

HOBBS OCD

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

JAN 14 2013

RECEIVED

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	GC Federal #28	Facility Type	Well

Surface Owner: Federal	Mineral Owner	Lease No. (API#) 30-025-39323
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LOCATION OF RELEASE

Unit Letter O	Section 20	Township 17S	Range 32E	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
------------------	---------------	-----------------	--------------	---------------	------------------	---------------	----------------	---------------

Latitude 32 49.257° Longitude 103 48.672°

NATURE OF RELEASE

Type of Release: Produced Fluid	Volume of Release 20 bbls	Volume Recovered None
Source of Release: Frac Tank Hose	Date and Hour of Occurrence 04/28/2011	Date and Hour of Discovery 04/28/2011 11:00 a.m.
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom? Josh Russo	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

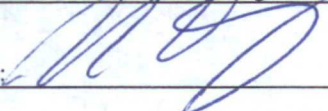
Describe Cause of Problem and Remedial Action Taken.*

A truck hauler allowed production to flow into a pasture while they were unloading fluid from a frac tank on location. Disciplinary action has been taken and the trucking company has accepted financial responsibility for the cleanup.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech personnel inspected the site and collected samples to define the spills extent. Shallow chlorides (slightly impacted) were detected in the spill area. The OCD and Tetra Tech recommended additional samples from the spill area to determine if the chloride concentrations have declined below the previous detected concentrations. Based on the results, the chloride concentrations do not appear to be an environmental concern. Tetra Tech prepared a closure report and submitted it 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@TetraTech.com	Conditions of Approval:	Attached ☐
Date: 10-23-12 Phone: (432) 682-4559		

* Attach Additional Sheets If Necessary

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PJXK1601130018

4097 Form C-141
Revised October 10, 2003

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District Office in accordance
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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	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	GC Federal #28	Facility Type	Well
Surface Owner	Federal	Mineral Owner	
		Lease No. (API#)	30-025-39323

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	20	17S	32E					Lea

Latitude 32 49.257 Longitude 103 48.672

NATURE OF RELEASE

Type of Release	Produced fluid	Volume of Release	20bbls	Volume Recovered	None
Source of Release	Frac tank hose	Date and Hour of Occurrence	04/28/2011	Date and Hour of Discovery	04/28/2011 11:00 a.m.
Was Immediate Notice Given?	☐ Yes ☒ No ☒ Not Required	If YES, To Whom?			
By Whom?		Date and Hour			
Was a Watercourse Reached?	☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

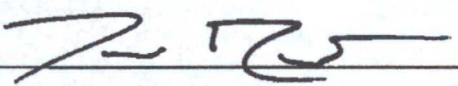
Describe Cause of Problem and Remedial Action Taken.*

A truck hauler allowed production to flow into pasture while they were unloading produced fluid from frac tank on location. Disciplinary action has been taken and trucking company has accepted financial responsibility for the cleanup.

Describe Area Affected and Cleanup Action Taken.*

Initially 20bbls was released from the frac tank and we were unable to recover any fluid with a vacuum truck. The spill area measured 30' x 140' off of the location into the pasture. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan for NMOCD / BLM 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: HSE Coordinator	Approval Date:	Expiration Date:	
E-mail Address: jrusso@conchoresources.com	Conditions of Approval:	Attached ☐	
Date: 05/02/2011	Phone: 432-212-2399		

* Attach Additional Sheets If Necessary

SITE INFORMATION

Report Type: Closure Report

General Site Information:

Site:	GC Federal #28 Well Site					
Company:	COG Operating LLC					
Section, Township and Range	Unit O	Sec 20	T17S	R32E		
Lease Number:	API-30-025-39323					
County:	Lea County					
GPS:	32.81527° N			103.78839° W		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	From Maljamar, turn south on CR 126A. Tavel 2.75 miles and turn west on Conoco Rd and travel 0.50 miles until the pavement turns to caliche. Continue traveling east 1.0 miles on the caliche road. The site is south of the road on the left.					

Release Data:

Date Released:	4/28/2011
Type Release:	Produced Water
Source of Contamination:	Frac Tank Hose
Fluid Released:	20 bbls water
Fluids Recovered:	0 bbs

Official Communication:

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

JAN 14 2013

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TETRA TECH

November 7, 2012

HOBBS OCD

JAN 14 2013

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

RECEIVED

**Re: Closure Report for the COG Operating LLC., GC Federal #28 Well,
Located in Unit O, Section 20, Township 17 South, Range 32
East, Lea County, New Mexico.**

Mr. Leking:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from GC Federal #28 Well, Located Unit O, Section 20, Township 17 South, Range 32 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.81527°, W 103.78839°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico Oil Conservation Division (NMOCD) Form C-141 Initial Report, the leak was discovered on April 28, 2011. A trucking company was unloading fluid from a frac tank and released approximately twenty (20) barrels (bbls) of produced water. No fluids were recovered.

The spill impacted an area on the pad and migrated off location into the pasture area. The impacted area on the pad measured approximately 20' x 100'. The spill migrated off the pad into a pasture area measuring approximately 15' x 40'. The spill areas are shown on Figures 3. The initial Form C-141 is enclosed in Appendix A.

Groundwater

No water wells records were found in Section 20. During a previous investigation, Tetra Tech installed a temporary monitor well (TMW-1) in Section 30 to a depth of 180' below grade surface to established depth to

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559

Fax 432.682.3946

www.tetratech.com



groundwater in the area. Groundwater was not encountered in TMW-1. According to the NMOCD groundwater map, the average depth to groundwater is approximately 225' below surface. The groundwater data and the TMW drilling log are shown in Appendix B.

Regulatory

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

On October 4, 2011, Tetra Tech personnel inspected and sampled the spill area. A total of four (4) auger holes (AH-1 through AH-4) were installed using a stainless steel hand auger to assess the impacted areas. Auger holes (AH-1 and AH-2) were installed on the caliche pad area and AH-3 and AH-4 were installed in the pasture area. 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 auger hole locations are shown on Figure 3.

Analytical Results

Referring to Table 1, all of the auger hole samples were below the RRAL for TPH and BTEX. A relatively shallow chloride impact was detected in the soils. The area of AH-1 did not show a significant chloride impact to the soils. The areas of AH-2, AH-3 and AH-4 showed a limited chloride impact, which declined with depth at 5-5.5' below surface. In the areas of AH-2 and AH-3, the chloride concentrations spiked at 3.0-3.5' and 4-4.5', with concentrations ranging from 1,250 mg/kg to 1,580 mg/kg. Auger hole (AH-4) also showed a chloride high of 1,200 mg/kg, but significantly declined with depth.



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Additional Site Evaluation and Conclusion

Tetra Tech personnel met with the New Mexico Oil Conservation District (NMOCD) to discuss the limited chloride impact the site. Based on the chloride concentrations, the Tetra Tech and the OCD concluded that additional samples from the areas of AH-2 and AH-3 would be collected to evaluate the depth intervals at 3.0' to 4.0' below surface. The investigation would determine if the chloride concentrations have declined below the previous concentrations, due to recent rains for the area. According to the NMOCD, if the chloride concentrations declined below 1,000 mg/kg, it was agreed that no additional action would be required at the site.

On October 30, 2012, Tetra Tech collected confirmation samples (CS-1 and CS-2) in the areas of AH-2 and AH-3. Samples were analyzed for chloride by EPA method 300.0. The confirmation sample locations are shown on Figure 3.

Referring to Table 2, the previous chloride impacts detected in AH-2 and AH-3 at 3-3.5' decreased from 1,580 to 359 mg/kg and 1,250 to 801 mg/kg respectively. The maximum chloride impacts detected in the confirmation samples were 703 mg/kg at 5-5.5' (AH-2) and 990 mg/kg at 5-5.5' (AH-3). Based on the results, limited impact and depth to groundwater, the chloride concentrations detected do not appear to be an environmental concern.

Based on the results, no further action is required and COG requests closure for this site. The C-141 (Final) is included in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities performed at the site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH



Ike Tavaréz
Senior Project Manager

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

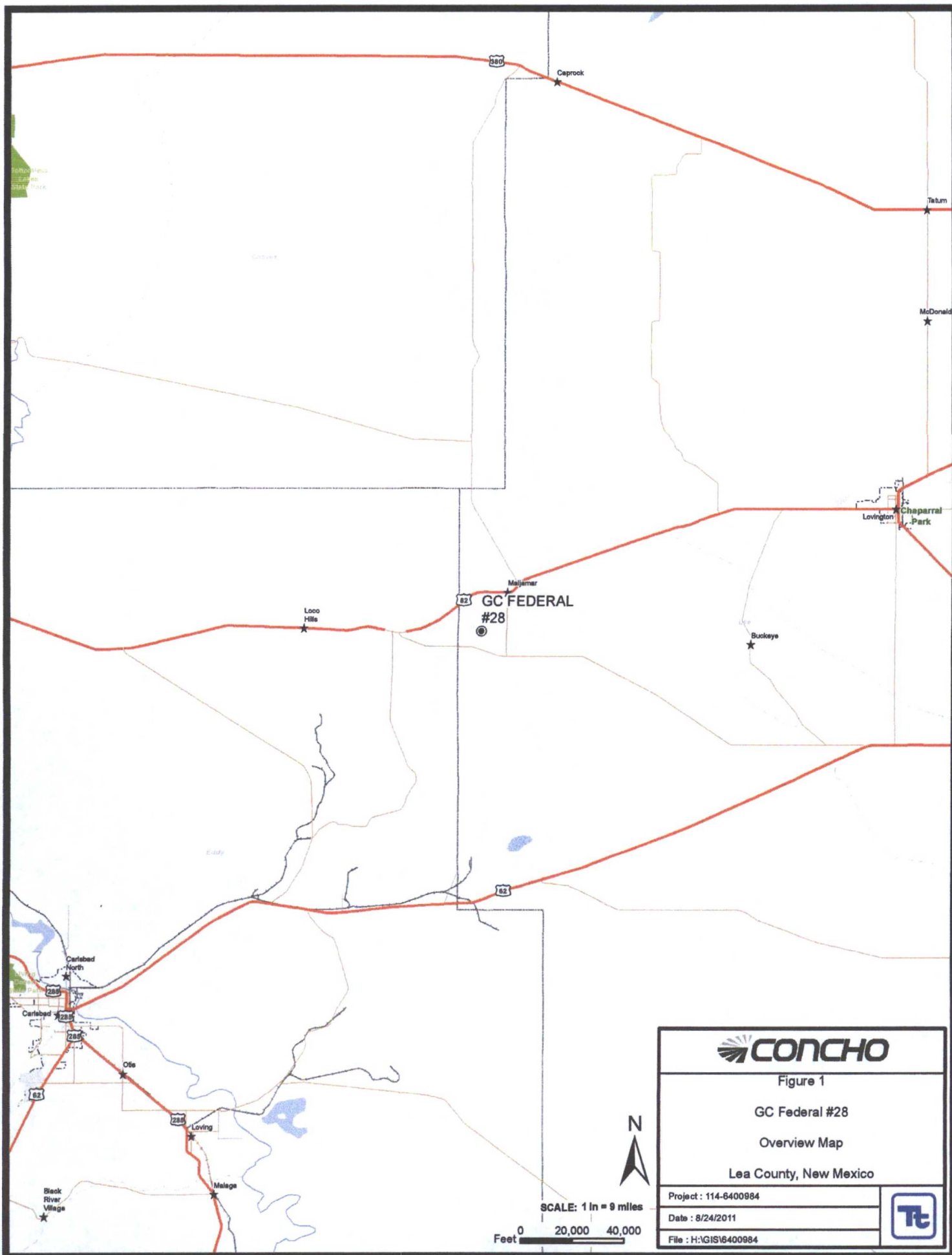


Figure 1

GC Federal #28

Overview Map

Lea County, New Mexico

Project : 114-6400984

Date : 8/24/2011

File : H:\GIS\6400984



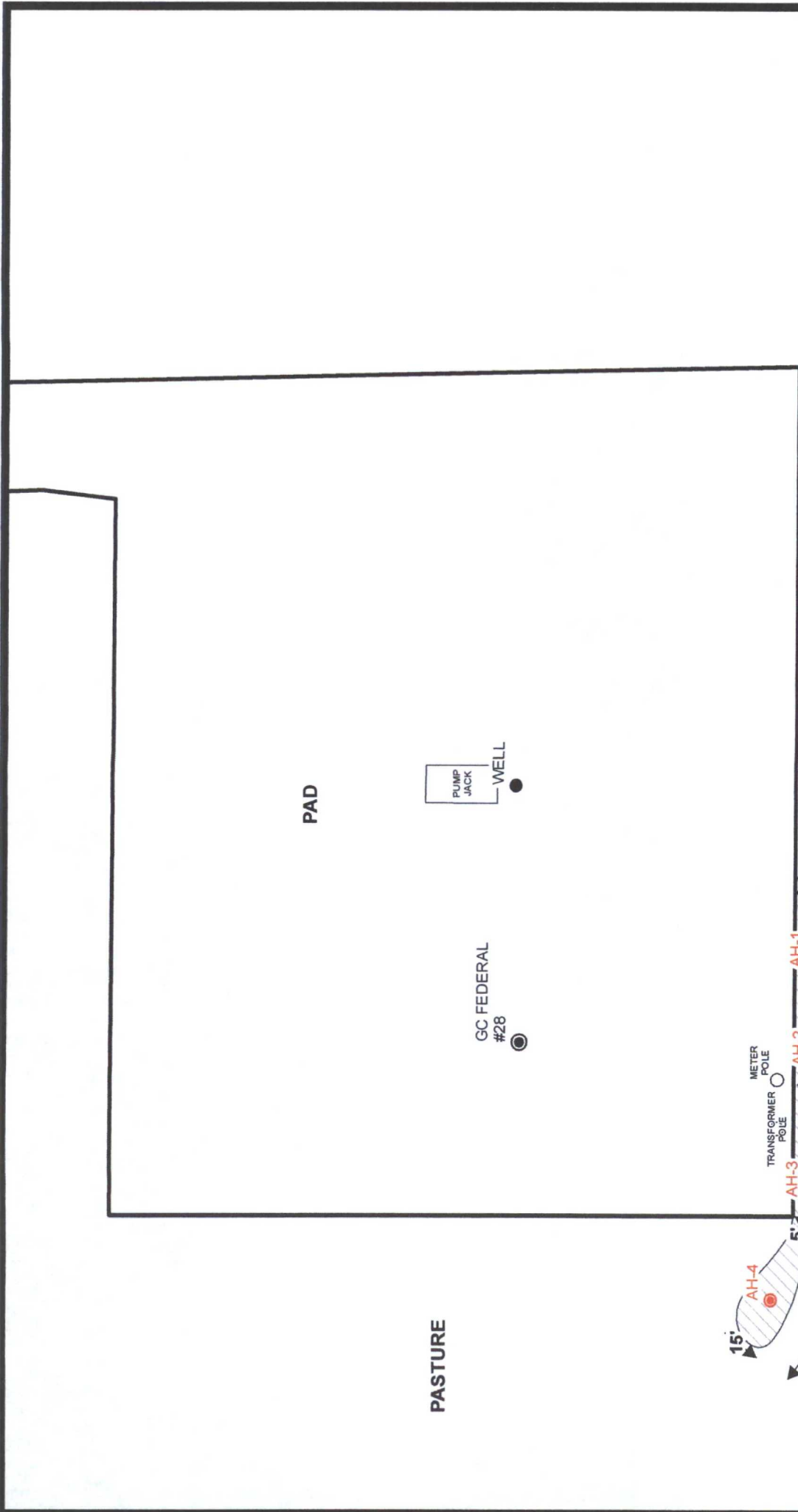


Figure 3

GC Federal # 28

Spill Assessment Map

Lea County, New Mexico

Project : 114-6400984

Date : 8/24/2011

File : H:\GIS\6400984



SCALE: 1 in = 46 feet



EXPLANATION

AUGER HOLE SAMPLE LOCATIONS

CONFIRMATION SAMPLE LOCATIONS

SPILL AREA

Table 1

[illegible]

Table 1
COG Operating LLC.
GC Federal #28
Lea County, New Mexico

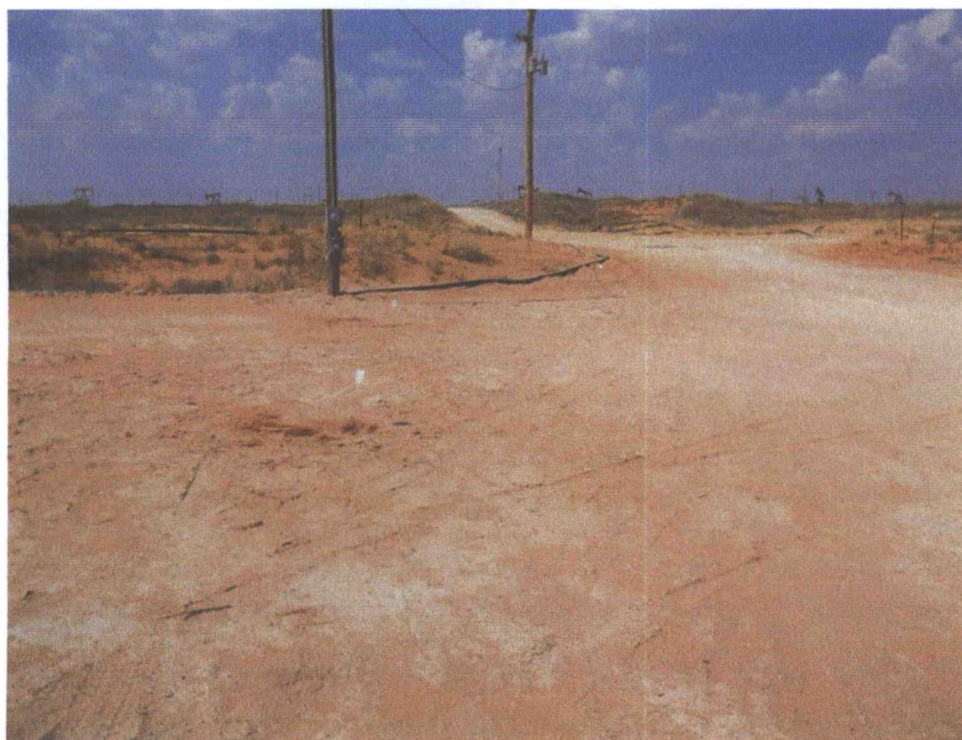
Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
AH-3	8/4/2011	0-1'	X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	467
	"	1-1.5'	X		-	-	-	-	-	-	-	-	517
	"	2-2.5'	X		-	-	-	-	-	-	-	-	768
	"	3-3.5'	X		-	-	-	-	-	-	-	-	1,250
	"	4-4.5'	X		-	-	-	-	-	-	-	-	1,350
	"	5-5.5'	X		-	-	-	-	-	-	-	-	678
	"	6-6.5'	X		-	-	-	-	-	-	-	-	457
CS-2	"	7-7.5'	X		-	-	-	-	-	-	-	-	372
	8/30/2012	3-3.5	X		-	-	-	-	-	-	-	-	801
	"	4-4.5	X		-	-	-	-	-	-	-	-	906
	"	5-5.5	X		-	-	-	-	-	-	-	-	990
AH-4	8/4/2011	0-1'	X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<200
		1-1.5'	X		-	-	-	-	-	-	-	-	1,000
		2-2.5'	X		-	-	-	-	-	-	-	-	592
		3-3.5'	X		-	-	-	-	-	-	-	-	1,200
		4-4.5'	X		-	-	-	-	-	-	-	-	712
		5-5.5'	X		-	-	-	-	-	-	-	-	<200

(--) Not Analyzed

COG Operating LLC
GC Federal #28
Lea County, New Mexico



TETRA TECH



View West – Location of AH-1 and AH-2.



View Southeast – Location of AH-3.

COG Operating LLC
Mesilla State #2
Eddy County, New Mexico



TETRA TECH



View East – Location of AH-4.

Water Well Data
Average Depth to Groundwater (ft)
COG - GC Federal #28
Eddy County, New Mexico

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

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

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

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

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

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

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

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

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

- 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
- Site

SAMPLE LOG

Boring/Well: TMW-1
Project Number: 114-6400224
Client: COG
Site Location: Pronghorn Section 30
Location: Lea County, New Mexico
Legals: Township 17S Range 32E Section 30
Total Depth: 180
Date Installed: 07/14/09

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
5-6	--	Brown fine grain sand
10-11	--	Buff limestone
15-16	--	Tan to buff calcareous sand with chert intermixed.
20-21	--	Tan calcareous sand
25-26	--	Tan fine grain sand
30-31	--	Tan to yellow sandy clay
35-36	--	Reddish clayey sand with gravel
40-41	--	Red gravelly fine grain sand
45-46	--	Red to buff gravelly calcareous sand
50-51	--	Red fine grain sand
55-56	--	Red sandy silt
60-61	--	Red silty clay (dry)
65-66	--	Red coarse grain sandy clay
70-71	--	Red fine grain sand
75-76	--	Red fine grain sand
80-81	--	Red gravelly sand
85-86	--	Red fine grain silty clay with some sand intermixed
90-91	--	Red fine grain silty clay with some sand intermixed
95-96	--	Red fine grain silty clay with some sand intermixed
100-101	--	Red fine grain silty clay with some sand intermixed
105-106	--	Tan red fine grain sand
110-111	--	Tan fine grain sand
115-116	--	Tan fine grain sand
120-121	--	Tan to red fine grain sand
130-131	--	Red clay of high plasticity (Red bed)
140-141	--	Red clay of high plasticity (Red bed)
150-151	--	Red clay of high plasticity (Red bed) intermixed with gravel
160-161	--	Red clay of high plasticity (Red bed) intermixed with gravel
170-171	--	Red clay of high plasticity (Red bed) intermixed with gravel
180-181	--	Red clay of high plasticity (Red bed)

Total Depth 181' **Groundwater was not encountered**

Summary Report

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

Report Date: September 12, 2012

Work Order: 12083127

Project Location: Lea Co., NM
Project Name: COG/GC Federal #28
Project Number: 114-6400984

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
308292	CS-1 @ AH-2 3-3.5'	soil	2012-08-30	00:00	2012-08-31
308293	CS-1 @ AH-2 4-4.5'	soil	2012-08-30	00:00	2012-08-31
308294	CS-1 @ AH-2 5-5.5'	soil	2012-08-30	00:00	2012-08-31
308296	CS-2 @ AH-3 3-3.5'	soil	2012-08-30	00:00	2012-08-31
308297	CS-2 @ AH-3 4-4.5'	soil	2012-08-30	00:00	2012-08-31
308298	CS-2 @ AH-3 5-5.5'	soil	2012-08-30	00:00	2012-08-31

Sample: 308292 - CS-1 @ AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		359	mg/Kg	4

Sample: 308293 - CS-1 @ AH-2 4-4.5'

Param	Flag	Result	Units	RL
Chloride		486	mg/Kg	4

Sample: 308294 - CS-1 @ AH-2 5-5.5'

Param	Flag	Result	Units	RL
Chloride		730	mg/Kg	4

Report Date: September 12, 2012

Work Order: 12083127

Page Number: 2 of 2

Sample: 308296 - CS-2 @ AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		801	mg/Kg	4

Sample: 308297 - CS-2 @ AH-3 4-4.5'

Param	Flag	Result	Units	RL
Chloride		906	mg/Kg	4

Sample: 308298 - CS-2 @ AH-3 5-5.5'

Param	Flag	Result	Units	RL
Chloride		990	mg/Kg	4



6701 Aberdeen Avenue, Suite 9
200 East Sunset Road, Suite E
5002 Basin Street, Suite A1
(BioAquatic) 2501 Mayes Rd., Suite 100

Lubbock, Texas 79424
El Paso, Texas 79922
Midland, Texas 79703
Carrollton, Texas 75006

800-378-1296

806-794-1296

915-585-3443

432-689-6301

972-242-7750

FAX 806-794-1298

FAX 915-585-4944

FAX 432-689-6313

E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: September 12, 2012

Work Order: 12083127

Project Location: Lea Co., NM
Project Name: COG/GC Federal #28
Project Number: 114-6400984

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
308292	CS-1 @ AH-2 3-3.5'	soil	2012-08-30	00:00	2012-08-31
308293	CS-1 @ AH-2 4-4.5'	soil	2012-08-30	00:00	2012-08-31
308294	CS-1 @ AH-2 5-5.5'	soil	2012-08-30	00:00	2012-08-31
308296	CS-2 @ AH-3 3-3.5'	soil	2012-08-30	00:00	2012-08-31
308297	CS-2 @ AH-3 4-4.5'	soil	2012-08-30	00:00	2012-08-31
308298	CS-2 @ AH-3 5-5.5'	soil	2012-08-30	00:00	2012-08-31

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

This report consists of a total of 11 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael Abel

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

Report Contents

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Case Narrative

Samples for project COG/GC Federal #28 were received by TraceAnalysis, Inc. on 2012-08-31 and assigned to work order 12083127. Samples for work order 12083127 were received intact at a temperature of 3.7 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	80123	2012-09-06 at 11:23	94624	2012-09-10 at 09:59
Chloride (Titration)	SM 4500-Cl B	80123	2012-09-06 at 11:23	94625	2012-09-10 at 10:00

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 12083127 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Report Date: September 12, 2012
114-6400984

Work Order: 12083127
COG/GC Federal #28

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Analytical Report

Sample: 308292 - CS-1 @ AH-2 3-3.5'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 94624

Prep Batch: 80123

Analytical Method: SM 4500-Cl B

Date Analyzed: 2012-09-10

Sample Preparation: 2012-09-06

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			359	mg/Kg	5	4.00

Sample: 308293 - CS-1 @ AH-2 4-4.5'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 94624

Prep Batch: 80123

Analytical Method: SM 4500-Cl B

Date Analyzed: 2012-09-10

Sample Preparation: 2012-09-06

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			486	mg/Kg	5	4.00

Sample: 308294 - CS-1 @ AH-2 5-5.5'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 94625

Prep Batch: 80123

Analytical Method: SM 4500-Cl B

Date Analyzed: 2012-09-10

Sample Preparation: 2012-09-06

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			730	mg/Kg	5	4.00

Report Date: September 12, 2012
114-6400984

Work Order: 12083127
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Lea Co., NM

Sample: 308296 - CS-2 @ AH-3 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-09-10	Analyzed By:	AR
QC Batch:	94625	Sample Preparation:	2012-09-06	Prepared By:	AR
Prep Batch:	80123				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			801	mg/Kg	5	4.00

Sample: 308297 - CS-2 @ AH-3 4-4.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-09-10	Analyzed By:	AR
QC Batch:	94625	Sample Preparation:	2012-09-06	Prepared By:	AR
Prep Batch:	80123				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			906	mg/Kg	5	4.00

Sample: 308298 - CS-2 @ AH-3 5-5.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-09-10	Analyzed By:	AR
QC Batch:	94625	Sample Preparation:	2012-09-06	Prepared By:	AR
Prep Batch:	80123				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			990	mg/Kg	5	4.00

Report Date: September 12, 2012
114-6400984

Work Order: 12083127
COG/GC Federal #28

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Lea Co., NM

Method Blanks

Method Blank (1) QC Batch: 94624

QC Batch: 94624
Prep Batch: 80123

Date Analyzed: 2012-09-10
QC Preparation: 2012-09-06

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 94625

QC Batch: 94625
Prep Batch: 80123

Date Analyzed: 2012-09-10
QC Preparation: 2012-09-06

Analyzed By: AR
Prepared By: AR

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

Report Date: September 12, 2012
114-6400984

Work Order: 12083127
COG/GC Federal #28

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Lea Co., NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 94624
Prep Batch: 80123

Date Analyzed: 2012-09-10
QC Preparation: 2012-09-06

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2590	mg/Kg	1	2500	<3.85	104	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			2640	mg/Kg	1	2500	<3.85	106	85 - 115	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 94625
Prep Batch: 80123

Date Analyzed: 2012-09-10
QC Preparation: 2012-09-06

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2610	mg/Kg	1	2500	<3.85	104	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			2780	mg/Kg	1	2500	<3.85	111	85 - 115	6	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: 308293

QC Batch: 94624
Prep Batch: 80123

Date Analyzed: 2012-09-10
QC Preparation: 2012-09-06

Analyzed By: AR
Prepared By: AR

Report Date: September 12, 2012
114-6400984

Work Order: 12083127
COG/GC Federal #28

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Lea Co., NM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2940	mg/Kg	5	2500	486	98	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			3040	mg/Kg	5	2500	486	102	78.9 - 121	3	20

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

Matrix Spike (MS-1) Spiked Sample: 308311

QC Batch: 94625
Prep Batch: 80123

Date Analyzed: 2012-09-10
QC Preparation: 2012-09-06

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2720	mg/Kg	5	2500	169	102	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			2890	mg/Kg	5	2500	169	109	78.9 - 121	6	20

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

Report Date: September 12, 2012
114-6400984

Work Order: 12083127
COG/GC Federal #28

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Lea Co., NM

Calibration Standards

Standard (CCV-1)

QC Batch: 94624

Date Analyzed: 2012-09-10

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	2012-09-10

Standard (CCV-2)

QC Batch: 94624

Date Analyzed: 2012-09-10

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	2012-09-10

Standard (CCV-1)

QC Batch: 94625

Date Analyzed: 2012-09-10

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	2012-09-10

Standard (CCV-2)

QC Batch: 94625

Date Analyzed: 2012-09-10

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	2012-09-10

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
SQL	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

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 SQL. 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.
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

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

PAGE: ; OF:

Analysis Request of Chain of Custody Record



TETRA TECH

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

(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME: CDG		SITE MANAGER: The Tarnoz		PROJECT NAME: GC Federal # 28		SAMPLE IDENTIFICATION Lea C. RM	
PROJECT NO.: 114-6400984							
LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB		
208291	8/20		S	X	C5-1 @ AH-2	2-2.5'	1
2092					3-3.5'		
2093					4-4.5'		
2094					5-5.5'		
2095					C5-2 @ AH-3	2-2.5'	
2096					3-3.5'		
2097					4-4.5'		
2098					5-5.5'		

PRESERVATIVE METHOD

HCL	
HNO3	
ICE	X
NONE	

NUMBER OF CONTAINERS

FILTERED (Y/N)	
----------------	--

RELINQUISHED BY: (Signature)

Date: 08-31-12 Time: 1300

RECEIVED BY: (Signature)

Date: 8/31/12 Time: 14:00

SAMPLED BY: (Print & Initial)

TF

Date: 8-30-12 Time:

RELINQUISHED BY: (Signature)

Date: 08-31-12 Time: 1400

RECEIVED BY: (Signature)

Date: 8/31/12 Time: 14:00

AIRBILL #:

OTHER:

TETRA TECH CONTACT PERSON:

Ike

RECEIVING LABORATORY:

ADDRESS: Midland

CITY: State: TX ZIP: 79701

CONTACT: PHONE:

RUSH Charges Authorized:

Yes No

REMARKS:

3.7 intact

REMARKS:

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

Report Date: August 16, 2011

Work Order: 11080535

Page Number: 1 of 6

Summary Report

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

Report Date: August 16, 2011

Work Order: 11080535

Project Location: Lea Co., NM
Project Name: COG/GC Federal #28
Project Number: 114-6400984

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
273908	AH-1 0-1'	soil	2011-08-04	00:00	2011-08-05
273909	AH-1 1-1.5'	soil	2011-08-04	00:00	2011-08-05
273910	AH-1 2-2.5'	soil	2011-08-04	00:00	2011-08-05
273911	AH-1 3-3.5'	soil	2011-08-04	00:00	2011-08-05
273912	AH-1 4-4.5'	soil	2011-08-04	00:00	2011-08-05
273913	AH-1 5-5.5'	soil	2011-08-04	00:00	2011-08-05
273914	AH-1 6-6.5'	soil	2011-08-04	00:00	2011-08-05
273915	AH-1 7-7.5'	soil	2011-08-04	00:00	2011-08-05
273916	AH-1 8-8.5'	soil	2011-08-04	00:00	2011-08-05
273917	AH-1 9-9.5'	soil	2011-08-04	00:00	2011-08-05
273918	AH-2 0-1'	soil	2011-08-04	00:00	2011-08-05
273919	AH-2 1-1.5'	soil	2011-08-04	00:00	2011-08-05
273920	AH-2 2-2.5'	soil	2011-08-04	00:00	2011-08-05
273921	AH-2 3-3.5'	soil	2011-08-04	00:00	2011-08-05
273922	AH-2 4-4.5'	soil	2011-08-04	00:00	2011-08-05
273923	AH-2 5-5.5'	soil	2011-08-04	00:00	2011-08-05
273924	AH-2 6-6.5'	soil	2011-08-04	00:00	2011-08-05
273925	AH-2 7-7.5'	soil	2011-08-04	00:00	2011-08-05
273926	AH-2 8-8.5'	soil	2011-08-04	00:00	2011-08-05
273927	AH-2 9-9.5'	soil	2011-08-04	00:00	2011-08-05
273928	AH-3 0-1'	soil	2011-08-04	00:00	2011-08-05
273929	AH-3 1-1.5'	soil	2011-08-04	00:00	2011-08-05
273930	AH-3 2-2.5'	soil	2011-08-04	00:00	2011-08-05
273931	AH-3 3-3.5'	soil	2011-08-04	00:00	2011-08-05
273932	AH-3 4-4.5'	soil	2011-08-04	00:00	2011-08-05
273933	AH-3 5-5.5'	soil	2011-08-04	00:00	2011-08-05
273934	AH-3 6-6.5'	soil	2011-08-04	00:00	2011-08-05
273935	AH-3 7-7.5'	soil	2011-08-04	00:00	2011-08-05
273936	AH-4 0-1'	soil	2011-08-04	00:00	2011-08-05
273937	AH-4 1-1.5'	soil	2011-08-04	00:00	2011-08-05

Report Date: August 16, 2011

Work Order: 11080535

Page Number: 2 of 6

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
273938	AH-4 2-2.5'	soil	2011-08-04	00:00	2011-08-05
273939	AH-4 3-3.5'	soil	2011-08-04	00:00	2011-08-05
273940	AH-4 4-4.5'	soil	2011-08-04	00:00	2011-08-05
273941	AH-4 5-5.5'	soil	2011-08-04	00:00	2011-08-05

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)
273908 - AH-1 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
273918 - AH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
273928 - AH-3 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
273936 - AH-4 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00

Sample: 273908 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		343	mg/Kg	4

Sample: 273909 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		707	mg/Kg	4

Sample: 273910 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		299	mg/Kg	4

Sample: 273911 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		875	mg/Kg	4

Sample: 273912 - AH-1 4-4.5'

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

Sample: 273913 - AH-1 5-5.5'

Report Date: August 16, 2011

Work Order: 11080535

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

Sample: 273914 - AH-1 6-6.5'

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

Sample: 273915 - AH-1 7-7.5'

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

Sample: 273916 - AH-1 8-8.5'

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

Sample: 273917 - AH-1 9-9.5'

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

Sample: 273918 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		410	mg/Kg	4

Sample: 273919 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		510	mg/Kg	4

Sample: 273920 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		568	mg/Kg	4

Report Date: August 16, 2011

Work Order: 11080535

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Sample: 273921 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		1580	mg/Kg	4

Sample: 273922 - AH-2 4-4.5'

Param	Flag	Result	Units	RL
Chloride		1370	mg/Kg	4

Sample: 273923 - AH-2 5-5.5'

Param	Flag	Result	Units	RL
Chloride		542	mg/Kg	4

Sample: 273924 - AH-2 6-6.5'

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

Sample: 273925 - AH-2 7-7.5'

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

Sample: 273926 - AH-2 8-8.5'

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

Sample: 273927 - AH-2 9-9.5'

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

Sample: 273928 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		467	mg/Kg	4

Sample: 273929 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		517	mg/Kg	4

Sample: 273930 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		768	mg/Kg	4

Sample: 273931 - AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		1250	mg/Kg	4

Sample: 273932 - AH-3 4-4.5'

Param	Flag	Result	Units	RL
Chloride		1350	mg/Kg	4

Sample: 273933 - AH-3 5-5.5'

Param	Flag	Result	Units	RL
Chloride		678	mg/Kg	4

Sample: 273934 - AH-3 6-6.5'

Param	Flag	Result	Units	RL
Chloride		457	mg/Kg	4

Sample: 273935 - AH-3 7-7.5'

Param	Flag	Result	Units	RL
Chloride		372	mg/Kg	4

Sample: 273936 - AH-4 0-1'

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

Report Date: August 16, 2011

Work Order: 11080535

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Sample: 273937 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		1000	mg/Kg	4

Sample: 273938 - AH-4 2-2.5'

Param	Flag	Result	Units	RL
Chloride		592	mg/Kg	4

Sample: 273939 - AH-4 3-3.5'

Param	Flag	Result	Units	RL
Chloride		1200	mg/Kg	4

Sample: 273940 - AH-4 4-4.5'

Param	Flag	Result	Units	RL
Chloride		712	mg/Kg	4

Sample: 273941 - AH-4 5-5.5'

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



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
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6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

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: August 16, 2011

Work Order: 11080535

Project Location: Lea Co., NM
Project Name: COG/GC Federal #28
Project Number: 114-6400984

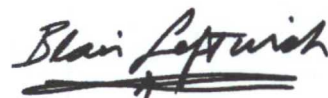
Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
273908	AH-1 0-1'	soil	2011-08-04	00:00	2011-08-05
273909	AH-1 1-1.5'	soil	2011-08-04	00:00	2011-08-05
273910	AH-1 2-2.5'	soil	2011-08-04	00:00	2011-08-05
273911	AH-1 3-3.5'	soil	2011-08-04	00:00	2011-08-05
273912	AH-1 4-4.5'	soil	2011-08-04	00:00	2011-08-05
273913	AH-1 5-5.5'	soil	2011-08-04	00:00	2011-08-05
273914	AH-1 6-6.5'	soil	2011-08-04	00:00	2011-08-05
273915	AH-1 7-7.5'	soil	2011-08-04	00:00	2011-08-05
273916	AH-1 8-8.5'	soil	2011-08-04	00:00	2011-08-05
273917	AH-1 9-9.5'	soil	2011-08-04	00:00	2011-08-05
273918	AH-2 0-1'	soil	2011-08-04	00:00	2011-08-05
273919	AH-2 1-1.5'	soil	2011-08-04	00:00	2011-08-05
273920	AH-2 2-2.5'	soil	2011-08-04	00:00	2011-08-05
273921	AH-2 3-3.5'	soil	2011-08-04	00:00	2011-08-05
273922	AH-2 4-4.5'	soil	2011-08-04	00:00	2011-08-05
273923	AH-2 5-5.5'	soil	2011-08-04	00:00	2011-08-05
273924	AH-2 6-6.5'	soil	2011-08-04	00:00	2011-08-05
273925	AH-2 7-7.5'	soil	2011-08-04	00:00	2011-08-05

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
273926	AH-2 8-8.5'	soil	2011-08-04	00:00	2011-08-05
273927	AH-2 9-9.5'	soil	2011-08-04	00:00	2011-08-05
273928	AH-3 0-1'	soil	2011-08-04	00:00	2011-08-05
273929	AH-3 1-1.5'	soil	2011-08-04	00:00	2011-08-05
273930	AH-3 2-2.5'	soil	2011-08-04	00:00	2011-08-05
273931	AH-3 3-3.5'	soil	2011-08-04	00:00	2011-08-05
273932	AH-3 4-4.5'	soil	2011-08-04	00:00	2011-08-05
273933	AH-3 5-5.5'	soil	2011-08-04	00:00	2011-08-05
273934	AH-3 6-6.5'	soil	2011-08-04	00:00	2011-08-05
273935	AH-3 7-7.5'	soil	2011-08-04	00:00	2011-08-05
273936	AH-4 0-1'	soil	2011-08-04	00:00	2011-08-05
273937	AH-4 1-1.5'	soil	2011-08-04	00:00	2011-08-05
273938	AH-4 2-2.5'	soil	2011-08-04	00:00	2011-08-05
273939	AH-4 3-3.5'	soil	2011-08-04	00:00	2011-08-05
273940	AH-4 4-4.5'	soil	2011-08-04	00:00	2011-08-05
273941	AH-4 5-5.5'	soil	2011-08-04	00:00	2011-08-05

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



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

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Case Narrative

Samples for project COG/GC Federal #28 were received by TraceAnalysis, Inc. on 2011-08-05 and assigned to work order 11080535. Samples for work order 11080535 were received intact at a temperature of 21.4 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	71089	2011-08-08 at 09:30	83703	2011-08-08 at 09:30
Chloride (Titration)	SM 4500-Cl B	71166	2011-08-11 at 12:56	83912	2011-08-16 at 11:46
Chloride (Titration)	SM 4500-Cl B	71166	2011-08-11 at 12:56	83913	2011-08-16 at 11:47
Chloride (Titration)	SM 4500-Cl B	71166	2011-08-11 at 12:56	83914	2011-08-16 at 11:48
Chloride (Titration)	SM 4500-Cl B	71166	2011-08-11 at 12:56	83915	2011-08-16 at 11:48
TPH DRO - NEW	S 8015 D	71097	2011-08-08 at 08:50	83714	2011-08-08 at 08:50
TPH GRO	S 8015 D	71089	2011-08-08 at 09:30	83704	2011-08-08 at 09:30

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 11080535 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

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Sample: 273908 - AH-1 0-1'

Laboratory: Midland
Analysis: BTEX
QC Batch: 83703
Prep Batch: 71089

Analytical Method: S 8021B
Date Analyzed: 2011-08-08
Sample Preparation: 2011-08-08

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.34	mg/Kg	1	2.00	117	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			2.53	mg/Kg	1	2.00	126	70.6 - 179

Sample: 273908 - AH-1 0-1'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83912
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			343	mg/Kg	50	4.00

Sample: 273908 - AH-1 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 83714
Prep Batch: 71097

Analytical Method: S 8015 D
Date Analyzed: 2011-08-08
Sample Preparation: 2011-08-08

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

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

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Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			124	mg/Kg	1	100	124	67.5 - 147.1

Sample: 273908 - AH-1 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 83704
Prep Batch: 71089

Analytical Method: S 8015 D
Date Analyzed: 2011-08-08
Sample Preparation: 2011-08-08

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.37	mg/Kg	1	2.00	118	30 - 134.6
4-Bromofluorobenzene (4-BFB)			2.34	mg/Kg	1	2.00	117	22.4 - 149

Sample: 273909 - AH-1 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83912
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			707	mg/Kg	50	4.00

Sample: 273910 - AH-1 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83912
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

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sample 273910 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			299	mg/Kg	50	4.00

Sample: 273911 - AH-1 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83912
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			875	mg/Kg	50	4.00

Sample: 273912 - AH-1 4-4.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83912
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

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

Sample: 273913 - AH-1 5-5.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83912
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

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

Sample: 273914 - AH-1 6-6.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	83912	Date Analyzed:	2011-08-16	Analyzed By:	AR
Prep Batch:	71166	Sample Preparation:	2011-08-11	Prepared By:	AR

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

Sample: 273915 - AH-1 7-7.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	83912	Date Analyzed:	2011-08-16	Analyzed By:	AR
Prep Batch:	71166	Sample Preparation:	2011-08-11	Prepared By:	AR

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

Sample: 273916 - AH-1 8-8.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	83912	Date Analyzed:	2011-08-16	Analyzed By:	AR
Prep Batch:	71166	Sample Preparation:	2011-08-11	Prepared By:	AR

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

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Sample: 273917 - AH-1 9-9.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83912
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

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

Sample: 273918 - AH-2 0-1'

Laboratory: Midland
Analysis: BTEX
QC Batch: 83703
Prep Batch: 71089

Analytical Method: S 8021B
Date Analyzed: 2011-08-08
Sample Preparation: 2011-08-08

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.51	mg/Kg	1	2.00	126	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			2.69	mg/Kg	1	2.00	134	70.6 - 179

Sample: 273918 - AH-2 0-1'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83913
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			410	mg/Kg	50	4.00

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Sample: 273918 - AH-2 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 83714
Prep Batch: 71097

Analytical Method: S 8015 D
Date Analyzed: 2011-08-08
Sample Preparation: 2011-08-08

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			122	mg/Kg	1	100	122	67.5 - 147.1

Sample: 273918 - AH-2 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 83704
Prep Batch: 71089

Analytical Method: S 8015 D
Date Analyzed: 2011-08-08
Sample Preparation: 2011-08-08

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.54	mg/Kg	1	2.00	127	30 - 134.6
4-Bromofluorobenzene (4-BFB)			2.49	mg/Kg	1	2.00	124	22.4 - 149

Sample: 273919 - AH-2 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83913
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			510	mg/Kg	50	4.00

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Sample: 273920 - AH-2 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83913
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			568	mg/Kg	50	4.00

Sample: 273921 - AH-2 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83913
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1580	mg/Kg	50	4.00

Sample: 273922 - AH-2 4-4.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83913
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1370	mg/Kg	50	4.00

Sample: 273923 - AH-2 5-5.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83913
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			542	mg/Kg	50	4.00

Sample: 273924 - AH-2 6-6.5'

Laboratory: Midland	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2011-08-16	Analyzed By: AR
QC Batch: 83913	Sample Preparation: 2011-08-11	Prepared By: AR
Prep Batch: 71166		

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

Sample: 273925 - AH-2 7-7.5'

Laboratory: Midland	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2011-08-16	Analyzed By: AR
QC Batch: 83913	Sample Preparation: 2011-08-11	Prepared By: AR
Prep Batch: 71166		

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

Sample: 273926 - AH-2 8-8.5'

Laboratory: Midland	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2011-08-16	Analyzed By: AR
QC Batch: 83913	Sample Preparation: 2011-08-11	Prepared By: AR
Prep Batch: 71166		

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

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Sample: 273927 - AH-2 9-9.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83913
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

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

Sample: 273928 - AH-3 0-1'

Laboratory: Midland
Analysis: BTEX
QC Batch: 83703
Prep Batch: 71089

Analytical Method: S 8021B
Date Analyzed: 2011-08-08
Sample Preparation: 2011-08-08

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.40	mg/Kg	1	2.00	120	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			2.58	mg/Kg	1	2.00	129	70.6 - 179

Sample: 273928 - AH-3 0-1'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83914
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			467	mg/Kg	50	4.00

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Sample: 273928 - AH-3 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 83714
Prep Batch: 71097

Analytical Method: S 8015 D
Date Analyzed: 2011-08-08
Sample Preparation: 2011-08-08

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			109	mg/Kg	1	100	109	67.5 - 147.1

Sample: 273928 - AH-3 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 83704
Prep Batch: 71089

Analytical Method: S 8015 D
Date Analyzed: 2011-08-08
Sample Preparation: 2011-08-08

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.41	mg/Kg	1	2.00	120	30 - 134.6
4-Bromofluorobenzene (4-BFB)			2.38	mg/Kg	1	2.00	119	22.4 - 149

Sample: 273929 - AH-3 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83914
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			517	mg/Kg	50	4.00

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Sample: 273930 - AH-3 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83914
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			768	mg/Kg	50	4.00

Sample: 273931 - AH-3 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83914
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1250	mg/Kg	50	4.00

Sample: 273932 - AH-3 4-4.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83914
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1350	mg/Kg	50	4.00

Sample: 273933 - AH-3 5-5.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83914
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			678	mg/Kg	50	4.00

Sample: 273934 - AH-3 6-6.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83914
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			457	mg/Kg	50	4.00

Sample: 273935 - AH-3 7-7.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 83914
Prep Batch: 71166

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-08-16
Sample Preparation: 2011-08-11

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			372	mg/Kg	50	4.00

Sample: 273936 - AH-4 0-1'

Laboratory: Midland
Analysis: BTEX
QC Batch: 83703
Prep Batch: 71089

Analytical Method: S 8021B
Date Analyzed: 2011-08-08
Sample Preparation: 2011-08-08

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

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 273936 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)			2.45	mg/Kg	1	2.00	122	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			2.63	mg/Kg	1	2.00	132	70.6 - 179

Sample: 273936 - AH-4 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-08-16	Analyzed By:	AR
QC Batch:	83914	Sample Preparation:	2011-08-11	Prepared By:	AR
Prep Batch:	71166				

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

Sample: 273936 - AH-4 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2011-08-08	Analyzed By:	kg
QC Batch:	83714	Sample Preparation:	2011-08-08	Prepared By:	kg
Prep Batch:	71097				

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			118	mg/Kg	1	100	118	67.5 - 147.1

Sample: 273936 - AH-4 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2011-08-08	Analyzed By:	ME
QC Batch:	83704	Sample Preparation:	2011-08-08	Prepared By:	ME
Prep Batch:	71089				

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.49	mg/Kg	1	2.00	124	30 - 134.6
4-Bromofluorobenzene (4-BFB)			2.43	mg/Kg	1	2.00	122	22.4 - 149

Sample: 273937 - AH-4 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	83914	Date Analyzed:	2011-08-16	Analyzed By:	AR
Prep Batch:	71166	Sample Preparation:	2011-08-11	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1000	mg/Kg	50	4.00

Sample: 273938 - AH-4 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	83915	Date Analyzed:	2011-08-16	Analyzed By:	AR
Prep Batch:	71166	Sample Preparation:	2011-08-11	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			592	mg/Kg	50	4.00

Sample: 273939 - AH-4 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	83915	Date Analyzed:	2011-08-16	Analyzed By:	AR
Prep Batch:	71166	Sample Preparation:	2011-08-11	Prepared By:	AR

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

Sample: 273940 - AH-4 4-4.5'

Laboratory: Midland	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2011-08-16	Analyzed By: AR
QC Batch: 83915	Sample Preparation: 2011-08-11	Prepared By: AR
Prep Batch: 71166		

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			712	mg/Kg	50	4.00

Sample: 273941 - AH-4 5-5.5'

Laboratory: Midland	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2011-08-16	Analyzed By: AR
QC Batch: 83915	Sample Preparation: 2011-08-11	Prepared By: AR
Prep Batch: 71166		

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

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Method Blanks

Method Blank (1) QC Batch: 83703

QC Batch: 83703
Prep Batch: 71089

Date Analyzed: 2011-08-08
QC Preparation: 2011-08-08

Analyzed By: ME
Prepared By: ME

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.94	mg/Kg	1	2.00	97	65.9 - 111.8
4-Bromofluorobenzene (4-BFB)			1.92	mg/Kg	1	2.00	96	48.4 - 123.1

Method Blank (1) QC Batch: 83704

QC Batch: 83704
Prep Batch: 71089

Date Analyzed: 2011-08-08
QC Preparation: 2011-08-08

Analyzed By: ME
Prepared By: ME

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<0.753	mg/Kg	2

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.00	mg/Kg	1	2.00	100	67.6 - 150
4-Bromofluorobenzene (4-BFB)			1.80	mg/Kg	1	2.00	90	52.4 - 130

Method Blank (1) QC Batch: 83714

QC Batch: 83714
Prep Batch: 71097

Date Analyzed: 2011-08-08
QC Preparation: 2011-08-08

Analyzed By: kg
Prepared By: kg

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			116	mg/Kg	1	100	116	52.7 - 133.8

Method Blank (1) QC Batch: 83912

QC Batch: 83912
Prep Batch: 71166

Date Analyzed: 2011-08-16
QC Preparation: 2011-08-11

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 83913

QC Batch: 83913
Prep Batch: 71166

Date Analyzed: 2011-08-16
QC Preparation: 2011-08-11

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 83914

QC Batch: 83914
Prep Batch: 71166

Date Analyzed: 2011-08-16
QC Preparation: 2011-08-11

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: 83915

QC Batch: 83915
Prep Batch: 71166

Date Analyzed: 2011-08-16
QC Preparation: 2011-08-11

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: 83703
Prep Batch: 71089

Date Analyzed: 2011-08-08
QC Preparation: 2011-08-08

Analyzed By: ME
Prepared By: ME

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.97	mg/Kg	1	2.00	<0.0118	98	77.4 - 121.7
Toluene		1	1.98	mg/Kg	1	2.00	<0.00600	99	88.6 - 121.6
Ethylbenzene		1	1.88	mg/Kg	1	2.00	<0.00850	94	74.3 - 117.9
Xylene		1	5.62	mg/Kg	1	6.00	<0.00613	94	73.4 - 118.8

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.94	mg/Kg	1	2.00	<0.0118	97	77.4 - 121.7	2	20
Toluene		1	1.97	mg/Kg	1	2.00	<0.00600	98	88.6 - 121.6	0	20
Ethylbenzene		1	1.89	mg/Kg	1	2.00	<0.00850	94	74.3 - 117.9	0	20
Xylene		1	5.66	mg/Kg	1	6.00	<0.00613	94	73.4 - 118.8	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.96	2.11	mg/Kg	1	2.00	98	106	65.5 - 116.7
4-Bromofluorobenzene (4-BFB)	2.04	2.23	mg/Kg	1	2.00	102	112	56.2 - 132.1

Laboratory Control Spike (LCS-1)

QC Batch: 83704
Prep Batch: 71089

Date Analyzed: 2011-08-08
QC Preparation: 2011-08-08

Analyzed By: ME
Prepared By: ME

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	14.7	mg/Kg	1	20.0	<0.753	74	60.9 - 95.4

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

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Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	14.8	mg/Kg	1	20.0	<0.753	74	60.9 - 95.4	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.12	2.10	mg/Kg	1	2.00	106	105	61.9 - 142
4-Bromofluorobenzene (4-BFB)	2.06	2.05	mg/Kg	1	2.00	103	102	68.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 83714
Prep Batch: 71097

Date Analyzed: 2011-08-08
QC Preparation: 2011-08-08

Analyzed By: kg
Prepared By: kg

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	225	mg/Kg	1	250	<14.5	90	64.5 - 146.9

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	214	mg/Kg	1	250	<14.5	86	64.5 - 146.9	5	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	119	111	mg/Kg	1	100	119	111	65.3 - 135.8

Laboratory Control Spike (LCS-1)

QC Batch: 83912
Prep Batch: 71166

Date Analyzed: 2011-08-16
QC Preparation: 2011-08-11

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			94.2	mg/Kg	1	100	<3.85	94	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			104	mg/Kg	1	100	<3.85	104	85 - 115	10	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: 83913
Prep Batch: 71166

Date Analyzed: 2011-08-16
QC Preparation: 2011-08-11

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			93.7	mg/Kg	1	100	<3.85	94	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			108	mg/Kg	1	100	<3.85	108	85 - 115	14	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: 83914
Prep Batch: 71166

Date Analyzed: 2011-08-16
QC Preparation: 2011-08-11

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			97.3	mg/Kg	1	100	<3.85	97	85 - 115

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			108	mg/Kg	1	100	<3.85	108	85 - 115	10	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: 83915
Prep Batch: 71166

Date Analyzed: 2011-08-16
QC Preparation: 2011-08-11

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			95.3	mg/Kg	1	100	<3.85	95	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			105	mg/Kg	1	100	<3.85	105	85 - 115	10	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: 273936

QC Batch: 83703
Prep Batch: 71089

Date Analyzed: 2011-08-08
QC Preparation: 2011-08-08

Analyzed By: ME
Prepared By: ME

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.02	mg/Kg	1	2.00	<0.0118	101	69.4 - 123.6
Toluene		1	2.09	mg/Kg	1	2.00	<0.00600	104	75.4 - 134.3
Ethylbenzene		1	2.10	mg/Kg	1	2.00	<0.00850	105	58.8 - 133.7
Xylene		1	6.34	mg/Kg	1	6.00	<0.00613	106	57 - 134.2

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.87	mg/Kg	1	2.00	<0.0118	94	69.4 - 123.6	8	20
Toluene		1	1.93	mg/Kg	1	2.00	<0.00600	96	75.4 - 134.3	8	20
Ethylbenzene		1	1.92	mg/Kg	1	2.00	<0.00850	96	58.8 - 133.7	9	20
Xylene		1	5.80	mg/Kg	1	6.00	<0.00613	97	57 - 134.2	9	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.56	2.38	mg/Kg	1	2	128	119	79.4 - 141.1
4-Bromofluorobenzene (4-BFB)	2.81	2.61	mg/Kg	1	2	140	130	71 - 167

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Matrix Spike (MS-1) Spiked Sample: 273974

QC Batch: 83704
Prep Batch: 71089

Date Analyzed: 2011-08-08
QC Preparation: 2011-08-08

Analyzed By: ME
Prepared By: ME

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	215	mg/Kg	10	100	214.837	0	61.8 - 114

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	290	mg/Kg	10	100	214.837	0	61.8 - 114	30	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)	11.6	11.6	mg/Kg	10	10	116	116	29.4 - 161.7
4-Bromofluorobenzene (4-BFB)	13.0	12.8	mg/Kg	10	10	130	128	37.3 - 162

Matrix Spike (MS-1) Spiked Sample: 273936

QC Batch: 83714
Prep Batch: 71097

Date Analyzed: 2011-08-08
QC Preparation: 2011-08-08

Analyzed By: kg
Prepared By: kg

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	206	mg/Kg	1	250	<14.5	82	38.8 - 153.3

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	199	mg/Kg	1	250	<14.5	80	38.8 - 153.3	3	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	110	104	mg/Kg	1	100	110	104	54.6 - 149.8

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Matrix Spike (MS-1) Spiked Sample: 273917

QC Batch: 83912
Prep Batch: 71166

Date Analyzed: 2011-08-16
QC Preparation: 2011-08-11

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10200	mg/Kg	100	10000	<385	102	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			11100	mg/Kg	100	10000	<385	111	79.4 - 120.6	8	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: 273927

QC Batch: 83913
Prep Batch: 71166

Date Analyzed: 2011-08-16
QC Preparation: 2011-08-11

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10800	mg/Kg	100	10000	<385	108	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			11100	mg/Kg	100	10000	<385	111	79.4 - 120.6	3	20

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

Matrix Spike (MS-1) Spiked Sample: 273937

QC Batch: 83914
Prep Batch: 71166

Date Analyzed: 2011-08-16
QC Preparation: 2011-08-11

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10900	mg/Kg	100	10000	1000	99	79.4 - 120.6

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

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Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			12300	mg/Kg	100	10000	1000	113	79.4 - 120.6	12	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: 273947

QC Batch: 83915
Prep Batch: 71166

Date Analyzed: 2011-08-16
QC Preparation: 2011-08-11

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			13300	mg/Kg	100	10000	2630	107	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			14400	mg/Kg	100	10000	2630	118	79.4 - 120.6	8	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: 83703

Date Analyzed: 2011-08-08

Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.101	101	80 - 120	2011-08-08
Toluene		1	mg/Kg	0.100	0.102	102	80 - 120	2011-08-08
Ethylbenzene		1	mg/Kg	0.100	0.0956	96	80 - 120	2011-08-08
Xylene		1	mg/Kg	0.300	0.291	97	80 - 120	2011-08-08

Standard (CCV-2)

QC Batch: 83703

Date Analyzed: 2011-08-08

Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.101	101	80 - 120	2011-08-08
Toluene		1	mg/Kg	0.100	0.101	101	80 - 120	2011-08-08
Ethylbenzene		1	mg/Kg	0.100	0.0956	96	80 - 120	2011-08-08
Xylene		1	mg/Kg	0.300	0.286	95	80 - 120	2011-08-08

Standard (CCV-1)

QC Batch: 83704

Date Analyzed: 2011-08-08

Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.09	109	80 - 120	2011-08-08

Standard (CCV-2)

QC Batch: 83704

Date Analyzed: 2011-08-08

Analyzed By: ME

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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.860	86	80 - 120	2011-08-08

Standard (CCV-1)

QC Batch: 83714

Date Analyzed: 2011-08-08

Analyzed By: kg

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	255	102	80 - 120	2011-08-08

Standard (CCV-2)

QC Batch: 83714

Date Analyzed: 2011-08-08

Analyzed By: kg

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	209	84	80 - 120	2011-08-08

Standard (CCV-3)

QC Batch: 83714

Date Analyzed: 2011-08-08

Analyzed By: kg

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	209	84	80 - 120	2011-08-08

Standard (ICV-1)

QC Batch: 83912

Date Analyzed: 2011-08-16

Analyzed By: AR

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Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2011-08-16

Standard (CCV-1)

QC Batch: 83912

Date Analyzed: 2011-08-16

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	99.0	99	85 - 115	2011-08-16

Standard (ICV-1)

QC Batch: 83913

Date Analyzed: 2011-08-16

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	95.7	96	85 - 115	2011-08-16

Standard (CCV-1)

QC Batch: 83913

Date Analyzed: 2011-08-16

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	104	104	85 - 115	2011-08-16

Standard (ICV-1)

QC Batch: 83914

Date Analyzed: 2011-08-16

Analyzed By: AR

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Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.6	100	85 - 115	2011-08-16

Standard (CCV-1)

QC Batch: 83914

Date Analyzed: 2011-08-16

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	2011-08-16

Standard (ICV-1)

QC Batch: 83915

Date Analyzed: 2011-08-16

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2011-08-16

Standard (CCV-1)

QC Batch: 83915

Date Analyzed: 2011-08-16

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.7	100	85 - 115	2011-08-16

Appendix

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	T104704392-10-TX	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.
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

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

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Analysis Request of Chain of Custody Record

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ANALYSIS REQUEST
(Circle or Specify Method No.)



TETRA TECH

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

CLIENT NAME: (COG) Skye Trucking		SITE MANAGER: <u>Ike Tavaraz</u>	
PROJECT NO.: 111-64009854		PROJECT NAME: <u>COG / G.C. Federal #28</u>	
		SAMPLE IDENTIFICATION: <u>Lee Co. NM</u>	
LAB I.D. NUMBER	DATE	TIME	MATRIX

LAB I.D. NUMBER	DATE	TIME	MATRIX	NUMBER OF CONTAINERS			PRESERVATIVE METHOD	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8240/8260/624	GC/MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
				GRAV	COMP	GRAB															
273918	8/14		S	X																	
919																					
920																					
921																					
922																					
923																					
924																					
925																					
926																					
927																					

RELINQUISHED BY: (Signature)	Date: 8/5/11	Time: 1546	RECEIVED BY: (Signature)	Date: 8/14/11	Time: 15140
RELINQUISHED BY: (Signature)	Date:	Time:	RECEIVED BY: (Signature)	Date:	Time:
RELINQUISHED BY: (Signature)	Date:	Time:	RECEIVED BY: (Signature)	Date:	Time:
RECEIVING LABORATORY:	STATE:	ZIP:	PHONE:	DATE:	TIME:

REMARKS: If total TPH exceeds 500 mg/kg run deeper samples / If total BTEX exceeds 50 mg/kg or BTEXene exceeds 10 mg/kg run deeper samples

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

