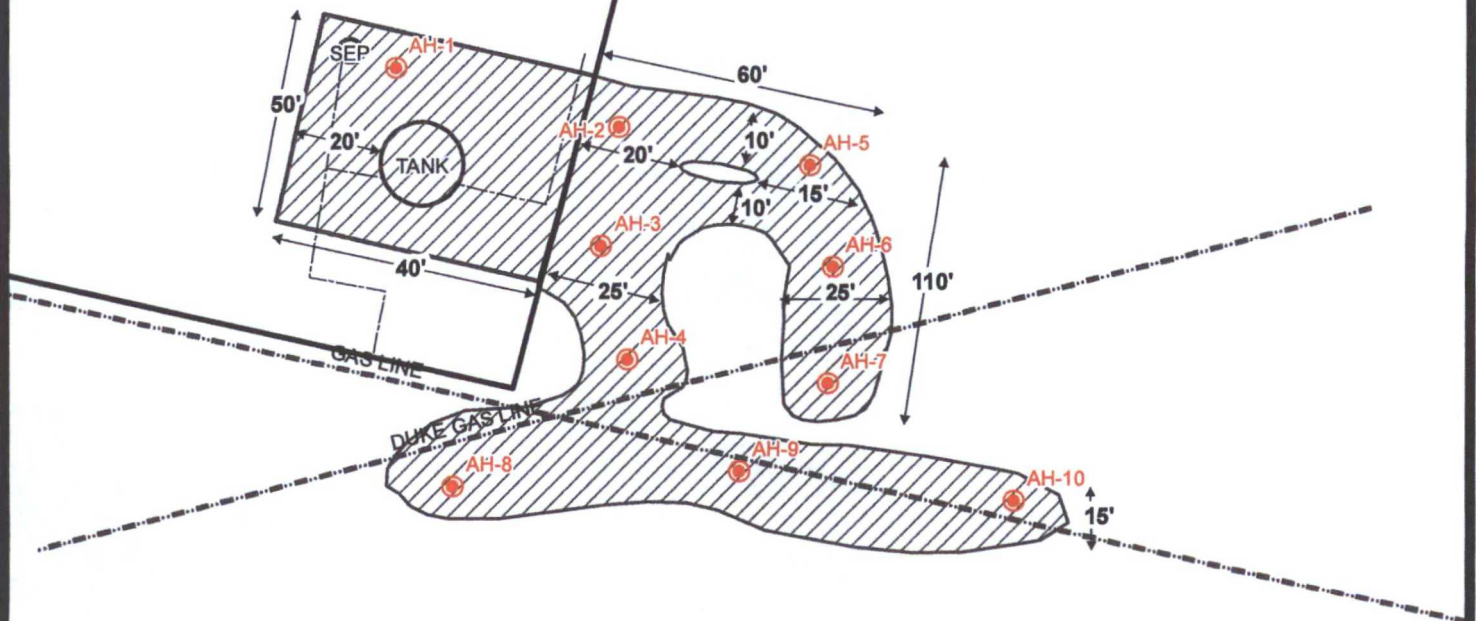
Date : 12/17/2012

File : H:\GIS\6401611



PAD

PASTURE



PASTURE

EXPLANATION

- AUGER HOLE SAMPLE LOCATIONS
- ▨ SPILL AREA

SCALE: 1 IN = 47 FEET

Feet 0 20 40



Figure 3

Federal 11 20 34 #3

Spill Assessment Map

Lea County, New Mexico

Project : 114-6401611

Date : 12/17/2012

File : H:\GIS\6401611



Table 1
COG Operating LLC.
Federal 11 20 34 #3
Lea County, New Mexico

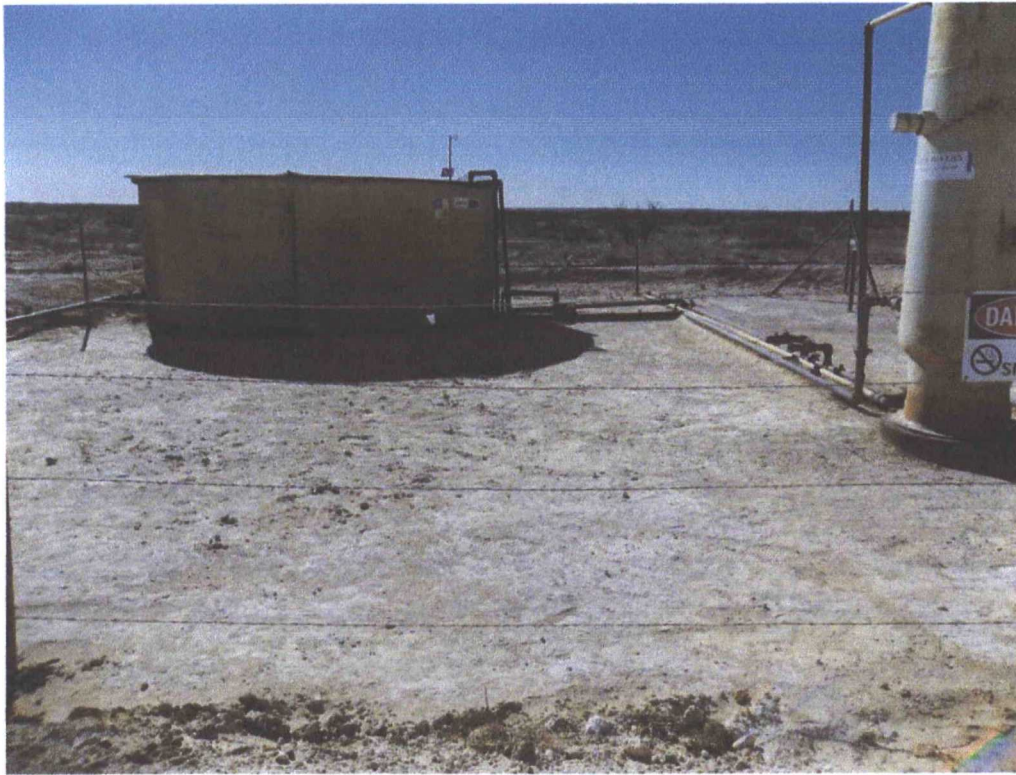
Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
AH-7	12/11/2012	0-1	X		5.93	<50.0	5.93	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	400
	"	1-1.5	X		-	-	-	-	-	-	-	-	724
	"	2-2.5	X		-	-	-	-	-	-	-	-	940
	"	3-3.5	X		-	-	-	-	-	-	-	-	724
AH-8	12/11/2012	0-1	X		36.9	273	310	<0.0400	<0.0400	<0.0400	<0.0400	<0.0400	594
	"	1-1.5	X		-	-	-	-	-	-	-	-	877
	"	2-2.5	X		-	-	-	-	-	-	-	-	1,690
	"	3-3.5	X		-	-	-	-	-	-	-	-	135
AH-9	12/11/2012	0-1	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	610
	"	1-1.5	X		-	-	-	-	-	-	-	-	776
	"	2-2.5	X		-	-	-	-	-	-	-	-	1,160
	"	3-3.5	X		-	-	-	-	-	-	-	-	678
	"	4-4.5	X		-	-	-	-	-	-	-	-	98.7
	"	5-5.5	X		-	-	-	-	-	-	-	-	98.7
AH-10	12/11/2012	0-1	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	601
	"	1-1.5	X		-	-	-	-	-	-	-	-	840
	"	2-2.5	X		-	-	-	-	-	-	-	-	1,000
	"	3-3.5	X		-	-	-	-	-	-	-	-	972
	"	4-4.5	X		-	-	-	-	-	-	-	-	725
	"	5-5.5	X		-	-	-	-	-	-	-	-	407
	"	6-6.5	X		-	-	-	-	-	-	-	-	217

(-) Not Analyzed

COG Operating LLC
Federal 11 20 34 #3
Lea County, New Mexico



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View South – Area of AH-1



View South – Area of AH-2, AH-3 and AH-4

COG Operating LLC
Federal 11 20 34 #3
Lea County, New Mexico



TETRA TECH



View South – Area of AH-5, AH-6 and AH-7

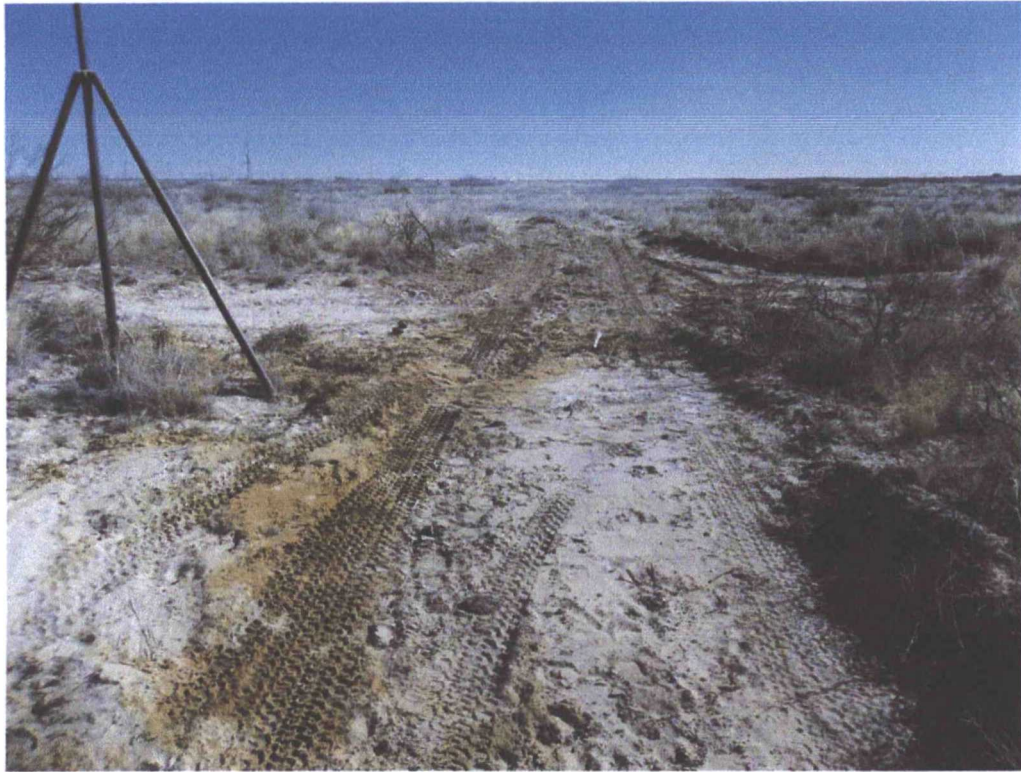


View East – Area of AH-8

COG Operating LLC
Federal 11 20 34 #3
Lea County, New Mexico



TETRA TECH



View East – Area of AH-9 and AH-10

Water Well Data
Average Depth to Groundwater (ft)
COG-Federal 11 20 34 #3
Lea County, New Mexico

19 South 33 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
340	116				
19	20	21	22	23	24
30	29	28 130	27	26 92	25
31	32	dry	34	35 85	36
	185				

19 South 34 East

6	5	4	3	2 100	1
244	8	9 29	10	11 123	12 60
		28.6			
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35 28	36
65					

19 South 35 East

6 61	5	4	3	2	1
58	63	70			63
7	8	9 20	10	11	12
51	18		63		
18	17 26	16	15	14	13
19	20	21	22 26	23 27	24 27
30	29	28	27	26	25
31	32	33	34	35 20	36

20 South 33 East

6	5	4	3	2	1
	278				
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

20 South 34 East

6	5	4 125	3	2	1
7	8	9	10	11	12
18	17 128	16	15	14	13
	140		150		
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34 82	35	36

20 South 35 East

6 56	5 64	4	3	2	1
64					
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	65	32	33	34	35
		89			

21 South 32 East

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

21 South 33 East

6	5	4	3	2 79	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	33 179	34	35	36

21 South 34 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

- New Mexico State Engineers Well Reports
- USGS Well Reports
- Geology and Groundwater Conditions in Southern Eddy, County, NM
- NMOCD - Groundwater Data
- Field water level
- New Mexico Water and Infrastructure Data System

Summary Report

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

Report Date: December 26, 2012

Work Order: 12121342



Project Location: Lea Co., NM
Project Name: COG/Fed. 11 20 34 #3
Project Number: 114-6401611

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
316682	AH-1 0-1'	soil	2012-12-11	00:00	2012-12-13
316683	AH-1 1-1.5'	soil	2012-12-11	00:00	2012-12-13
316684	AH-1 2-2.5'	soil	2012-12-11	00:00	2012-12-13
316685	AH-1 3-3.5'	soil	2012-12-11	00:00	2012-12-13
316686	AH-2 0-1'	soil	2012-12-11	00:00	2012-12-13
316687	AH-2 1-1.5'	soil	2012-12-11	00:00	2012-12-13
316688	AH-2 2-2.5'	soil	2012-12-11	00:00	2012-12-13
316689	AH-2 3-3.5'	soil	2012-12-11	00:00	2012-12-13
316690	AH-3 0-1'	soil	2012-12-11	00:00	2012-12-13
316691	AH-3 1-1.5'	soil	2012-12-11	00:00	2012-12-13
316692	AH-3 2-2.5'	soil	2012-12-11	00:00	2012-12-13
316693	AH-3 3-3.5'	soil	2012-12-11	00:00	2012-12-13
316694	AH-4 0-1'	soil	2012-12-11	00:00	2012-12-13
316695	AH-4 1-1.5'	soil	2012-12-11	00:00	2012-12-13
316696	AH-4 2-2.5'	soil	2012-12-11	00:00	2012-12-13
316697	AH-4 3-3.5'	soil	2012-12-11	00:00	2012-12-13
316698	AH-5 0-1'	soil	2012-12-11	00:00	2012-12-13
316699	AH-5 1-1.5'	soil	2012-12-11	00:00	2012-12-13
316700	AH-5 2-2.5'	soil	2012-12-11	00:00	2012-12-13
316701	AH-5 3-3.5'	soil	2012-12-11	00:00	2012-12-13
316702	AH-6 0-1'	soil	2012-12-11	00:00	2012-12-13
316703	AH-6 1-1.5'	soil	2012-12-11	00:00	2012-12-13
316704	AH-6 2-2.5'	soil	2012-12-11	00:00	2012-12-13
316705	AH-6 3-3.5'	soil	2012-12-11	00:00	2012-12-13
316706	AH-7 0-1'	soil	2012-12-11	00:00	2012-12-13
316707	AH-7 1-1.5'	soil	2012-12-11	00:00	2012-12-13
316708	AH-7 2-2.5'	soil	2012-12-11	00:00	2012-12-13
316709	AH-7 3-3.5'	soil	2012-12-11	00:00	2012-12-13
316710	AH-8 0-1'	soil	2012-12-11	00:00	2012-12-13
316711	AH-8 1-1.5'	soil	2012-12-11	00:00	2012-12-13

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
316712	AH-8 2-2.5'	soil	2012-12-11	00:00	2012-12-13
316713	AH-8 3-3.5'	soil	2012-12-11	00:00	2012-12-13
316714	AH-9 0-1'	soil	2012-12-11	00:00	2012-12-13
316715	AH-9 1-1.5'	soil	2012-12-11	00:00	2012-12-13
316716	AH-9 2-2.5'	soil	2012-12-11	00:00	2012-12-13
316717	AH-9 3-3.5'	soil	2012-12-11	00:00	2012-12-13
316718	AH-9 4-4.5'	soil	2012-12-11	00:00	2012-12-13
316719	AH-9 5-5.5'	soil	2012-12-11	00:00	2012-12-13
316720	AH-9 6-6.5'	soil	2012-12-11	00:00	2012-12-13
316721	AH-10 0-1'	soil	2012-12-11	00:00	2012-12-13
316722	AH-10 1-1.5'	soil	2012-12-11	00:00	2012-12-13
316723	AH-10 2-2.5'	soil	2012-12-11	00:00	2012-12-13
316724	AH-10 3-3.5'	soil	2012-12-11	00:00	2012-12-13
316725	AH-10 4-4.5'	soil	2012-12-11	00:00	2012-12-13
316726	AH-10 5-5.5'	soil	2012-12-11	00:00	2012-12-13
316727	AH-10 6-6.5'	soil	2012-12-11	00:00	2012-12-13

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)
316682 - AH-1 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0 Qs	<4.00
316686 - AH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0 Qs	<4.00
316690 - AH-3 0-1'	<0.0400 ¹	<0.0400	<0.0400	<0.0400	854 Qs	71.0
316694 - AH-4 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	2600 Qs	6.67
316698 - AH-5 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	115 Qs	4.24
316702 - AH-6 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	78.0 Qs	<4.00
316706 - AH-7 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0 Qs	5.93
316710 - AH-8 0-1'	<0.0400 ²	<0.0400	<0.0400	<0.0400	273 Qs	36.9
316714 - AH-9 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0 Qs	<4.00
316721 - AH-10 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0 Qs	<4.00

Sample: 316682 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		1590	mg/Kg	4

Sample: 316683 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		183	mg/Kg	4

Sample: 316684 - AH-1 2-2.5'¹Dilution due to hydrocarbons.²Dilution due to hydrocarbons.

Param	Flag	Result	Units	RL
Chloride		100	mg/Kg	4

Sample: 316685 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		105	mg/Kg	4

Sample: 316686 - AH-2 0-1'

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

Sample: 316687 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		68.5	mg/Kg	4

Sample: 316688 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		319	mg/Kg	4

Sample: 316689 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		452	mg/Kg	4

Sample: 316690 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		324	mg/Kg	4

Sample: 316691 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		507	mg/Kg	4

Sample: 316692 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		265	mg/Kg	4

Sample: 316693 - AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		95.8	mg/Kg	4

Sample: 316694 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		73.0	mg/Kg	4

Sample: 316695 - AH-4 1-1.5'

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

Sample: 316696 - AH-4 2-2.5'

Param	Flag	Result	Units	RL
Chloride		59.3	mg/Kg	4

Sample: 316697 - AH-4 3-3.5'

Param	Flag	Result	Units	RL
Chloride		68.4	mg/Kg	4

Sample: 316698 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		401	mg/Kg	4

Sample: 316699 - AH-5 1-1.5'

Param	Flag	Result	Units	RL
Chloride		214	mg/Kg	4

Sample: 316700 - AH-5 2-2.5'

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

Sample: 316701 - AH-5 3-3.5'

Param	Flag	Result	Units	RL
Chloride		31.9	mg/Kg	4

Sample: 316702 - AH-6 0-1'

Param	Flag	Result	Units	RL
Chloride		1130	mg/Kg	4

Sample: 316703 - AH-6 1-1.5'

Param	Flag	Result	Units	RL
Chloride		211	mg/Kg	4

Sample: 316704 - AH-6 2-2.5'

Param	Flag	Result	Units	RL
Chloride		171	mg/Kg	4

Sample: 316705 - AH-6 3-3.5'

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

Sample: 316706 - AH-7 0-1'

Param	Flag	Result	Units	RL
Chloride		400	mg/Kg	4

Sample: 316707 - AH-7 1-1.5'

Param	Flag	Result	Units	RL
Chloride		724	mg/Kg	4

Sample: 316708 - AH-7 2-2.5'

Param	Flag	Result	Units	RL
Chloride		940	mg/Kg	4

Sample: 316709 - AH-7 3-3.5'

Param	Flag	Result	Units	RL
Chloride		724	mg/Kg	4

Sample: 316710 - AH-8 0-1'

Param	Flag	Result	Units	RL
Chloride		594	mg/Kg	4

Sample: 316711 - AH-8 1-1.5'

Param	Flag	Result	Units	RL
Chloride		877	mg/Kg	4

Sample: 316712 - AH-8 2-2.5'

Param	Flag	Result	Units	RL
Chloride		1690	mg/Kg	4

Sample: 316713 - AH-8 3-3.5'

Param	Flag	Result	Units	RL
Chloride		135	mg/Kg	4

Sample: 316714 - AH-9 0-1'

Param	Flag	Result	Units	RL
Chloride		610	mg/Kg	4

Sample: 316715 - AH-9 1-1.5'

Param	Flag	Result	Units	RL
Chloride		776	mg/Kg	4

Sample: 316716 - AH-9 2-2.5'

Param	Flag	Result	Units	RL
Chloride		1160	mg/Kg	4

Sample: 316717 - AH-9 3-3.5'

Param	Flag	Result	Units	RL
Chloride		678	mg/Kg	4

Sample: 316718 - AH-9 4-4.5'

Param	Flag	Result	Units	RL
Chloride		98.7	mg/Kg	4

Sample: 316719 - AH-9 5-5.5'

Param	Flag	Result	Units	RL
Chloride		98.7	mg/Kg	4

Sample: 316720 - AH-9 6-6.5'

Param	Flag	Result	Units	RL
Chloride		98.7	mg/Kg	4

Sample: 316721 - AH-10 0-1'

Param	Flag	Result	Units	RL
Chloride		601	mg/Kg	4

Sample: 316722 - AH-10 1-1.5'

Param	Flag	Result	Units	RL
Chloride		840	mg/Kg	4

Sample: 316723 - AH-10 2-2.5'

Param	Flag	Result	Units	RL
Chloride		1000	mg/Kg	4

Sample: 316724 - AH-10 3-3.5'

Param	Flag	Result	Units	RL
Chloride		972	mg/Kg	4

Sample: 316725 - AH-10 4-4.5'

Param	Flag	Result	Units	RL
Chloride		725	mg/Kg	4

Sample: 316726 - AH-10 5-5.5'

Param	Flag	Result	Units	RL
Chloride		407	mg/Kg	4

Sample: 316727 - AH-10 6-6.5'

Param	Flag	Result	Units	RL
Chloride		217	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 Tavarez
Tetra Tech
1910 N. Big Spring Street
Midland, TX, 79705

Report Date: December 26, 2012

Work Order: 12121342



Project Location: Lea Co., NM
Project Name: COG/Fed. 11 20 34 #3
Project Number: 114-6401611

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
316682	AH-1 0-1'	soil	2012-12-11	00:00	2012-12-13
316683	AH-1 1-1.5'	soil	2012-12-11	00:00	2012-12-13
316684	AH-1 2-2.5'	soil	2012-12-11	00:00	2012-12-13
316685	AH-1 3-3.5'	soil	2012-12-11	00:00	2012-12-13
316686	AH-2 0-1'	soil	2012-12-11	00:00	2012-12-13
316687	AH-2 1-1.5'	soil	2012-12-11	00:00	2012-12-13
316688	AH-2 2-2.5'	soil	2012-12-11	00:00	2012-12-13
316689	AH-2 3-3.5'	soil	2012-12-11	00:00	2012-12-13
316690	AH-3 0-1'	soil	2012-12-11	00:00	2012-12-13
316691	AH-3 1-1.5'	soil	2012-12-11	00:00	2012-12-13
316692	AH-3 2-2.5'	soil	2012-12-11	00:00	2012-12-13
316693	AH-3 3-3.5'	soil	2012-12-11	00:00	2012-12-13
316694	AH-4 0-1'	soil	2012-12-11	00:00	2012-12-13
316695	AH-4 1-1.5'	soil	2012-12-11	00:00	2012-12-13
316696	AH-4 2-2.5'	soil	2012-12-11	00:00	2012-12-13
316697	AH-4 3-3.5'	soil	2012-12-11	00:00	2012-12-13
316698	AH-5 0-1'	soil	2012-12-11	00:00	2012-12-13
316699	AH-5 1-1.5'	soil	2012-12-11	00:00	2012-12-13

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
316700	AH-5 2-2.5'	soil	2012-12-11	00:00	2012-12-13
316701	AH-5 3-3.5'	soil	2012-12-11	00:00	2012-12-13
316702	AH-6 0-1'	soil	2012-12-11	00:00	2012-12-13
316703	AH-6 1-1.5'	soil	2012-12-11	00:00	2012-12-13
316704	AH-6 2-2.5'	soil	2012-12-11	00:00	2012-12-13
316705	AH-6 3-3.5'	soil	2012-12-11	00:00	2012-12-13
316706	AH-7 0-1'	soil	2012-12-11	00:00	2012-12-13
316707	AH-7 1-1.5'	soil	2012-12-11	00:00	2012-12-13
316708	AH-7 2-2.5'	soil	2012-12-11	00:00	2012-12-13
316709	AH-7 3-3.5'	soil	2012-12-11	00:00	2012-12-13
316710	AH-8 0-1'	soil	2012-12-11	00:00	2012-12-13
316711	AH-8 1-1.5'	soil	2012-12-11	00:00	2012-12-13
316712	AH-8 2-2.5'	soil	2012-12-11	00:00	2012-12-13
316713	AH-8 3-3.5'	soil	2012-12-11	00:00	2012-12-13
316714	AH-9 0-1'	soil	2012-12-11	00:00	2012-12-13
316715	AH-9 1-1.5'	soil	2012-12-11	00:00	2012-12-13
316716	AH-9 2-2.5'	soil	2012-12-11	00:00	2012-12-13
316717	AH-9 3-3.5'	soil	2012-12-11	00:00	2012-12-13
316718	AH-9 4-4.5'	soil	2012-12-11	00:00	2012-12-13
316719	AH-9 5-5.5'	soil	2012-12-11	00:00	2012-12-13
316720	AH-9 6-6.5'	soil	2012-12-11	00:00	2012-12-13
316721	AH-10 0-1'	soil	2012-12-11	00:00	2012-12-13
316722	AH-10 1-1.5'	soil	2012-12-11	00:00	2012-12-13
316723	AH-10 2-2.5'	soil	2012-12-11	00:00	2012-12-13
316724	AH-10 3-3.5'	soil	2012-12-11	00:00	2012-12-13
316725	AH-10 4-4.5'	soil	2012-12-11	00:00	2012-12-13
316726	AH-10 5-5.5'	soil	2012-12-11	00:00	2012-12-13
316727	AH-10 6-6.5'	soil	2012-12-11	00:00	2012-12-13

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 55 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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Sample 316704 (AH-6 2-2.5')	20
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Case Narrative

Samples for project COG/Fed. 11 20 34 #3 were received by TraceAnalysis, Inc. on 2012-12-13 and assigned to work order 12121342. Samples for work order 12121342 were received intact at a temperature of 1.3 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	82659	2012-12-18 at 16:47	97553	2012-12-18 at 16:47
BTEX	S 8021B	82683	2012-12-19 at 16:47	97588	2012-12-19 at 16:47
Chloride (Titration)	SM 4500-Cl B	82721	2012-12-19 at 10:07	97634	2012-12-20 at 17:24
Chloride (Titration)	SM 4500-Cl B	82721	2012-12-19 at 10:07	97635	2012-12-20 at 17:33
Chloride (Titration)	SM 4500-Cl B	82721	2012-12-19 at 10:07	97636	2012-12-20 at 17:40
Chloride (Titration)	SM 4500-Cl B	82721	2012-12-19 at 10:07	97637	2012-12-20 at 17:48
Chloride (Titration)	SM 4500-Cl B	82736	2012-12-20 at 14:28	97666	2012-12-21 at 16:07
TPH DRO - NEW	S 8015 D	82605	2012-12-14 at 12:00	97481	2012-12-17 at 09:53
TPH GRO	S 8015 D	82665	2012-12-18 at 16:47	97558	2012-12-18 at 16:47
TPH GRO	S 8015 D	82693	2012-12-19 at 16:47	97594	2012-12-19 at 16:47

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 12121342 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: December 26, 2012
114-6401611

Work Order: 12121342
COG/Fed. 11 20 34 #3

Page Number: 7 of 55
Lea Co., NM

Analytical Report

Sample: 316682 - AH-1 0-1'

Laboratory: Midland
Analysis: BTEX
QC Batch: 97588
Prep Batch: 82683

Analytical Method: S 8021B
Date Analyzed: 2012-12-19
Sample Preparation: 2012-12-19

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

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)			1.94	mg/Kg	1	2.00	97	79.5 - 108
4-Bromofluorobenzene (4-BFB)			1.84	mg/Kg	1	2.00	92	71.4 - 108

Sample: 316682 - AH-1 0-1'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 97634
Prep Batch: 82721

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-12-20
Sample Preparation: 2012-12-19

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1590	mg/Kg	10	4.00

Sample: 316682 - AH-1 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 97481
Prep Batch: 82605

Analytical Method: S 8015 D
Date Analyzed: 2012-12-17
Sample Preparation: 2012-12-14

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

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

Report Date: December 26, 2012
114-6401611

Work Order: 12121342
COG/Fed. 11 20 34 #3

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Lea Co., NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qar	Qar	134	mg/Kg	1	100	134	70 - 130

Sample: 316682 - AH-1 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 97594
Prep Batch: 82693

Analytical Method: S 8015 D
Date Analyzed: 2012-12-19
Sample Preparation: 2012-12-19

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.40	mg/Kg	1	2.00	120	70 - 130
4-Bromofluorobenzene (4-BFB)			1.86	mg/Kg	1	2.00	93	70 - 130

Sample: 316683 - AH-1 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 97634
Prep Batch: 82721

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-12-20
Sample Preparation: 2012-12-19

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			183	mg/Kg	5	4.00

Sample: 316684 - AH-1 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 97634
Prep Batch: 82721

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-12-20
Sample Preparation: 2012-12-19

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

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sample 316684 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			100	mg/Kg	5	4.00

Sample: 316685 - AH-1 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 97634 Date Analyzed: 2012-12-20 Analyzed By: AR
Prep Batch: 82721 Sample Preparation: 2012-12-19 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			105	mg/Kg	5	4.00

Sample: 316686 - AH-2 0-1'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 97588 Date Analyzed: 2012-12-19 Analyzed By: YG
Prep Batch: 82683 Sample Preparation: 2012-12-19 Prepared By: YG

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)			1.99	mg/Kg	1	2.00	100	79.5 - 108
4-Bromofluorobenzene (4-BFB)			1.84	mg/Kg	1	2.00	92	71.4 - 108

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Sample: 316686 - AH-2 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-12-20	Analyzed By:	AR
QC Batch:	97634	Sample Preparation:	2012-12-19	Prepared By:	AR
Prep Batch:	82721				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	u		<20.0	mg/Kg	5	4.00

Sample: 316686 - AH-2 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2012-12-17	Analyzed By:	CW
QC Batch:	97481	Sample Preparation:	2012-12-14	Prepared By:	CW
Prep Batch:	82605				

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr		160	mg/Kg	1	100	160	70 - 130

Sample: 316686 - AH-2 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2012-12-19	Analyzed By:	YG
QC Batch:	97594	Sample Preparation:	2012-12-19	Prepared By:	YG
Prep Batch:	82693				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	u	1	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.39	mg/Kg	1	2.00	120	70 - 130
4-Bromofluorobenzene (4-BFB)			1.87	mg/Kg	1	2.00	94	70 - 130

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Sample: 316687 - AH-2 1-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-12-20	Analyzed By:	AR
QC Batch:	97634	Sample Preparation:	2012-12-19	Prepared By:	AR
Prep Batch:	82721				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			68.5	mg/Kg	5	4.00

Sample: 316688 - AH-2 2-2.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-12-20	Analyzed By:	AR
QC Batch:	97634	Sample Preparation:	2012-12-19	Prepared By:	AR
Prep Batch:	82721				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			319	mg/Kg	5	4.00

Sample: 316689 - AH-2 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-12-20	Analyzed By:	AR
QC Batch:	97634	Sample Preparation:	2012-12-19	Prepared By:	AR
Prep Batch:	82721				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			452	mg/Kg	5	4.00

Sample: 316690 - AH-3 0-1'

Laboratory:	Midland	Analytical Method:	S 8021B	Prep Method:	S 5035
Analysis:	BTEX	Date Analyzed:	2012-12-18	Analyzed By:	YG
QC Batch:	97553	Sample Preparation:	2012-12-18	Prepared By:	YG
Prep Batch:	82659				

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Parameter	Flag	Cert	RL	Units	Dilution	RL	
			Result				
Benzene	1	u	1	<0.0400	mg/Kg	2	0.0200
Toluene		u	1	<0.0400	mg/Kg	2	0.0200
Ethylbenzene		u	1	<0.0400	mg/Kg	2	0.0200
Xylene		u	1	<0.0400	mg/Kg	2	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			3.93	mg/Kg	2	4.00	98	79.5 - 108
4-Bromofluorobenzene (4-BFB)			4.04	mg/Kg	2	4.00	101	71.4 - 108

Sample: 316690 - AH-3 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 97634 Date Analyzed: 2012-12-20 Analyzed By: AR
Prep Batch: 82721 Sample Preparation: 2012-12-19 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			324	mg/Kg	5	4.00

Sample: 316690 - AH-3 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 97481 Date Analyzed: 2012-12-17 Analyzed By: CW
Prep Batch: 82605 Sample Preparation: 2012-12-14 Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Q#	1	854	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Q#	Q#	158	mg/Kg	1	100	158	70 - 130

Sample: 316690 - AH-3 0-1'

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 97558 Date Analyzed: 2012-12-18 Analyzed By: YG
Prep Batch: 82665 Sample Preparation: 2012-12-18 Prepared By: YG

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	71.0	mg/Kg	2	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.18	mg/Kg	2	4.00	104	70 - 130
4-Bromofluorobenzene (4-BFB)			4.28	mg/Kg	2	4.00	107	70 - 130

Sample: 316691 - AH-3 1-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-12-20	Analyzed By:	AR
QC Batch:	97634	Sample Preparation:	2012-12-19	Prepared By:	AR
Prep Batch:	82721				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			507	mg/Kg	5	4.00

Sample: 316692 - AH-3 2-2.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-12-20	Analyzed By:	AR
QC Batch:	97635	Sample Preparation:	2012-12-19	Prepared By:	AR
Prep Batch:	82721				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			265	mg/Kg	5	4.00

Sample: 316693 - AH-3 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-12-20	Analyzed By:	AR
QC Batch:	97635	Sample Preparation:	2012-12-19	Prepared By:	AR
Prep Batch:	82721				

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			95.8	mg/Kg	5	4.00

Sample: 316694 - AH-4 0-1'

Laboratory: Midland
Analysis: BTEX
QC Batch: 97553
Prep Batch: 82659

Analytical Method: S 8021B
Date Analyzed: 2012-12-18
Sample Preparation: 2012-12-18

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

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)			1.95	mg/Kg	1	2.00	98	79.5 - 108
4-Bromofluorobenzene (4-BFB)			1.92	mg/Kg	1	2.00	96	71.4 - 108

Sample: 316694 - AH-4 0-1'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 97635
Prep Batch: 82721

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-12-20
Sample Preparation: 2012-12-19

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			73.0	mg/Kg	5	4.00

Sample: 316694 - AH-4 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 97481
Prep Batch: 82605

Analytical Method: S 8015 D
Date Analyzed: 2012-12-17
Sample Preparation: 2012-12-14

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

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Qs	1	2600	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	228	mg/Kg	1	100	228	70 - 130

Sample: 316694 - AH-4 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 97558
Prep Batch: 82665

Analytical Method: S 8015 D
Date Analyzed: 2012-12-18
Sample Preparation: 2012-12-18

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	6.67	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.97	mg/Kg	1	2.00	98	70 - 130
4-Bromofluorobenzene (4-BFB)			2.14	mg/Kg	1	2.00	107	70 - 130

Sample: 316695 - AH-4 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 97635
Prep Batch: 82721

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-12-20
Sample Preparation: 2012-12-19

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	u		<20.0	mg/Kg	5	4.00

Sample: 316696 - AH-4 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 97635
Prep Batch: 82721

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-12-20
Sample Preparation: 2012-12-19

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

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			59.3	mg/Kg	5	4.00

Sample: 316697 - AH-4 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 97635 Date Analyzed: 2012-12-20 Analyzed By: AR
Prep Batch: 82721 Sample Preparation: 2012-12-19 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			68.4	mg/Kg	5	4.00

Sample: 316698 - AH-5 0-1'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 97553 Date Analyzed: 2012-12-18 Analyzed By: YG
Prep Batch: 82659 Sample Preparation: 2012-12-18 Prepared By: YG

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)			1.96	mg/Kg	1	2.00	98	79.5 - 108
4-Bromofluorobenzene (4-BFB)			1.88	mg/Kg	1	2.00	94	71.4 - 108

Sample: 316698 - AH-5 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 97635 Date Analyzed: 2012-12-20 Analyzed By: AR
Prep Batch: 82721 Sample Preparation: 2012-12-19 Prepared By: AR

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			401	mg/Kg	5	4.00

Sample: 316698 - AH-5 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 97481
Prep Batch: 82605

Analytical Method: S 8015 D
Date Analyzed: 2012-12-17
Sample Preparation: 2012-12-14

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Qs	1	115	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qs	Qs	170	mg/Kg	1	100	170	70 - 130

Sample: 316698 - AH-5 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 97558
Prep Batch: 82665

Analytical Method: S 8015 D
Date Analyzed: 2012-12-18
Sample Preparation: 2012-12-18

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	4.24	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.38	mg/Kg	1	2.00	119	70 - 130
4-Bromofluorobenzene (4-BFB)			2.04	mg/Kg	1	2.00	102	70 - 130

Sample: 316699 - AH-5 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 97635
Prep Batch: 82721

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-12-20
Sample Preparation: 2012-12-19

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

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			214	mg/Kg	5	4.00

Sample: 316700 - AH-5 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 97635
Prep Batch: 82721

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-12-20
Sample Preparation: 2012-12-19

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	u		<20.0	mg/Kg	5	4.00

Sample: 316701 - AH-5 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 97635
Prep Batch: 82721

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-12-20
Sample Preparation: 2012-12-19

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			31.9	mg/Kg	5	4.00

Sample: 316702 - AH-6 0-1'

Laboratory: Midland
Analysis: BTEX
QC Batch: 97553
Prep Batch: 82659

Analytical Method: S 8021B
Date Analyzed: 2012-12-18
Sample Preparation: 2012-12-18

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

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

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sample 316702 continued ...

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.99	mg/Kg	1	2.00	100	79.5 - 108
4-Bromofluorobenzene (4-BFB)			1.96	mg/Kg	1	2.00	98	71.4 - 108

Sample: 316702 - AH-6 0-1'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 97636

Prep Batch: 82721

Analytical Method: SM 4500-Cl B

Date Analyzed: 2012-12-20

Sample Preparation: 2012-12-19

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1130	mg/Kg	5	4.00

Sample: 316702 - AH-6 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 97481

Prep Batch: 82605

Analytical Method: S 8015 D

Date Analyzed: 2012-12-17

Sample Preparation: 2012-12-14

Prep Method: N/A

Analyzed By: CW

Prepared By: CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Q _{sr}	1	78.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Q _{sr}	Q _{sr}	146	mg/Kg	1	100	146	70 - 130

Sample: 316702 - AH-6 0-1'

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 97558

Prep Batch: 82665

Analytical Method: S 8015 D

Date Analyzed: 2012-12-18

Sample Preparation: 2012-12-18

Prep Method: S 5035

Analyzed By: YG

Prepared By: YG

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.15	mg/Kg	1	2.00	108	70 - 130
4-Bromofluorobenzene (4-BFB)			2.00	mg/Kg	1	2.00	100	70 - 130

Sample: 316703 - AH-6 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 97636 Date Analyzed: 2012-12-20 Analyzed By: AR
Prep Batch: 82721 Sample Preparation: 2012-12-19 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			211	mg/Kg	5	4.00

Sample: 316704 - AH-6 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 97636 Date Analyzed: 2012-12-20 Analyzed By: AR
Prep Batch: 82721 Sample Preparation: 2012-12-19 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			171	mg/Kg	5	4.00

Sample: 316705 - AH-6 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 97636 Date Analyzed: 2012-12-20 Analyzed By: AR
Prep Batch: 82721 Sample Preparation: 2012-12-19 Prepared By: AR

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	u		<20.0	mg/Kg	5	4.00

Sample: 316706 - AH-7 0-1'

Laboratory: Midland
Analysis: BTEX
QC Batch: 97553
Prep Batch: 82659

Analytical Method: S 8021B
Date Analyzed: 2012-12-18
Sample Preparation: 2012-12-18

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

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)			1.99	mg/Kg	1	2.00	100	79.5 - 108
4-Bromofluorobenzene (4-BFB)			1.92	mg/Kg	1	2.00	96	71.4 - 108

Sample: 316706 - AH-7 0-1'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 97636
Prep Batch: 82721

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-12-20
Sample Preparation: 2012-12-19

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			400	mg/Kg	5	4.00

Sample: 316706 - AH-7 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 97481
Prep Batch: 82605

Analytical Method: S 8015 D
Date Analyzed: 2012-12-17
Sample Preparation: 2012-12-14

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	138	mg/Kg	1	100	138	70 - 130

Sample: 316706 - AH-7 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 97558
Prep Batch: 82665

Analytical Method: S 8015 D
Date Analyzed: 2012-12-18
Sample Preparation: 2012-12-18

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	5.93	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.00	mg/Kg	1	2.00	100	70 - 130
4-Bromofluorobenzene (4-BFB)			2.03	mg/Kg	1	2.00	102	70 - 130

Sample: 316707 - AH-7 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 97636
Prep Batch: 82721

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-12-20
Sample Preparation: 2012-12-19

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			724	mg/Kg	5	4.00

Sample: 316708 - AH-7 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 97636
Prep Batch: 82721

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-12-20
Sample Preparation: 2012-12-19

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

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			940	mg/Kg	5	4.00

Sample: 316709 - AH-7 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 97636 Date Analyzed: 2012-12-20 Analyzed By: AR
Prep Batch: 82721 Sample Preparation: 2012-12-19 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			724	mg/Kg	5	4.00

Sample: 316710 - AH-8 0-1'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 97553 Date Analyzed: 2012-12-18 Analyzed By: YG
Prep Batch: 82659 Sample Preparation: 2012-12-18 Prepared By: YG

Parameter	Flag	Cert	RL				
			Result	Units	Dilution	RL	
Benzene	2	u	1	<0.0400	mg/Kg	2	0.0200
Toluene		u	1	<0.0400	mg/Kg	2	0.0200
Ethylbenzene		u	1	<0.0400	mg/Kg	2	0.0200
Xylene		u	1	<0.0400	mg/Kg	2	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			3.88	mg/Kg	2	4.00	97	79.5 - 108
4-Bromofluorobenzene (4-BFB)			4.01	mg/Kg	2	4.00	100	71.4 - 108

Sample: 316710 - AH-8 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 97636 Date Analyzed: 2012-12-20 Analyzed By: AR
Prep Batch: 82721 Sample Preparation: 2012-12-19 Prepared By: AR

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			594	mg/Kg	5	4.00

Sample: 316710 - AH-8 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 97481
Prep Batch: 82605

Analytical Method: S 8015 D
Date Analyzed: 2012-12-17
Sample Preparation: 2012-12-14

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Qs	1	273	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	153	mg/Kg	1	100	153	70 - 130

Sample: 316710 - AH-8 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 97558
Prep Batch: 82665

Analytical Method: S 8015 D
Date Analyzed: 2012-12-18
Sample Preparation: 2012-12-18

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	36.9	mg/Kg	2	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			4.30	mg/Kg	2	4.00	108	70 - 130
4-Bromofluorobenzene (4-BFB)			5.02	mg/Kg	2	4.00	126	70 - 130

Sample: 316711 - AH-8 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 97636
Prep Batch: 82721

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-12-20
Sample Preparation: 2012-12-19

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

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			877	mg/Kg	5	4.00

Sample: 316712 - AH-8 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 97637 Date Analyzed: 2012-12-20 Analyzed By: AR
Prep Batch: 82721 Sample Preparation: 2012-12-19 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1690	mg/Kg	10	4.00

Sample: 316713 - AH-8 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 97637 Date Analyzed: 2012-12-20 Analyzed By: AR
Prep Batch: 82721 Sample Preparation: 2012-12-19 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			135	mg/Kg	5	4.00

Sample: 316714 - AH-9 0-1'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 97553 Date Analyzed: 2012-12-18 Analyzed By: YG
Prep Batch: 82659 Sample Preparation: 2012-12-18 Prepared By: YG

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

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sample 316714 continued ...

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.94	mg/Kg	1	2.00	97	79.5 - 108
4-Bromofluorobenzene (4-BFB)			1.86	mg/Kg	1	2.00	93	71.4 - 108

Sample: 316714 - AH-9 0-1'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	97637	Date Analyzed:	2012-12-20
Prep Batch:	82721	Sample Preparation:	2012-12-19
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			610	mg/Kg	5	4.00

Sample: 316714 - AH-9 0-1'

Laboratory:	Midland		
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D
QC Batch:	97481	Date Analyzed:	2012-12-17
Prep Batch:	82605	Sample Preparation:	2012-12-14
		Prep Method:	N/A
		Analyzed By:	CW
		Prepared By:	CW

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Q*	Q*	145	mg/Kg	1	100	145	70 - 130

Sample: 316714 - AH-9 0-1'

Laboratory:	Midland		
Analysis:	TPH GRO	Analytical Method:	S 8015 D
QC Batch:	97558	Date Analyzed:	2012-12-18
Prep Batch:	82665	Sample Preparation:	2012-12-18
		Prep Method:	S 5035
		Analyzed By:	YG
		Prepared By:	YG

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	u	1	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.13	mg/Kg	1	2.00	106	70 - 130
4-Bromofluorobenzene (4-BFB)			1.90	mg/Kg	1	2.00	95	70 - 130

Sample: 316715 - AH-9 1-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-12-20	Analyzed By:	AR
QC Batch:	97637	Sample Preparation:	2012-12-19	Prepared By:	AR
Prep Batch:	82721				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			776	mg/Kg	5	4.00

Sample: 316716 - AH-9 2-2.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-12-20	Analyzed By:	AR
QC Batch:	97637	Sample Preparation:	2012-12-19	Prepared By:	AR
Prep Batch:	82721				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1160	mg/Kg	10	4.00

Sample: 316717 - AH-9 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-12-20	Analyzed By:	AR
QC Batch:	97637	Sample Preparation:	2012-12-19	Prepared By:	AR
Prep Batch:	82721				

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			678	mg/Kg	5	4.00

Sample: 316718 - AH-9 4-4.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 97637 Date Analyzed: 2012-12-20 Analyzed By: AR
Prep Batch: 82721 Sample Preparation: 2012-12-19 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			98.7	mg/Kg	5	4.00

Sample: 316719 - AH-9 5-5.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 97637 Date Analyzed: 2012-12-20 Analyzed By: AR
Prep Batch: 82721 Sample Preparation: 2012-12-19 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			98.7	mg/Kg	5	4.00

Sample: 316720 - AH-9 6-6.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 97637 Date Analyzed: 2012-12-20 Analyzed By: AR
Prep Batch: 82721 Sample Preparation: 2012-12-19 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			98.7	mg/Kg	5	4.00

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Sample: 316721 - AH-10 0-1'

Laboratory: Midland
Analysis: BTEX
QC Batch: 97553
Prep Batch: 82659

Analytical Method: S 8021B
Date Analyzed: 2012-12-18
Sample Preparation: 2012-12-18

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

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)			1.95	mg/Kg	1	2.00	98	79.5 - 108
4-Bromofluorobenzene (4-BFB)			1.83	mg/Kg	1	2.00	92	71.4 - 108

Sample: 316721 - AH-10 0-1'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 97637
Prep Batch: 82721

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-12-20
Sample Preparation: 2012-12-19

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			601	mg/Kg	5	4.00

Sample: 316721 - AH-10 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 97481
Prep Batch: 82605

Analytical Method: S 8015 D
Date Analyzed: 2012-12-17
Sample Preparation: 2012-12-14

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	152	mg/Kg	1	100	152	70 - 130

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Sample: 316721 - AH-10 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 97558
Prep Batch: 82665

Analytical Method: S 8015 D
Date Analyzed: 2012-12-18
Sample Preparation: 2012-12-18

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	u	1	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.02	mg/Kg	1	2.00	101	70 - 130
4-Bromofluorobenzene (4-BFB)			1.93	mg/Kg	1	2.00	96	70 - 130

Sample: 316722 - AH-10 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 97666
Prep Batch: 82736

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-12-21
Sample Preparation: 2012-12-20

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			840	mg/Kg	5	4.00

Sample: 316723 - AH-10 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 97666
Prep Batch: 82736

Analytical Method: SM 4500-Cl B
Date Analyzed: 2012-12-21
Sample Preparation: 2012-12-20

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1000	mg/Kg	5	4.00

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Sample: 316724 - AH-10 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-12-21	Analyzed By:	AR
QC Batch:	97666	Sample Preparation:	2012-12-20	Prepared By:	AR
Prep Batch:	82736				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			972	mg/Kg	10	4.00

Sample: 316725 - AH-10 4-4.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-12-21	Analyzed By:	AR
QC Batch:	97666	Sample Preparation:	2012-12-20	Prepared By:	AR
Prep Batch:	82736				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			725	mg/Kg	10	4.00

Sample: 316726 - AH-10 5-5.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-12-21	Analyzed By:	AR
QC Batch:	97666	Sample Preparation:	2012-12-20	Prepared By:	AR
Prep Batch:	82736				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			407	mg/Kg	5	4.00

Sample: 316727 - AH-10 6-6.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-12-21	Analyzed By:	AR
QC Batch:	97666	Sample Preparation:	2012-12-20	Prepared By:	AR
Prep Batch:	82736				

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			217	mg/Kg	5	4.00

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Method Blanks

Method Blank (1) QC Batch: 97481

QC Batch: 97481
Prep Batch: 82605

Date Analyzed: 2012-12-17
QC Preparation: 2012-12-14

Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	<6.88	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			117	mg/Kg	1	100	117	70 - 130

Method Blank (1) QC Batch: 97553

QC Batch: 97553
Prep Batch: 82659

Date Analyzed: 2012-12-18
QC Preparation: 2012-12-18

Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00810	mg/Kg	0.02
Toluene		1	<0.00750	mg/Kg	0.02
Ethylbenzene		1	<0.00730	mg/Kg	0.02
Xylene		1	<0.00700	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.01	mg/Kg	1	2.00	100	79.5 - 108
4-Bromofluorobenzene (4-BFB)			1.85	mg/Kg	1	2.00	92	71.4 - 108

Method Blank (1) QC Batch: 97558

QC Batch: 97558
Prep Batch: 82665

Date Analyzed: 2012-12-18
QC Preparation: 2012-12-18

Analyzed By: YG
Prepared By: YG

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Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<2.32	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.84	mg/Kg	1	2.00	92	70 - 130
4-Bromofluorobenzene (4-BFB)			1.85	mg/Kg	1	2.00	92	70 - 130

Method Blank (1) QC Batch: 97588

QC Batch: 97588
Prep Batch: 82683

Date Analyzed: 2012-12-19
QC Preparation: 2012-12-19

Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00810	mg/Kg	0.02
Toluene		1	<0.00750	mg/Kg	0.02
Ethylbenzene		1	<0.00730	mg/Kg	0.02
Xylene		1	<0.00700	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.92	mg/Kg	1	2.00	96	79.5 - 108
4-Bromofluorobenzene (4-BFB)			1.81	mg/Kg	1	2.00	90	71.4 - 108

Method Blank (1) QC Batch: 97594

QC Batch: 97594
Prep Batch: 82693

Date Analyzed: 2012-12-19
QC Preparation: 2012-12-19

Analyzed By: YG
Prepared By: YG

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<2.32	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.82	mg/Kg	1	2.00	91	70 - 130
4-Bromofluorobenzene (4-BFB)			1.85	mg/Kg	1	2.00	92	70 - 130

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Method Blank (1) QC Batch: 97634

QC Batch: 97634
Prep Batch: 82721

Date Analyzed: 2012-12-20
QC Preparation: 2012-12-19

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 97635

QC Batch: 97635
Prep Batch: 82721

Date Analyzed: 2012-12-20
QC Preparation: 2012-12-19

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 97636

QC Batch: 97636
Prep Batch: 82721

Date Analyzed: 2012-12-20
QC Preparation: 2012-12-19

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 97637

QC Batch: 97637
Prep Batch: 82721

Date Analyzed: 2012-12-20
QC Preparation: 2012-12-19

Analyzed By: AR
Prepared By: AR

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

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Method Blank (1) QC Batch: 97666

QC Batch: 97666
Prep Batch: 82736

Date Analyzed: 2012-12-21
QC Preparation: 2012-12-20

Analyzed By: AR
Prepared By: AR

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

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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 97481
Prep Batch: 82605

Date Analyzed: 2012-12-17
QC Preparation: 2012-12-14

Analyzed By: CW
Prepared By: CW

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	239	mg/Kg	1	250	<6.88	96	70 - 130

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	258	mg/Kg	1	250	<6.88	103	70 - 130	8	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	113	118	mg/Kg	1	100	113	118	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 97553
Prep Batch: 82659

Date Analyzed: 2012-12-18
QC Preparation: 2012-12-18

Analyzed By: YG
Prepared By: YG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.68	mg/Kg	1	2.00	<0.00810	84	72.4 - 111
Toluene		1	1.71	mg/Kg	1	2.00	<0.00750	86	77 - 110
Ethylbenzene		1	1.77	mg/Kg	1	2.00	<0.00730	88	71.8 - 115
Xylene		1	5.20	mg/Kg	1	6.00	<0.00700	87	78.3 - 114

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	1.80	mg/Kg	1	2.00	<0.00810	90	72.4 - 111	7	20
Toluene		1	1.84	mg/Kg	1	2.00	<0.00750	92	77 - 110	7	20
Ethylbenzene		1	1.89	mg/Kg	1	2.00	<0.00730	94	71.8 - 115	7	20
Xylene		1	5.56	mg/Kg	1	6.00	<0.00700	93	78.3 - 114	7	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	2.00	mg/Kg	1	2.00	100	100	82.1 - 110
4-Bromofluorobenzene (4-BFB)	2.01	1.86	mg/Kg	1	2.00	100	93	79.6 - 114

Laboratory Control Spike (LCS-1)

QC Batch: 97558
Prep Batch: 82665

Date Analyzed: 2012-12-18
QC Preparation: 2012-12-18

Analyzed By: YG
Prepared By: YG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	20.9	mg/Kg	1	20.0	<2.32	104	70 - 130

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	20.8	mg/Kg	1	20.0	<2.32	104	70 - 130	0	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.95	1.96	mg/Kg	1	2.00	98	98	70 - 130
4-Bromofluorobenzene (4-BFB)	1.93	1.95	mg/Kg	1	2.00	96	98	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 97588
Prep Batch: 82683

Date Analyzed: 2012-12-19
QC Preparation: 2012-12-19

Analyzed By: YG
Prepared By: YG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.76	mg/Kg	1	2.00	<0.00810	88	72.4 - 111
Toluene		1	1.78	mg/Kg	1	2.00	<0.00750	89	77 - 110
Ethylbenzene		1	1.86	mg/Kg	1	2.00	<0.00730	93	71.8 - 115
Xylene		1	5.45	mg/Kg	1	6.00	<0.00700	91	78.3 - 114

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	1.62	mg/Kg	1	2.00	<0.00810	81	72.4 - 111	8	20

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control spikes continued ...

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Toluene		1	1.65	mg/Kg	1	2.00	<0.00750	82	77 - 110	8	20
Ethylbenzene		1	1.69	mg/Kg	1	2.00	<0.00730	84	71.8 - 115	10	20
Xylene		1	5.03	mg/Kg	1	6.00	<0.00700	84	78.3 - 114	8	20

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

Surrogate	LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.96	1.95	mg/Kg	1	2.00	98	98	82.1 - 110
4-Bromofluorobenzene (4-BFB)	1.90	1.85	mg/Kg	1	2.00	95	92	79.6 - 114

Laboratory Control Spike (LCS-1)

QC Batch: 97594
Prep Batch: 82693

Date Analyzed: 2012-12-19
QC Preparation: 2012-12-19

Analyzed By: YG
Prepared By: YG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	20.5	mg/Kg	1	20.0	4.49	102	70 - 130

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	21.1	mg/Kg	1	20.0	4.49	106	70 - 130	3	20

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

Surrogate	LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.54	2.21	mg/Kg	1	2.00	127	110	70 - 130
4-Bromofluorobenzene (4-BFB)	1.97	1.96	mg/Kg	1	2.00	98	98	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 97634
Prep Batch: 82721

Date Analyzed: 2012-12-20
QC Preparation: 2012-12-19

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2400	mg/Kg	1	2500	<3.85	96	85 - 115

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2280	mg/Kg	1	2500	<3.85	91	85 - 115	5	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 97635
Prep Batch: 82721

Date Analyzed: 2012-12-20
QC Preparation: 2012-12-19

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2450	mg/Kg	1	2500	<3.85	98	85 - 115

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2610	mg/Kg	1	2500	<3.85	104	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: 97636
Prep Batch: 82721

Date Analyzed: 2012-12-20
QC Preparation: 2012-12-19

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2400	mg/Kg	1	2500	<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	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2290	mg/Kg	1	2500	<3.85	92	85 - 115	5	20

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

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Laboratory Control Spike (LCS-1)

QC Batch: 97637
Prep Batch: 82721

Date Analyzed: 2012-12-20
QC Preparation: 2012-12-19

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2640	mg/Kg	1	2500	<3.85	106	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			2540	mg/Kg	1	2500	<3.85	102	85 - 115	4	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: 97666
Prep Batch: 82736

Date Analyzed: 2012-12-21
QC Preparation: 2012-12-20

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2500	mg/Kg	1	2500	<3.85	100	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			2390	mg/Kg	1	2500	<3.85	96	85 - 115	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: 316621

QC Batch: 97481
Prep Batch: 82605

Date Analyzed: 2012-12-17
QC Preparation: 2012-12-14

Analyzed By: CW
Prepared By: CW

Param	F		C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	qs	qs	1	11300	mg/Kg	5	250	10400	360	70 - 130

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

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Param				MSD			Spike	Matrix		Rec.		RPD
	F	C	Result	Units	Dil.		Amount	Result	Rec.	Limit	RPD	Limit
DRO	Qs	Qs	1	10500	mg/Kg	5	250	10400	40	70 - 130	7	20

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

			MS	MSD			Spike	MS	MSD	Rec.
Surrogate			Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
n-Tricosane	Qsr	Qsr	477	434	mg/Kg	5	100	477	434	70 - 130

Matrix Spike (MS-1) Spiked Sample: 316702

QC Batch: 97553
Prep Batch: 82659

Date Analyzed: 2012-12-18
QC Preparation: 2012-12-18

Analyzed By: YG
Prepared By: YG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.16	mg/Kg	1	2.00	<0.00810	108	66.3 - 138
Toluene		1	2.22	mg/Kg	1	2.00	<0.00750	111	64.8 - 142
Ethylbenzene		1	2.30	mg/Kg	1	2.00	<0.00730	115	72 - 132
Xylene		1	6.77	mg/Kg	1	6.00	<0.00700	113	60.8 - 148

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	<0.00810	102	66.3 - 138	6	20
Toluene		1	2.06	mg/Kg	1	2.00	<0.00750	103	64.8 - 142	8	20
Ethylbenzene		1	2.14	mg/Kg	1	2.00	<0.00730	107	72 - 132	7	20
Xylene		1	6.29	mg/Kg	1	6.00	<0.00700	105	60.8 - 148	7	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.00	1.98	mg/Kg	1	2	100	99	76.6 - 112
4-Bromofluorobenzene (4-BFB)	1.86	1.83	mg/Kg	1	2	93	92	67.6 - 125

Matrix Spike (MS-1) Spiked Sample: 316702

QC Batch: 97558
Prep Batch: 82665

Date Analyzed: 2012-12-18
QC Preparation: 2012-12-18

Analyzed By: YG
Prepared By: YG

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Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	23.0	mg/Kg	1	20.0	<2.32	115	70 - 130

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	22.7	mg/Kg	1	20.0	<2.32	114	70 - 130	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)	1.77	1.79	mg/Kg	1	2	88	90	70 - 130
4-Bromofluorobenzene (4-BFB)	1.99	2.01	mg/Kg	1	2	100	100	70 - 130

Matrix Spike (MS-1) Spiked Sample: 316746

QC Batch: 97588
Prep Batch: 82683

Date Analyzed: 2012-12-19
QC Preparation: 2012-12-19

Analyzed By: YG
Prepared By: YG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.88	mg/Kg	1	2.00	<0.00810	94	66.3 - 138
Toluene		1	1.90	mg/Kg	1	2.00	<0.00750	95	64.8 - 142
Ethylbenzene		1	1.96	mg/Kg	1	2.00	<0.00730	98	72 - 132
Xylene		1	5.77	mg/Kg	1	6.00	<0.00700	96	60.8 - 148

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	1.97	mg/Kg	1	2.00	<0.00810	98	66.3 - 138	5	20
Toluene		1	1.99	mg/Kg	1	2.00	<0.00750	100	64.8 - 142	5	20
Ethylbenzene		1	2.08	mg/Kg	1	2.00	<0.00730	104	72 - 132	6	20
Xylene		1	6.13	mg/Kg	1	6.00	<0.00700	102	60.8 - 148	6	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.97	1.95	mg/Kg	1	2	98	98	76.6 - 112
4-Bromofluorobenzene (4-BFB)	1.86	1.84	mg/Kg	1	2	93	92	67.6 - 125

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Matrix Spike (MS-1) Spiked Sample: 316746

QC Batch: 97594
Prep Batch: 82693

Date Analyzed: 2012-12-19
QC Preparation: 2012-12-19

Analyzed By: YG
Prepared By: YG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	22.8	mg/Kg	1	20.0	<2.32	114	70 - 130

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	21.5	mg/Kg	1	20.0	<2.32	108	70 - 130	6	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.74	1.78	mg/Kg	1	2	87	89	70 - 130
4-Bromofluorobenzene (4-BFB)	1.98	1.92	mg/Kg	1	2	99	96	70 - 130

Matrix Spike (MS-1) Spiked Sample: 316691

QC Batch: 97634
Prep Batch: 82721

Date Analyzed: 2012-12-20
QC Preparation: 2012-12-19

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2780	mg/Kg	5	2500	507	91	78.9 - 121

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			2910	mg/Kg	5	2500	507	96	78.9 - 121	5	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: 316701

QC Batch: 97635
Prep Batch: 82721

Date Analyzed: 2012-12-20
QC Preparation: 2012-12-19

Analyzed By: AR
Prepared By: AR

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Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2500	mg/Kg	5	2500	31.9	99	78.9 - 121

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			2740	mg/Kg	5	2500	31.9	108	78.9 - 121	9	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: 316711

QC Batch: 97636
Prep Batch: 82721

Date Analyzed: 2012-12-20
QC Preparation: 2012-12-19

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			3290	mg/Kg	5	2500	877	96	78.9 - 121

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			3370	mg/Kg	5	2500	877	100	78.9 - 121	2	20

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

Matrix Spike (MS-1) Spiked Sample: 316721

QC Batch: 97637
Prep Batch: 82721

Date Analyzed: 2012-12-20
QC Preparation: 2012-12-19

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			3010	mg/Kg	5	2500	601	96	78.9 - 121

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			3150	mg/Kg	5	2500	601	102	78.9 - 121	4	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: 316731

QC Batch: 97666
Prep Batch: 82736

Date Analyzed: 2012-12-21
QC Preparation: 2012-12-20

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			4520	mg/Kg	10	2500	2450	83	78.9 - 121

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			4760	mg/Kg	10	2500	2450	92	78.9 - 121	5	20

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

Calibration Standards

Standard (CCV-1)

QC Batch: 97481

Date Analyzed: 2012-12-17

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	277	111	80 - 120	2012-12-17

Standard (CCV-2)

QC Batch: 97481

Date Analyzed: 2012-12-17

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	274	110	80 - 120	2012-12-17

Standard (CCV-3)

QC Batch: 97481

Date Analyzed: 2012-12-17

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	280	112	80 - 120	2012-12-17

Standard (CCV-4)

QC Batch: 97481

Date Analyzed: 2012-12-17

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	273	109	80 - 120	2012-12-17

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Standard (CCV-1)

QC Batch: 97553

Date Analyzed: 2012-12-18

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0934	93	80 - 120	2012-12-18
Toluene		1	mg/kg	0.100	0.0931	93	80 - 120	2012-12-18
Ethylbenzene		1	mg/kg	0.100	0.0930	93	80 - 120	2012-12-18
Xylene		1	mg/kg	0.300	0.271	90	80 - 120	2012-12-18

Standard (CCV-2)

QC Batch: 97553

Date Analyzed: 2012-12-18

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0962	96	80 - 120	2012-12-18
Toluene		1	mg/kg	0.100	0.0962	96	80 - 120	2012-12-18
Ethylbenzene		1	mg/kg	0.100	0.0965	96	80 - 120	2012-12-18
Xylene		1	mg/kg	0.300	0.282	94	80 - 120	2012-12-18

Standard (CCV-3)

QC Batch: 97553

Date Analyzed: 2012-12-18

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0937	94	80 - 120	2012-12-18
Toluene		1	mg/kg	0.100	0.0933	93	80 - 120	2012-12-18
Ethylbenzene		1	mg/kg	0.100	0.0927	93	80 - 120	2012-12-18
Xylene		1	mg/kg	0.300	0.270	90	80 - 120	2012-12-18

Standard (CCV-1)

QC Batch: 97558

Date Analyzed: 2012-12-18

Analyzed By: YG

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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	1.03	103	80 - 120	2012-12-18

Standard (CCV-2)

QC Batch: 97558

Date Analyzed: 2012-12-18

Analyzed By: YG

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	2012-12-18

Standard (CCV-3)

QC Batch: 97558

Date Analyzed: 2012-12-18

Analyzed By: YG

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	2012-12-18

Standard (CCV-1)

QC Batch: 97588

Date Analyzed: 2012-12-19

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0960	96	80 - 120	2012-12-19
Toluene		1	mg/kg	0.100	0.0953	95	80 - 120	2012-12-19
Ethylbenzene		1	mg/kg	0.100	0.0942	94	80 - 120	2012-12-19
Xylene		1	mg/kg	0.300	0.276	92	80 - 120	2012-12-19

Standard (CCV-2)

QC Batch: 97588

Date Analyzed: 2012-12-19

Analyzed By: YG

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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0954	95	80 - 120	2012-12-19
Toluene		1	mg/kg	0.100	0.0953	95	80 - 120	2012-12-19
Ethylbenzene		1	mg/kg	0.100	0.0942	94	80 - 120	2012-12-19
Xylene		1	mg/kg	0.300	0.276	92	80 - 120	2012-12-19

Standard (CCV-3)

QC Batch: 97588

Date Analyzed: 2012-12-19

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0974	97	80 - 120	2012-12-19
Toluene		1	mg/kg	0.100	0.0965	96	80 - 120	2012-12-19
Ethylbenzene		1	mg/kg	0.100	0.0958	96	80 - 120	2012-12-19
Xylene		1	mg/kg	0.300	0.279	93	80 - 120	2012-12-19

Standard (CCV-1)

QC Batch: 97594

Date Analyzed: 2012-12-19

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.971	97	80 - 120	2012-12-19

Standard (CCV-2)

QC Batch: 97594

Date Analyzed: 2012-12-19

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.960	96	80 - 120	2012-12-19

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Standard (CCV-3)

QC Batch: 97594

Date Analyzed: 2012-12-19

Analyzed By: YG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.969	97	80 - 120	2012-12-19

Standard (CCV-1)

QC Batch: 97634

Date Analyzed: 2012-12-20

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	100	100	85 - 115	2012-12-20

Standard (CCV-2)

QC Batch: 97634

Date Analyzed: 2012-12-20

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	99.9	100	85 - 115	2012-12-20

Standard (CCV-1)

QC Batch: 97635

Date Analyzed: 2012-12-20

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	99.8	100	85 - 115	2012-12-20

Standard (CCV-2)

QC Batch: 97635

Date Analyzed: 2012-12-20

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	2012-12-20

Standard (CCV-1)

QC Batch: 97636

Date Analyzed: 2012-12-20

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	2012-12-20

Standard (CCV-2)

QC Batch: 97636

Date Analyzed: 2012-12-20

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	99.5	100	85 - 115	2012-12-20

Standard (CCV-1)

QC Batch: 97637

Date Analyzed: 2012-12-20

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	99.3	99	85 - 115	2012-12-20

Standard (CCV-2)

QC Batch: 97637

Date Analyzed: 2012-12-20

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	101	101	85 - 115	2012-12-20

Standard (CCV-1)

QC Batch: 97666

Date Analyzed: 2012-12-21

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	100	100	85 - 115	2012-12-21

Standard (CCV-2)

QC Batch: 97666

Date Analyzed: 2012-12-21

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	99.8	100	85 - 115	2012-12-21

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	T104704392-12-4	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	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
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

Result Comments

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- 1 Dilution due to hydrocarbons.
- 2 Dilution due to hydrocarbons.

Attachments

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

Analysis Request of Chain of Custody Record



TETRA TECH

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

CLIENT NAME: **C06** SITE MANAGER: **The Towner**

PROJECT NO.: **114-640161** PROJECT NAME: **C06 - Fed 11 20 34"3**

LAB I.D. NUMBER: **316682** TIME: **12/19** SAMPLE IDENTIFICATION: **L-2a C-20m**

DATE: **12/19** MATRIX: **S** GRAB: **X**

TIME: **12/19** COMP: **X** FILTERED (Y/N): **1**

DATE: **12/19** HCL: **X** HNO3: **X** ICE: **X** NONE: **X**

DATE: **12/19** PAH 8270: **X** RCRA Metals Ag As Ba Cd Cr Pb Hg Se: **X**

DATE: **12/19** TCLP Metals Ag As Ba Cd Cr Pb Hg Se: **X**

DATE: **12/19** TCLP Volatiles: **X**

DATE: **12/19** TCLP Semi Volatiles: **X**

DATE: **12/19** RCI: **X**

DATE: **12/19** GC, MS Vol. 8240/8260/624: **X**

DATE: **12/19** GC, MS Semi. Vol. 8270/625: **X**

DATE: **12/19** PCB's 8080/608: **X**

DATE: **12/19** Pest. 808/608: **X**

DATE: **12/19** Chloride: **X**

DATE: **12/19** Gamma Spec.: **X**

DATE: **12/19** Alpha Beta (Al): **X**

DATE: **12/19** PLM (Asbestos): **X**

DATE: **12/19** Major Anions/Cations, pH, TDS: **X**

DATE: **12/19** RELINQUISHED BY: (Signature) **James Fitch**

DATE: **12/19** RELINQUISHED BY: (Signature) **James Fitch**

DATE: **12/19** RELINQUISHED BY: (Signature) **James Fitch**

DATE: **12/19** RECEIVING LABORATORY: **Tetra**

DATE: **12/19** CITY: **Midland** STATE: **TX** ZIP: **79701**

DATE: **12/19** PHONE: **(432) 682-4559**

DATE: **12/19** SAMPLE CONDITION WHEN RECEIVED: **1.3'**

DATE: **12/19** REMARKS: **Run deeper samples if TPH exceeds 5.0 mg/kg. Method all**

