

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

PJXK1535547866

4050 Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	COG Operating LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 1300 Midland, Texas 79701	Telephone No.	(432) 685-4332
Facility Name	Maljamar 6" SWD Line	Facility Type	6" SWD Line
Surface Owner: Federal	Mineral Owner	Lease No.	API# 30-025-38860

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	34	17S	32E					Lea

Latitude 32 47.813 Longitude 103 45.802

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release 160 bbls	Volume Recovered 110 bbls
Source of Release: 6" Line	Date and Hour of Occurrence 08/05/2010	Date and Hour of Discovery 08/05/2010 6:15a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom?	
By Whom? Josh Russo	Date and Hour 08/05/2010 11:49a.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

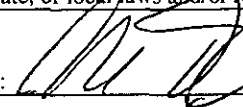
Describe Cause of Problem and Remedial Action Taken.*

Due to vibration, a rock rubbed a hole in the 6" SWD Line. The section of pipe that was compromised was removed and replaced with new pipe.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected site and collected samples to define spills extent. Soil that exceeded RRAL was removed and hauled away for proper disposal. Site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD for review.

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

Signature: 	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: 3-13-12 Phone: (432) 682-4559			

* Attach Additional Sheets If Necessary

SITE INFORMATION

RECEIVED

Report Type: Work Plan

General Site Information:

MAR 31 2011

Site:	Maljamar 6" SWD Line		HOBBSOCD
Company:	COG Operating LLC		
Section, Township and Range	Sec 34 T-17S R-32E Unit D		
Lease Number:	30-025-38860		
County:	Lea County		
GPS:	32.79671	103.76334	
Surface Owner:	Federal		
Mineral Owner:			
Directions:	From the intersection of Hwy 529 and CR-126, North on 126 0.5 miles to location on left.		

Release Data:

Date Released:	8/5/2010
Type Release:	Produced water
Source of Contamination:	6" SWD line
Fluid Released:	160 bbls
Fluids Recovered:	110 bbls

Official Communication:

Name:	Pat Ellis	Aaron Hale
Company:	COG Operating, LLC	Tetra Tech
Address:	550 W. Texas Ave. Ste. 1300	1910 N. Big Spring
P.O. Box		
City:	Midland Texas, 79701	Midland, Texas
Phone number:	(432) 686-3023	(432) 631-0348
Fax:	(432) 684-7137	
Email:	pellis@conchoresources.com	aaron.hale@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
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Acceptable Soil IRAL (mg/kg)		
Benzene	Total BTEX	TPH
10	50	5,000



TETRA TECH

March 22, 2011

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

**Re: Work Plan for the COG Operating LLC.
Maljamar 6" SWD Line
Unit D, Section 34, 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 the Maljamar 6" SWD Line, located in Unit D, Section 34, Township 17 South, Range 32 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.79671°, W 103.76334°. 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 August 5, 2010, and released approximately 160 barrels of produced water from a hole in the SWD poly line. COG personnel subsequently repaired the line. Approximately 110 barrels of standing fluids were recovered with a vacuum truck. The spill migrated south along the COG right of way (ROW) approximately 450' with an average width of 15'. The spill is located between two parallel active COG flow lines. The initial C-141 form is enclosed in Appendix A.

Groundwater

The United States Geological Survey (USGS) and the New Mexico Office of the State Engineer Well Reports did not list any wells in Section 34. According to the NMOCD groundwater map, the average depth to groundwater in this area is between 100' and 120' below ground surface (bgs). To establish depth to groundwater, Tetra Tech previously installed a temporary monitor well (TMW) on July 14, 2009 in Section 30 to a depth of 180' bgs and did not encounter groundwater. The groundwater data and sample log from the dry TMW are 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 September 8, 2010, Tetra Tech personnel inspected and sampled the spill area which measured approximately 450' x 15'. A total of six (6) auger holes (AH-1 through AH-6) were installed using a stainless steel hand auger to assess the impacted soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all of the submitted samples were below the RRAL for TPH and BTEX. Elevated chloride concentrations were detected in the bottom sample from all auger holes with the exception of AH-4 which delineated to below laboratory detection limits at 5' bgs.

On November 11, 2010, Tetra Tech personnel supervised the installation of 5 soil bores (SB-1 through SB-5) adjacent to all of the hand auger locations which exhibited elevated chloride concentrations. Due to safety concerns for drilling between two live lines, a field crew was onsite to hand spot lines. Soil samples were collected to a maximum depth of 25' to define the chloride concentrations. Referring to Table 1, elevated chloride concentrations from each of the five soil bores decreased to <200 mg/kg at depths of 5' to 10' bgs.

Work Plan

COG proposes the removal of impacted material as shown highlighted (green) in Table 1 and Figure 4. Once the areas are excavated to the appropriate depths, the excavation will be backfilled with clean soil. Upon completion, a final report will be submitted to the NMOCD.

Since the impacted area is in the native sand dunes and the excavation area is limited due to the active lines, the proposed excavation depths may not be reached due to flowing sands and safety concerns for lines and equipment operators as well as other onsite personnel. As such, Tetra Tech will excavate the soils to the maximum extent practicable. If the proposed depths are not reached, a 40 mil liner will be

Maljamar 6" SWD

0 2.5 5 Miles



Figure 1

Maljamar 6" SWD
Topo Map 1:250,000
Lea County, New Mexico

Project : 114-6400672

Date : 10-29-2010

File : H:\GIS\6400672



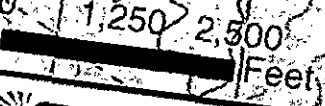




Figure 2

Maljamar 6" SWD
Topo Map 1:24,000
Lea County, New Mexico

Project : 114-6400672
Date : 10-29-2010
File : H:\GIS\6400672





LEASE ROAD

COG LINES 10' -15' APART

****AH Samples 75' Apart**

Explanation	
	Auger Hole Sample
	Bore Hole Sample
	Leak Source
	Spill Assessment Area
	Excavated to Repair Line
	COG Line with Leak
	COG Line

Leak Source

55'

50'

AH1/BH1

AH2/BH2

AH3/BH3

AH4

AH5/BH5

AH6/BH6

450'

COUNTY ROAD 126



NOT TO SCALE



Figure 3

**Maljamar 6" SWD
Spill Map with Auger Holes
& Soil Bores
Lea County, New Mexico**

Project : 114-6400672

Date : 10-29-2010

File : H:\GIS\6400672



SPILL 10' WIDE

LEASE ROAD

COG LINES 10' -15' APART

****AH Samples 75' Apart**

Explanation	
	Auger Hole Sample
	Bore Hole Sample
	Leak Source
	Spill Assessment Area
	Excavated to Repair Line
	COG Line with Leak
	COG Line

50'

55'

Leak Source

AH1/BH1

Excavated To 10'

AH2/BH2

Excavated To 7'

AH3/BH3

AH4

AH5/BH4

Excavated To 5'

AH6/BH5

450'

SPILL 10' WIDE

COUNTY ROAD 126



NOT TO SCALE



Figure 4

Maljamar 6" SWD
Excavation Depths
Lea County, New Mexico

Project : 114-6400672

Date : 10-29-2010

File : H:\GIS\6400672



Table 1

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-1	9/8/2010	0-1'		X		<2.00	169	169	<0.0200	<0.0200	<0.0200	<0.0200	8,040
	"	1-1.5'		X		-	-	-	-	-	-	-	14,800
	"	2-2.5'		X		-	-	-	-	-	-	-	23,000
	"	3-3.5'		X		-	-	-	-	-	-	-	15,400
	"	4-4.5'		X		-	-	-	-	-	-	-	1,030
	"	5-5.5'		X		-	-	-	-	-	-	-	273
	"	6-6.5'		X		-	-	-	-	-	-	-	3,670
	"	7-7.5'		X		-	-	-	-	-	-	-	5,190
	"	7.5-8'		X		-	-	-	-	-	-	-	7,060
BH-1	10/27/2010	0-1'		X		-	-	-					<200
	"	3'		X		-	-	-					600
	"	5'		X		-	-	-					10,700
	"	7'		X		-	-	-					<200
	"	10'		X		-	-	-					2,310
	"	15'		X		-	-	-					<200
	"	20'		X		-	-	-					<200
	"	25'		X		-	-	-					<200

Table 1

[illegible]

Table 1
COG Operating LLC.
MALJAMAR 6 IN. SWD LINE LEAK
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-4	9/8/2010	0-1'		X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	5,030
	"	1-1.5'		X		-	-	-	-	-	-	-	7,850
	"	2-2.5'		X		-	-	-	-	-	-	-	12,100
	"	3-3.5'		X		-	-	-	-	-	-	-	11,200
	"	4-4.5'		X		-	-	-	-	-	-	-	6,030
	"	5-5.5'		X		-	-	-	-	-	-	-	<200
	"	6-6.5'		X		-	-	-	-	-	-	-	<200
AH-5	9/8/2010	0-1'		X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	4,860
	"	1-1.5'		X		-	-	-	-	-	-	-	7,300
	"	2-2.5'		X		-	-	-	-	-	-	-	11,600
	"	3-3.5'		X		-	-	-	-	-	-	-	8,870
	"	4-4.5'		X		-	-	-	-	-	-	-	9,640
	"	4.5'-5'		X		-	-	-	-	-	-	-	12,100
BH-4	10/27/2010	0-1'		X		-	-	-					1,160
	"	3'		X		-	-	-					508
	"	5'		X		-	-	-					7,240
	"	7'		X		-	-	-					<200
	"	10'		X		-	-	-					<200
	"	15'		X		-	-	-					<200
	"	20'		X		-	-	-					<200

Table 1
COG Operating LLC.
MALJAMAR 6 IN. SWD LINE LEAK
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-6	9/8/2010	0-1'		X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<200
	"	1-1.5'		X		-	-	-	-	-	-	-	15,200
	"	2-2.5'		X		-	-	-	-	-	-	-	13,300
	"	3-3.5'		X		-	-	-	-	-	-	-	1,660
	"	4-4.5'		X		-	-	-	-	-	-	-	5,170
BH-5	10/27/2010	0-1'		X		-	-	-	-	-	-	-	<200
	"	3'		X		-	-	-	-	-	-	-	<200
	"	5'		X		-	-	-	-	-	-	-	<200
	"	7'		X		-	-	-	-	-	-	-	<200
	"	10'		X		-	-	-	-	-	-	-	<200
	"	15'		X		-	-	-	-	-	-	-	<200

BEB Below Excavation Bottom
 (--) Not Analyzed
☐ Proposed excavation depths

Water Well Data
Average Depth to Groundwater (ft)
COG - Maljamar 6" SWD Line
Lea County, New Mexico

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

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

18 South			31 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
			281		

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	180	29	28	27	26
31	32	33	34	35	36

18 South			32 East		
6	5	4	3	2	1
7	460	8	9	10	11
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
					117

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

17 South			33 East		
6	5	4	3	2	1
7	167	8	9	10	11
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
					155

18 South			33 East		
6	5	4	3	2	1
7	8	100	9	10	11
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
					177

-  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
-  Tetra Tech Temporary well (TD 180' - Dry Well)

SAMPLE LOG

Boring/Well: TMW-1 Dry Well in Sec 30 17S- 32E
 Project Number: 114-6400224
 Client: COG
 Site Location: Pronghorn Section 30
 Location: Lea County, New Mexico
 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 clayey sand
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 is 181 feet Groundwater was not encountered

Summary Report

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

Report Date: September 27, 2010

Work Order: 10091317



Project Location: Lea Co., NM
Project Name: COG/Maljamar 6 in. SWD Line Leak
Project Number: 114-6400672

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
244288	AH-1 0-1'	soil	2010-09-08	00:00	2010-09-10
244289	AH-1 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244290	AH-1 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244291	AH-1 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244292	AH-1 4-4.5'	soil	2010-09-08	00:00	2010-09-10
244293	AH-1 5-5.5'	soil	2010-09-08	00:00	2010-09-10
244294	AH-1 6-6.5'	soil	2010-09-08	00:00	2010-09-10
244295	AH-1 7-7.5'	soil	2010-09-08	00:00	2010-09-10
244296	AH-1 7.5-8'	soil	2010-09-08	00:00	2010-09-10
244297	AH-2 0-1'	soil	2010-09-08	00:00	2010-09-10
244298	AH-2 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244299	AH-2 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244300	AH-2 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244301	AH-2 4-4.5'	soil	2010-09-08	00:00	2010-09-10
244302	AH-3 0-1'	soil	2010-09-08	00:00	2010-09-10
244303	AH-3 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244304	AH-3 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244305	AH-3 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244306	AH-4 0-1'	soil	2010-09-08	00:00	2010-09-10
244307	AH-4 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244308	AH-4 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244309	AH-4 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244310	AH-4 4-4.5'	soil	2010-09-08	00:00	2010-09-10
244311	AH-4 5-5.5'	soil	2010-09-08	00:00	2010-09-10
244312	AH-4 6-6.5'	soil	2010-09-08	00:00	2010-09-10
244313	AH-5 0-1'	soil	2010-09-08	00:00	2010-09-10
244314	AH-5 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244315	AH-5 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244316	AH-5 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244317	AH-5 4-4.5'	soil	2010-09-08	00:00	2010-09-10

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
244318	AH-5 4.5-5'	soil	2010-09-08	00:00	2010-09-10
244319	AH-6 0-1'	soil	2010-09-08	00:00	2010-09-10
244320	AH-6 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244321	AH-6 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244322	AH-6 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244323	AH-6 4-4.5'	soil	2010-09-08	00:00	2010-09-10

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)
244288 - AH-1 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	169	<2.00
244297 - AH-2 0-1'					<50.0	<2.00
244302 - AH-3 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
244306 - AH-4 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
244313 - AH-5 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
244319 - AH-6 0-1'					<50.0	<2.00

Sample: 244288 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		8040	mg/Kg	4.00

Sample: 244289 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		14800	mg/Kg	4.00

Sample: 244290 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		23000	mg/Kg	4.00

Sample: 244291 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		15400	mg/Kg	4.00

Sample: 244292 - AH-1 4-4.5'

Param	Flag	Result	Units	RL
Chloride		1030	mg/Kg	4.00

Sample: 244293 - AH-1 5-5.5'

Param	Flag	Result	Units	RL
Chloride		273	mg/Kg	4.00

Sample: 244294 - AH-1 6-6.5'

Param	Flag	Result	Units	RL
Chloride		3670	mg/Kg	4.00

Sample: 244295 - AH-1 7-7.5'

Param	Flag	Result	Units	RL
Chloride		5190	mg/Kg	4.00

Sample: 244296 - AH-1 7.5-8'

Param	Flag	Result	Units	RL
Chloride		7060	mg/Kg	4.00

Sample: 244297 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		6270	mg/Kg	4.00

Sample: 244298 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		8090	mg/Kg	4.00

Sample: 244299 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		15300	mg/Kg	4.00

Sample: 244300 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		16200	mg/Kg	4.00

Sample: 244301 - AH-2 4-4.5'

Param	Flag	Result	Units	RL
Chloride		16300	mg/Kg	4.00

Sample: 244302 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		5580	mg/Kg	4.00

Sample: 244303 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		8160	mg/Kg	4.00

Sample: 244304 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		15200	mg/Kg	4.00

Sample: 244305 - AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		15600	mg/Kg	4.00

Sample: 244306 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		5030	mg/Kg	4.00

Sample: 244307 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		7850	mg/Kg	4.00

Sample: 244308 - AH-4 2-2.5'

Param	Flag	Result	Units	RL
Chloride		12100	mg/Kg	4.00

Sample: 244309 - AH-4 3-3.5'

Param	Flag	Result	Units	RL
Chloride		11200	mg/Kg	4.00

Sample: 244310 - AH-4 4-4.5'

Param	Flag	Result	Units	RL
Chloride		6030	mg/Kg	4.00

Sample: 244311 - AH-4 5-5.5'

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

Sample: 244312 - AH-4 6-6.5'

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

Sample: 244313 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		4860	mg/Kg	4.00

Sample: 244314 - AH-5 1-1.5'

Param	Flag	Result	Units	RL
Chloride		7300	mg/Kg	4.00

Sample: 244315 - AH-5 2-2.5'

Param	Flag	Result	Units	RL
Chloride		11600	mg/Kg	4.00

Sample: 244316 - AH-5 3-3.5'

Param	Flag	Result	Units	RL
Chloride		8870	mg/Kg	4.00

Sample: 244317 - AH-5 4-4.5'

Param	Flag	Result	Units	RL
Chloride		9640	mg/Kg	4.00

Sample: 244318 - AH-5 4.5-5'

Param	Flag	Result	Units	RL
Chloride		12100	mg/Kg	4.00

Sample: 244319 - AH-6 0-1'

Param	Flag	Result	Units	RL
Chloride		392	mg/Kg	4.00

Sample: 244320 - AH-6 1-1.5'

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

Sample: 244321 - AH-6 2-2.5'

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

Sample: 244322 - AH-6 3-3.5'

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

Sample: 244323 - AH-6 4-4.5'

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



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Certifications

WBENC: 237019

HUB: 1752439743100-86536

DBE: VN 20657

NCTRCA WFWB38444Y0909

NELAP Certifications

Lubbock: T104704219-08-TX

El Paso: T104704221-08-TX

Midland: T104704392-08-TX

LELAP-02003

LELAP-02002

Kansas E-10317

Analytical and Quality Control Report

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

Report Date: September 27, 2010

Work Order: 10091317



Project Location: Lea Co., NM
Project Name: COG/Maljamar 6 in. SWD Line Leak
Project Number: 114-6400672

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
244288	AH-1 0-1'	soil	2010-09-08	00:00	2010-09-10
244289	AH-1 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244290	AH-1 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244291	AH-1 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244292	AH-1 4-4.5'	soil	2010-09-08	00:00	2010-09-10
244293	AH-1 5-5.5'	soil	2010-09-08	00:00	2010-09-10
244294	AH-1 6-6.5'	soil	2010-09-08	00:00	2010-09-10
244295	AH-1 7-7.5'	soil	2010-09-08	00:00	2010-09-10
244296	AH-1 7.5-8'	soil	2010-09-08	00:00	2010-09-10
244297	AH-2 0-1'	soil	2010-09-08	00:00	2010-09-10

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
244298	AH-2 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244299	AH-2 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244300	AH-2 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244301	AH-2 4-4.5'	soil	2010-09-08	00:00	2010-09-10
244302	AH-3 0-1'	soil	2010-09-08	00:00	2010-09-10
244303	AH-3 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244304	AH-3 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244305	AH-3 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244306	AH-4 0-1'	soil	2010-09-08	00:00	2010-09-10
244307	AH-4 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244308	AH-4 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244309	AH-4 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244310	AH-4 4-4.5'	soil	2010-09-08	00:00	2010-09-10
244311	AH-4 5-5.5'	soil	2010-09-08	00:00	2010-09-10
244312	AH-4 6-6.5'	soil	2010-09-08	00:00	2010-09-10
244313	AH-5 0-1'	soil	2010-09-08	00:00	2010-09-10
244314	AH-5 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244315	AH-5 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244316	AH-5 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244317	AH-5 4-4.5'	soil	2010-09-08	00:00	2010-09-10
244318	AH-5 4.5-5'	soil	2010-09-08	00:00	2010-09-10
244319	AH-6 0-1'	soil	2010-09-08	00:00	2010-09-10
244320	AH-6 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244321	AH-6 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244322	AH-6 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244323	AH-6 4-4.5'	soil	2010-09-08	00:00	2010-09-10

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



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

Standard Flags

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

Case Narrative

Samples for project COG/Maljamar 6 in. SWD Line Leak were received by TraceAnalysis, Inc. on 2010-09-10 and assigned to work order 10091317. Samples for work order 10091317 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
BTEX	S 8021B	63021	2010-09-13 at 09:10	73499	2010-09-14 at 09:17
BTEX	S 8021B	63055	2010-09-15 at 08:15	73591	2010-09-15 at 09:19
Chloride (Titration)	SM 4500-Cl B	63073	2010-09-15 at 08:10	73600	2010-09-17 at 11:24
Chloride (Titration)	SM 4500-Cl B	63074	2010-09-15 at 08:10	73601	2010-09-17 at 11:25
Chloride (Titration)	SM 4500-Cl B	63075	2010-09-15 at 08:10	73602	2010-09-17 at 11:26
Chloride (Titration)	SM 4500-Cl B	63076	2010-09-15 at 08:11	73603	2010-09-17 at 11:26
Chloride (Titration)	SM 4500-Cl B	63077	2010-09-15 at 08:11	73690	2010-09-21 at 14:59
TPH DRO - NEW	S 8015 D	63012	2010-09-13 at 14:45	73456	2010-09-13 at 14:45
TPH DRO - NEW	S 8015 D	63015	2010-09-13 at 14:45	73458	2010-09-13 at 14:45
TPH GRO	S 8015 D	63021	2010-09-13 at 09:10	73496	2010-09-14 at 09:44
TPH GRO	S 8015 D	63055	2010-09-15 at 08:15	73583	2010-09-15 at 09:46

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 10091317 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 27, 2010
114-6400672

Work Order: 10091317
COG/Maljamar 6 in. SWD Line Leak

Page Number: 4 of 36
Lea Co., NM

Analytical Report

Sample: 244288 - AH-1 0-1'

Laboratory: Midland

Analysis: BTEX

QC Batch: 73499

Prep Batch: 63021

Analytical Method: S 8021B

Date Analyzed: 2010-09-14

Sample Preparation: 2010-09-13

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.88	mg/Kg	1	2.00	94	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.58	mg/Kg	1	2.00	79	38.4 - 157

Sample: 244288 - AH-1 0-1'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 73600

Prep Batch: 63073

Analytical Method: SM 4500-Cl B

Date Analyzed: 2010-09-17

Sample Preparation: 2010-09-15

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		8040	mg/Kg	100	4.00

Sample: 244288 - AH-1 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 73456

Prep Batch: 63012

Analytical Method: S 8015 D

Date Analyzed: 2010-09-13

Sample Preparation: 2010-09-13

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		169	mg/Kg	1	50.0

Report Date: September 27, 2010
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Work Order: 10091317
COG/Maljamar 6 in. SWD Line Leak

Page Number: 5 of 36
Lea Co., NM

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		97.8	mg/Kg	1	100	98	70 - 130

Sample: 244288 - AH-1 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 73496
Prep Batch: 63021

Analytical Method: S 8015 D
Date Analyzed: 2010-09-14
Sample Preparation: 2010-09-13

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.85	mg/Kg	1	2.00	92	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.58	mg/Kg	1	2.00	79	42 - 159

Sample: 244289 - AH-1 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 73601
Prep Batch: 63074

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-09-17
Sample Preparation: 2010-09-15

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		14800	mg/Kg	100	4.00

Sample: 244290 - AH-1 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 73601
Prep Batch: 63074

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-09-17
Sample Preparation: 2010-09-15

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		23000	mg/Kg	100	4.00

Report Date: September 27, 2010
114-6400672

Work Order: 10091317
COG/Maljamar 6 in. SWD Line Leak

Page Number: 6 of 36
Lea Co., NM

Sample: 244291 - AH-1 3-3.5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	73601	Date Analyzed:	2010-09-17
Prep Batch:	63074	Sample Preparation:	2010-09-15
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		15400	mg/Kg	100	4.00

Sample: 244292 - AH-1 4-4.5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	73601	Date Analyzed:	2010-09-17
Prep Batch:	63074	Sample Preparation:	2010-09-15
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1030	mg/Kg	100	4.00

Sample: 244293 - AH-1 5-5.5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	73601	Date Analyzed:	2010-09-17
Prep Batch:	63074	Sample Preparation:	2010-09-15
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		273	mg/Kg	50	4.00

Sample: 244294 - AH-1 6-6.5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	73601	Date Analyzed:	2010-09-17
Prep Batch:	63074	Sample Preparation:	2010-09-15
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		3670	mg/Kg	100	4.00

Report Date: September 27, 2010
114-6400672

Work Order: 10091317
COG/Maljamar 6 in. SWD Line Leak

Page Number: 7 of 36
Lea Co., NM

Sample: 244295 - AH-1 7-7.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73601	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63074				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		5190	mg/Kg	100	4.00

Sample: 244296 - AH-1 7.5-8'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73601	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63074				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		7060	mg/Kg	100	4.00

Sample: 244297 - AH-2 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73601	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63074				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		6270	mg/Kg	100	4.00

Sample: 244297 - AH-2 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2010-09-13	Analyzed By:	kg
QC Batch:	73456	Sample Preparation:	2010-09-13	Prepared By:	kg
Prep Batch:	63012				

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

Report Date: September 27, 2010
114-6400672

Work Order: 10091317
COG/Maljamar 6 in. SWD Line Leak

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Lea Co., NM

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		88.2	mg/Kg	1	100	88	70 - 130

Sample: 244297 - AH-2 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 73496
Prep Batch: 63021

Analytical Method: S 8015 D
Date Analyzed: 2010-09-14
Sample Preparation: 2010-09-13

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.69	mg/Kg	1	2.00	84	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.21	mg/Kg	1	2.00	60	42 - 159

Sample: 244298 - AH-2 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 73601
Prep Batch: 63074

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-09-17
Sample Preparation: 2010-09-15

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		8090	mg/Kg	100	4.00

Sample: 244299 - AH-2 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 73602
Prep Batch: 63075

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-09-17
Sample Preparation: 2010-09-15

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		15300	mg/Kg	100	4.00

Report Date: September 27, 2010
114-6400672

Work Order: 10091317
COG/Maljamar 6 in. SWD Line Leak

Page Number: 9 of 36
Lea Co., NM

Sample: 244300 - AH-2 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73602 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63075 Sample Preparation: 2010-09-15 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		16200	mg/Kg	100	4.00

Sample: 244301 - AH-2 4-4.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73602 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63075 Sample Preparation: 2010-09-15 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		16300	mg/Kg	100	4.00

Sample: 244302 - AH-3 0-1'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 73499 Date Analyzed: 2010-09-14 Analyzed By: AG
Prep Batch: 63021 Sample Preparation: 2010-09-13 Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.03	mg/Kg	1	2.00	102	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.56	mg/Kg	1	2.00	78	38.4 - 157

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Sample: 244302 - AH-3 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73602	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63075				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		5580	mg/Kg	100	4.00

Sample: 244302 - AH-3 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2010-09-13	Analyzed By:	kg
QC Batch:	73456	Sample Preparation:	2010-09-13	Prepared By:	kg
Prep Batch:	63012				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		92.8	mg/Kg	1	100	93	70 - 130

Sample: 244302 - AH-3 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2010-09-14	Analyzed By:	AG
QC Batch:	73496	Sample Preparation:	2010-09-13	Prepared By:	AG
Prep Batch:	63021				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.04	mg/Kg	1	2.00	102	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.41	mg/Kg	1	2.00	70	42 - 159

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Sample: 244303 - AH-3 1-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73602	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63075				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		8160	mg/Kg	100	4.00

Sample: 244304 - AH-3 2-2.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73602	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63075				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		15200	mg/Kg	100	4.00

Sample: 244305 - AH-3 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73602	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63075				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		15600	mg/Kg	100	4.00

Sample: 244306 - AH-4 0-1'

Laboratory:	Midland	Analytical Method:	S 8021B	Prep Method:	S 5035
Analysis:	BTEX	Date Analyzed:	2010-09-15	Analyzed By:	AG
QC Batch:	73591	Sample Preparation:	2010-09-15	Prepared By:	AG
Prep Batch:	63055				

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0200	mg/Kg	1	0.0200
Toluene		<0.0200	mg/Kg	1	0.0200

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sample 244306 continued ...

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.18	mg/Kg	1	2.00	109	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.80	mg/Kg	1	2.00	90	38.4 - 157

Sample: 244306 - AH-4 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73602 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63075 Sample Preparation: 2010-09-15 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		5030	mg/Kg	100	4.00

Sample: 244306 - AH-4 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 73458 Date Analyzed: 2010-09-13 Analyzed By: kg
Prep Batch: 63015 Sample Preparation: 2010-09-13 Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		94.5	mg/Kg	1	100	94	70 - 130

Sample: 244306 - AH-4 0-1'

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 73583 Date Analyzed: 2010-09-15 Analyzed By: AG
Prep Batch: 63055 Sample Preparation: 2010-09-15 Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.26	mg/Kg	1	2.00	113	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.64	mg/Kg	1	2.00	82	42 - 159

Sample: 244307 - AH-4 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73602 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63075 Sample Preparation: 2010-09-15 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		7850	mg/Kg	100	4.00

Sample: 244308 - AH-4 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73602 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63075 Sample Preparation: 2010-09-15 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		12100	mg/Kg	100	4.00

Sample: 244309 - AH-4 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73603 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63076 Sample Preparation: 2010-09-15 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		11200	mg/Kg	100	4.00

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Sample: 244310 - AH-4 4-4.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73603	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63076				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		6030	mg/Kg	100	4.00

Sample: 244311 - AH-4 5-5.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73603	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63076				

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

Sample: 244312 - AH-4 6-6.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73603	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63076				

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

Sample: 244313 - AH-5 0-1'

Laboratory:	Midland	Analytical Method:	S 8021B	Prep Method:	S 5035
Analysis:	BTEX	Date Analyzed:	2010-09-15	Analyzed By:	AG
QC Batch:	73591	Sample Preparation:	2010-09-15	Prepared By:	AG
Prep Batch:	63055				

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0200	mg/Kg	1	0.0200
Toluene		<0.0200	mg/Kg	1	0.0200

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sample 244313 continued ...

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.38	mg/Kg	1	2.00	119	52.8 - 137
4-Bromofluorobenzene (4-BFB)		2.03	mg/Kg	1	2.00	102	38.4 - 157

Sample: 244313 - AH-5 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73603 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63076 Sample Preparation: 2010-09-15 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		4860	mg/Kg	100	4.00

Sample: 244313 - AH-5 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 73458 Date Analyzed: 2010-09-13 Analyzed By: kg
Prep Batch: 63015 Sample Preparation: 2010-09-13 Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		91.3	mg/Kg	1	100	91	70 - 130

Sample: 244313 - AH-5 0-1'

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 73583 Date Analyzed: 2010-09-15 Analyzed By: AG
Prep Batch: 63055 Sample Preparation: 2010-09-15 Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.44	mg/Kg	1	2.00	122	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.84	mg/Kg	1	2.00	92	42 - 159

Sample: 244314 - AH-5 1-1.5'

Laboratory: Midland	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2010-09-17	Analyzed By: AR
QC Batch: 73603	Sample Preparation: 2010-09-15	Prepared By: AR
Prep Batch: 63076		

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		7300	mg/Kg	100	4.00

Sample: 244315 - AH-5 2-2.5'

Laboratory: Midland	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2010-09-17	Analyzed By: AR
QC Batch: 73603	Sample Preparation: 2010-09-15	Prepared By: AR
Prep Batch: 63076		

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		11600	mg/Kg	100	4.00

Sample: 244316 - AH-5 3-3.5'

Laboratory: Midland	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2010-09-17	Analyzed By: AR
QC Batch: 73603	Sample Preparation: 2010-09-15	Prepared By: AR
Prep Batch: 63076		

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		8870	mg/Kg	100	4.00

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Sample: 244317 - AH-5 4-4.5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	73603	Date Analyzed:	2010-09-17
Prep Batch:	63076	Sample Preparation:	2010-09-15
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		9640	mg/Kg	100	4.00

Sample: 244318 - AH-5 4.5-5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	73603	Date Analyzed:	2010-09-17
Prep Batch:	63076	Sample Preparation:	2010-09-15
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		12100	mg/Kg	100	4.00

Sample: 244319 - AH-6 0-1'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	73690	Date Analyzed:	2010-09-21
Prep Batch:	63077	Sample Preparation:	2010-09-15
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		392	mg/Kg	50	4.00

Sample: 244319 - AH-6 0-1'

Laboratory:	Midland		
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D
QC Batch:	73458	Date Analyzed:	2010-09-13
Prep Batch:	63015	Sample Preparation:	2010-09-13
		Prep Method:	N/A
		Analyzed By:	kg
		Prepared By:	kg

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

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		94.6	mg/Kg	1	100	95	70 - 130

Sample: 244319 - AH-6 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 73583
Prep Batch: 63055

Analytical Method: S 8015 D
Date Analyzed: 2010-09-15
Sample Preparation: 2010-09-15

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.06	mg/Kg	1	2.00	103	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.54	mg/Kg	1	2.00	77	42 - 159

Sample: 244320 - AH-6 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 73690
Prep Batch: 63077

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-09-21
Sample Preparation: 2010-09-15

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

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

Sample: 244321 - AH-6 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 73690
Prep Batch: 63077

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-09-21
Sample Preparation: 2010-09-15

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

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

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Sample: 244322 - AH-6 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73690 Date Analyzed: 2010-09-21 Analyzed By: AR
Prep Batch: 63077 Sample Preparation: 2010-09-15 Prepared By: AR

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

Sample: 244323 - AH-6 4-4.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73690 Date Analyzed: 2010-09-21 Analyzed By: AR
Prep Batch: 63077 Sample Preparation: 2010-09-15 Prepared By: AR

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

Method Blank (1) QC Batch: 73456

QC Batch: 73456 Date Analyzed: 2010-09-13 Analyzed By: kg
Prep Batch: 63012 QC Preparation: 2010-09-13 Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		81.8	mg/Kg	1	100	82	70 - 130

Method Blank (1) QC Batch: 73458

QC Batch: 73458 Date Analyzed: 2010-09-13 Analyzed By: kg
Prep Batch: 63015 QC Preparation: 2010-09-13 Prepared By: kg

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

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		99.6	mg/Kg	1	100	100	70 - 130

Method Blank (1) QC Batch: 73496

QC Batch: 73496
Prep Batch: 63021

Date Analyzed: 2010-09-14
QC Preparation: 2010-09-13

Analyzed By: AG
Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
GRO		<1.65	mg/Kg	2

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.12	mg/Kg	1	2.00	106	67.6 - 150
4-Bromofluorobenzene (4-BFB)		1.08	mg/Kg	1	2.00	54	52.4 - 130

Method Blank (1) QC Batch: 73499

QC Batch: 73499
Prep Batch: 63021

Date Analyzed: 2010-09-14
QC Preparation: 2010-09-13

Analyzed By: AG
Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.0150	mg/Kg	0.02
Toluene		<0.00950	mg/Kg	0.02
Ethylbenzene		<0.0106	mg/Kg	0.02
Xylene		<0.00930	mg/Kg	0.02

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.16	mg/Kg	1	2.00	108	66.6 - 122
4-Bromofluorobenzene (4-BFB)		1.20	mg/Kg	1	2.00	60	55.4 - 132

Method Blank (1) QC Batch: 73583

QC Batch: 73583
Prep Batch: 63055

Date Analyzed: 2010-09-15
QC Preparation: 2010-09-15

Analyzed By: AG
Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
GRO		<1.65	mg/Kg	2

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.42	mg/Kg	1	2.00	121	67.6 - 150
4-Bromofluorobenzene (4-BFB)		2.19	mg/Kg	1	2.00	110	52.4 - 130

Method Blank (1) QC Batch: 73591

QC Batch: 73591
Prep Batch: 63055

Date Analyzed: 2010-09-15
QC Preparation: 2010-09-15

Analyzed By: AG
Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.0150	mg/Kg	0.02
Toluene		<0.00950	mg/Kg	0.02
Ethylbenzene		<0.0106	mg/Kg	0.02
Xylene		<0.00930	mg/Kg	0.02

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.31	mg/Kg	1	2.00	116	66.6 - 122
4-Bromofluorobenzene (4-BFB)		2.63	mg/Kg	1	2.00	132	55.4 - 132

Method Blank (1) QC Batch: 73600

QC Batch: 73600
Prep Batch: 63073

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 73601

QC Batch: 73601
Prep Batch: 63074

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

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

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Method Blank (1) QC Batch: 73602

QC Batch: 73602
Prep Batch: 63075

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 73603

QC Batch: 73603
Prep Batch: 63076

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 73690

QC Batch: 73690
Prep Batch: 63077

Date Analyzed: 2010-09-21
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

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

Laboratory Control Spike (LCS-1)

QC Batch: 73456
Prep Batch: 63012

Date Analyzed: 2010-09-13
QC Preparation: 2010-09-13

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	235	mg/Kg	1	250	<14.5	94	57.4 - 133.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	241	mg/Kg	1	250	<14.5	96	57.4 - 133.4	2	20

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

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Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	96.8	98.3	mg/Kg	1	100	97	98	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 73458
Prep Batch: 63015

Date Analyzed: 2010-09-13
QC Preparation: 2010-09-13

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	232	mg/Kg	1	250	<14.5	93	57.4 - 133.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	247	mg/Kg	1	250	<14.5	99	57.4 - 133.4	6	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	92.9	92.8	mg/Kg	1	100	93	93	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 73496
Prep Batch: 63021

Date Analyzed: 2010-09-14
QC Preparation: 2010-09-13

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	15.9	mg/Kg	1	20.0	<1.65	80	69.9 - 95.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	15.8	mg/Kg	1	20.0	<1.65	79	69.9 - 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)	2.13	2.03	mg/Kg	1	2.00	106	102	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.43	1.31	mg/Kg	1	2.00	72	66	65.2 - 132

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Laboratory Control Spike (LCS-1)

QC Batch: 73499
Prep Batch: 63021

Date Analyzed: 2010-09-14
QC Preparation: 2010-09-13

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.06	mg/Kg	1	2.00	<0.0150	103	81.9 - 108
Toluene	2.00	mg/Kg	1	2.00	<0.00950	100	81.9 - 107
Ethylbenzene	1.96	mg/Kg	1	2.00	<0.0106	98	78.4 - 107
Xylene	5.66	mg/Kg	1	6.00	<0.00930	94	79.1 - 107

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.03	mg/Kg	1	2.00	<0.0150	102	81.9 - 108	2	20
Toluene	2.01	mg/Kg	1	2.00	<0.00950	100	81.9 - 107	0	20
Ethylbenzene	1.97	mg/Kg	1	2.00	<0.0106	98	78.4 - 107	0	20
Xylene	5.71	mg/Kg	1	6.00	<0.00930	95	79.1 - 107	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	2.05	mg/Kg	1	2.00	106	102	70.2 - 114
4-Bromofluorobenzene (4-BFB)	1.70	1.63	mg/Kg	1	2.00	85	82	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 73583
Prep Batch: 63055

Date Analyzed: 2010-09-15
QC Preparation: 2010-09-15

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	14.4	mg/Kg	1	20.0	<1.65	72	69.9 - 95.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	16.4	mg/Kg	1	20.0	<1.65	82	69.9 - 95.4	13	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.00	2.11	mg/Kg	1	2.00	100	106	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.42	1.34	mg/Kg	1	2.00	71	67	65.2 - 132

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Laboratory Control Spike (LCS-1)

QC Batch: 73591
Prep Batch: 63055

Date Analyzed: 2010-09-15
QC Preparation: 2010-09-15

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.00	mg/Kg	1	2.00	<0.0150	100	81.9 - 108
Toluene	1.94	mg/Kg	1	2.00	<0.00950	97	81.9 - 107
Ethylbenzene	1.85	mg/Kg	1	2.00	<0.0106	92	78.4 - 107
Xylene	5.35	mg/Kg	1	6.00	<0.00930	89	79.1 - 107

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.12	mg/Kg	1	2.00	<0.0150	106	81.9 - 108	6	20
Toluene	2.05	mg/Kg	1	2.00	<0.00950	102	81.9 - 107	6	20
Ethylbenzene	1.98	mg/Kg	1	2.00	<0.0106	99	78.4 - 107	7	20
Xylene	5.74	mg/Kg	1	6.00	<0.00930	96	79.1 - 107	7	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.04	2.13	mg/Kg	1	2.00	102	106	70.2 - 114
4-Bromofluorobenzene (4-BFB)	1.50	1.61	mg/Kg	1	2.00	75	80	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 73600
Prep Batch: 63073

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.2	mg/Kg	1	100	<2.18	96	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	103	mg/Kg	1	100	<2.18	103	85 - 115	7	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 73601
Prep Batch: 63074

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

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Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.3	mg/Kg	1	100	<2.18	97	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	103	mg/Kg	1	100	<2.18	103	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: 73602
Prep Batch: 63075

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.0	mg/Kg	1	100	<2.18	98	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	102	mg/Kg	1	100	<2.18	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: 73603
Prep Batch: 63076

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.2	mg/Kg	1	100	<2.18	97	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	103	mg/Kg	1	100	<2.18	103	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: 73690
Prep Batch: 63077

Date Analyzed: 2010-09-21
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

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Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.5	mg/Kg	1	100	<2.18	98	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	103	mg/Kg	1	100	<2.18	103	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: 244302

QC Batch: 73456
Prep Batch: 63012

Date Analyzed: 2010-09-13
QC Preparation: 2010-09-13

Analyzed By: kg
Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	248	mg/Kg	1	250	<14.5	99	35.2 - 167.1

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	249	mg/Kg	1	250	<14.5	100	35.2 - 167.1	0	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	89.6	91.2	mg/Kg	1	100	90	91	70 - 130

Matrix Spike (MS-1) Spiked Sample: 244435

QC Batch: 73458
Prep Batch: 63015

Date Analyzed: 2010-09-13
QC Preparation: 2010-09-13

Analyzed By: kg
Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	726	mg/Kg	1	250	726	0	35.2 - 167.1

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	² 1120	mg/Kg	1	250	726	122	35.2 - 167.1	43	20

¹Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

²MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

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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 ³	109	141	mg/Kg	1	100	109	141	70 - 130

Matrix Spike (MS-1) Spiked Sample: 244302

QC Batch: 73496
Prep Batch: 63021

Date Analyzed: 2010-09-14
QC Preparation: 2010-09-13

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	16.9	mg/Kg	1	20.0	<1.65	84	61.8 - 114

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	19.0	mg/Kg	1	20.0	<1.65	95	61.8 - 114	12	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.10	1.89	mg/Kg	1	2	105	94	50 - 162
4-Bromofluorobenzene (4-BFB)	1.61	1.49	mg/Kg	1	2	80	74	50 - 162

Matrix Spike (MS-1) Spiked Sample: 244319

QC Batch: 73583
Prep Batch: 63055

Date Analyzed: 2010-09-15
QC Preparation: 2010-09-15

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	16.3	mg/Kg	1	20.0	<1.65	82	61.8 - 114

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO ⁴	20.1	mg/Kg	1	20.0	<1.65	100	61.8 - 114	21	20

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

³High surrogate recovery due to peak interference.

⁴MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

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Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.96	2.31	mg/Kg	1	2	98	116	50 - 162
4-Bromofluorobenzene (4-BFB)	1.73	2.09	mg/Kg	1	2	86	104	50 - 162

Matrix Spike (MS-1) Spiked Sample: 244456

QC Batch: 73591
Prep Batch: 63055

Date Analyzed: 2010-09-15
QC Preparation: 2010-09-15

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.16	mg/Kg	1	2.00	<0.0150	108	80.5 - 112
Toluene	2.21	mg/Kg	1	2.00	<0.00950	110	82.4 - 113
Ethylbenzene	⁵ 2.34	mg/Kg	1	2.00	<0.0106	117	83.9 - 114
Xylene	⁶ 6.92	mg/Kg	1	6.00	<0.00930	115	84 - 114

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	⁷ 2.42	mg/Kg	1	2.00	<0.0150	121	80.5 - 112	11	20
Toluene	⁸ 2.46	mg/Kg	1	2.00	<0.00950	123	82.4 - 113	11	20
Ethylbenzene	⁹ 2.61	mg/Kg	1	2.00	<0.0106	130	83.9 - 114	11	20
Xylene	¹⁰ 7.88	mg/Kg	1	6.00	<0.00930	131	84 - 114	13	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 2.34	2.54	mg/Kg	1	2	117	127	41.3 - 117
4-Bromofluorobenzene (4-BFB)	^{12 13} 2.72	2.93	mg/Kg	1	2	136	146	35.5 - 129

Matrix Spike (MS-1) Spiked Sample: 244288

QC Batch: 73600
Prep Batch: 63073

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

⁵Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

⁶Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

⁷MSD analyte out of range. MS/MSD has a RPD within limits. Therefore, MS shows extraction occurred properly.

⁸MSD analyte out of range. MS/MSD has a RPD within limits. Therefore, MS shows extraction occurred properly.

⁹MSD analyte out of range. MS/MSD has a RPD within limits. Therefore, MS shows extraction occurred properly.

¹⁰MSD analyte out of range. MS/MSD has a RPD within limits. Therefore, MS shows extraction occurred properly.

¹¹High surrogate recovery due to peak interference.

¹²High surrogate recovery due to peak interference.

¹³High surrogate recovery due to peak interference.

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Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	18200	mg/Kg	100	10000	8040	102	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	18500	mg/Kg	100	10000	8040	105	85 - 115	2	20

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

Matrix Spike (MS-1) Spiked Sample: 244298

QC Batch: 73601
Prep Batch: 63074

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	18700	mg/Kg	100	10000	8090	106	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	18900	mg/Kg	100	10000	8090	108	85 - 115	1	20

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

Matrix Spike (MS-1) Spiked Sample: 244308

QC Batch: 73602
Prep Batch: 63075

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	22400	mg/Kg	100	10000	12100	103	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	22700	mg/Kg	100	10000	12100	106	85 - 115	1	20

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

Matrix Spike (MS-1) Spiked Sample: 244318

QC Batch: 73603
Prep Batch: 63076

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

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Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	23100	mg/Kg	100	10000	12100	110	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	23600	mg/Kg	100	10000	12100	115	85 - 115	2	20

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

Matrix Spike (MS-1) Spiked Sample: 244363

QC Batch: 73690
Prep Batch: 63077

Date Analyzed: 2010-09-21
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	14200	mg/Kg	100	10000	4230	100	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	14800	mg/Kg	100	10000	4230	106	85 - 115	4	20

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

Standard (CCV-2)

QC Batch: 73456

Date Analyzed: 2010-09-13

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	237	95	80 - 120	2010-09-13

Standard (CCV-3)

QC Batch: 73456

Date Analyzed: 2010-09-13

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	257	103	80 - 120	2010-09-13

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Standard (CCV-4)

QC Batch: 73456

Date Analyzed: 2010-09-13

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	253	101	80 - 120	2010-09-13

Standard (CCV-1)

QC Batch: 73458

Date Analyzed: 2010-09-13

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	256	102	80 - 120	2010-09-13

Standard (CCV-2)

QC Batch: 73458

Date Analyzed: 2010-09-13

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	269	108	80 - 120	2010-09-13

Standard (CCV-2)

QC Batch: 73496

Date Analyzed: 2010-09-14

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.898	90	80 - 120	2010-09-14

Standard (CCV-3)

QC Batch: 73496

Date Analyzed: 2010-09-14

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.870	87	80 - 120	2010-09-14

Report Date: September 27, 2010
114-6400672

Work Order: 10091317
COG/Maljamar 6 in. SWD Line Leak

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Lea Co., NM

Standard (CCV-2)

QC Batch: 73499

Date Analyzed: 2010-09-14

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.108	108	80 - 120	2010-09-14
Toluene		mg/Kg	0.100	0.108	108	80 - 120	2010-09-14
Ethylbenzene		mg/Kg	0.100	0.105	105	80 - 120	2010-09-14
Xylene		mg/Kg	0.300	0.309	103	80 - 120	2010-09-14

Standard (CCV-3)

QC Batch: 73499

Date Analyzed: 2010-09-14

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.103	103	80 - 120	2010-09-14
Toluene		mg/Kg	0.100	0.0994	99	80 - 120	2010-09-14
Ethylbenzene		mg/Kg	0.100	0.0936	94	80 - 120	2010-09-14
Xylene		mg/Kg	0.300	0.269	90	80 - 120	2010-09-14

Standard (CCV-1)

QC Batch: 73583

Date Analyzed: 2010-09-15

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.909	91	80 - 120	2010-09-15

Standard (CCV-2)

QC Batch: 73583

Date Analyzed: 2010-09-15

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.19	119	80 - 120	2010-09-15

Standard (CCV-1)

QC Batch: 73591

Date Analyzed: 2010-09-15

Analyzed By: AG

Report Date: September 27, 2010
114-6400672

Work Order: 10091317
COG/Maljamar 6 in. SWD Line Leak

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0986	99	80 - 120	2010-09-15
Toluene		mg/Kg	0.100	0.0954	95	80 - 120	2010-09-15
Ethylbenzene		mg/Kg	0.100	0.0889	89	80 - 120	2010-09-15
Xylene		mg/Kg	0.300	0.257	86	80 - 120	2010-09-15

Standard (CCV-2)

QC Batch: 73591

Date Analyzed: 2010-09-15

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.113	113	80 - 120	2010-09-15
Toluene		mg/Kg	0.100	0.112	112	80 - 120	2010-09-15
Ethylbenzene		mg/Kg	0.100	0.112	112	80 - 120	2010-09-15
Xylene		mg/Kg	0.300	0.339	113	80 - 120	2010-09-15

Standard (ICV-1)

QC Batch: 73600

Date Analyzed: 2010-09-17

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-09-17

Standard (CCV-1)

QC Batch: 73600

Date Analyzed: 2010-09-17

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.7	99	85 - 115	2010-09-17

Standard (ICV-1)

QC Batch: 73601

Date Analyzed: 2010-09-17

Analyzed By: AR

Report Date: September 27, 2010
114-6400672

Work Order: 10091317
COG/Maljamar 6 in. SWD Line Leak

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Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-09-17

Standard (CCV-1)

QC Batch: 73601

Date Analyzed: 2010-09-17

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.7	99	85 - 115	2010-09-17

Standard (ICV-1)

QC Batch: 73602

Date Analyzed: 2010-09-17

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.8	100	85 - 115	2010-09-17

Standard (CCV-1)

QC Batch: 73602

Date Analyzed: 2010-09-17

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-09-17

Standard (ICV-1)

QC Batch: 73603

Date Analyzed: 2010-09-17

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.5	98	85 - 115	2010-09-17

Standard (CCV-1)

QC Batch: 73603

Date Analyzed: 2010-09-17

Analyzed By: AR

Report Date: September 27, 2010
114-6400672

Work Order: 10091317
COG/Maljamar 6 in. SWD Line Leak

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	103	103	85 - 115	2010-09-17

Standard (ICV-1)

QC Batch: 73690

Date Analyzed: 2010-09-21

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-09-21

Standard (CCV-1)

QC Batch: 73690

Date Analyzed: 2010-09-21

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.3	99	85 - 115	2010-09-21

Analysis Request of Chain of Custody Record

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: C061		SITE MANAGER:											
PROJECT NO.: 114-6400672		PROJECT NAME:											
LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMR	GRAB	SAMPLE IDENTIFICATION		NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD			
										HCL	HNO3	ICE	NONE
244308	9/8		S	X		AH-4 2'-2.5'		1				X	
309						AH-4 3'-3.5'							
310						AH-4 4'-4.5'							
311						AH-4 5'-5.5'							
312						AH-4 6'-6.5'							
313						AH-5 0'-1'							
314						AH-5 1'-1.5'							
315						AH-5 2'-2.5'							
316						AH-5 3'-3.5'							
317						AH-5 4'-4.5'							
RELINQUISHED BY: (Signature)		Date: 09/10/10	RECEIVED BY: (Signature)		Date: 09/10/10								
RELINQUISHED BY: (Signature)		Time: 15:10	RECEIVED BY: (Signature)		Time: 15:10								
RELINQUISHED BY: (Signature)		Date: _____	RECEIVED BY: (Signature)		Date: _____								
RELINQUISHED BY: (Signature)		Time: _____	RECEIVED BY: (Signature)		Time: _____								
RECEIVING LABORATORY: TAC		ADDRESS: Midland		CITY: _____		STATE: TX		ZIP: _____		PHONE: _____		DATE: _____	

SAMPLED BY: (Print & Initial)	DATE: 4/8/78	TIME: _____
SAMPLE SHIPPED BY: (Circle) FEDEX <u>MANDEL DELIVERED</u> UPS		
AIRBILL #: _____ OTHER: _____		
Results by: _____		
PUSH Charges Authorized: _____ Yes _____ No _____		

Ike Taveres

REMARKS: If total TPH exceeds mg/kg run deeper samples

W00 #: 10091317

Analysis Request of Chain of Custody Record

PAGE: 4 OF: 4



TETRA TECH

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

CLIENT NAME: COG

SITE MANAGER: Jke Tovar

PROJECT NO.: 114-400672

PROJECT NAME: COG/Major 6" 60D Line Leak

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP	GRAB	SAMPLE IDENTIFICATION		NUMBER OF	FILTERED (Y)	HCL	HNO3	ICE	NONE	BTX 8021 B	TPH 8015	PAH 8270	RCRA Metals	TCLP Metals	TCLP Volatile	TCLP Semi V	RCI	GC/MS Vol. 8	GC/MS Semi	PCB's 8080/808	Post. 808/808	Chloride	Gamma Spe	Alpha Beta (	PLM (Asbest	Major Anions	
244318	2010		S		X	AH-5	4.5'-5'	1				X														X					
319						AH-6	0-1'																								
320						AH-6	1'-1.5'																								
321						AH-6	2'-2.5'																								
322						AH-6	3'-3.5'																								
323						AH-6	4'-4.5'																								

RELINQUISHED BY: (Signature) <u>[Signature]</u>	DATE: <u>9/10/10</u>	TIME: <u>15:30</u>	RECEIVED BY: (Signature) <u>[Signature]</u>	DATE: <u>9/10/10</u>	TIME: <u>15:30</u>
RELINQUISHED BY: (Signature) <u>[Signature]</u>	DATE: <u>9/10/10</u>	TIME: <u>15:30</u>	RECEIVED BY: (Signature) <u>[Signature]</u>	DATE: <u>9/10/10</u>	TIME: <u>15:30</u>
RELINQUISHED BY: (Signature) <u>[Signature]</u>	DATE: <u>9/10/10</u>	TIME: <u>15:30</u>	RECEIVED BY: (Signature) <u>[Signature]</u>	DATE: <u>9/10/10</u>	TIME: <u>15:30</u>
RECEIVING LABORATORY: ADDRESS: <u>Midland</u>	CITY: <u>Midland</u>	STATE: <u>TX</u>	ZIP: <u>79705</u>	PHONE: <u>(432) 682-4559</u>	DATE: <u>9/10/10</u>

SAMPLE CONDITION WHEN RECEIVED: 37°C intact

REMARKS: It total TPH exceeds 100 mg/kg run larger samples

Results by: Jke Tovar

RUSH Charges Authorized: Yes ☐ No ☐

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

Summary Report

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

Report Date: November 3, 2010

Work Order: 10102817



Project Location: Lea Co., NM
Project Name: COG/Maljamar 6 in. SWD Line Leak
Project Number: 114-6400672

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
248938	BH-1 0-1'	soil	2010-10-27	00:00	2010-10-28
248939	BH-1 3'	soil	2010-10-27	00:00	2010-10-28
248940	BH-1 5'	soil	2010-10-27	00:00	2010-10-28
248941	BH-1 7'	soil	2010-10-27	00:00	2010-10-28
248942	BH-1 10'	soil	2010-10-27	00:00	2010-10-28
248943	BH-1 15'	soil	2010-10-27	00:00	2010-10-28
248944	BH-1 20'	soil	2010-10-27	00:00	2010-10-28
248945	BH-1 25'	soil	2010-10-27	00:00	2010-10-28
248946	BH-2 0-1'	soil	2010-10-27	00:00	2010-10-28
248947	BH-2 3'	soil	2010-10-27	00:00	2010-10-28
248948	BH-2 5'	soil	2010-10-27	00:00	2010-10-28
248949	BH-2 7'	soil	2010-10-27	00:00	2010-10-28
248950	BH-2 10'	soil	2010-10-27	00:00	2010-10-28
248951	BH-2 15'	soil	2010-10-27	00:00	2010-10-28
248952	BH-2 20'	soil	2010-10-27	00:00	2010-10-28
248953	BH-3 0-1'	soil	2010-10-27	00:00	2010-10-28
248954	BH-3 3'	soil	2010-10-27	00:00	2010-10-28
248955	BH-3 5'	soil	2010-10-27	00:00	2010-10-28
248956	BH-3 7'	soil	2010-10-27	00:00	2010-10-28
248957	BH-3 10'	soil	2010-10-27	00:00	2010-10-28
248958	BH-3 15'	soil	2010-10-27	00:00	2010-10-28
248959	BH-3 20'	soil	2010-10-27	00:00	2010-10-28
248960	BH-3 25'	soil	2010-10-27	00:00	2010-10-28
248961	BH-4 0-1'	soil	2010-10-27	00:00	2010-10-28
248962	BH-4 3'	soil	2010-10-27	00:00	2010-10-28
248963	BH-4 5'	soil	2010-10-27	00:00	2010-10-28
248964	BH-4 7'	soil	2010-10-27	00:00	2010-10-28
248965	BH-4 10'	soil	2010-10-27	00:00	2010-10-28
248966	BH-4 15'	soil	2010-10-27	00:00	2010-10-28
248967	BH-4 20'	soil	2010-10-27	00:00	2010-10-28

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
248968	BH-5 0-1'	soil	2010-10-27	00:00	2010-10-28
248969	BH-5 3'	soil	2010-10-27	00:00	2010-10-28
248970	BH-5 5'	soil	2010-10-27	00:00	2010-10-28
248971	BH-5 7'	soil	2010-10-27	00:00	2010-10-28
248972	BH-5 10'	soil	2010-10-27	00:00	2010-10-28
248973	BH-5 15'	soil	2010-10-27	00:00	2010-10-28

Sample: 248938 - BH-1 0-1'

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

Sample: 248939 - BH-1 3'

Param	Flag	Result	Units	RL
Chloride		600	mg/Kg	4.00

Sample: 248940 - BH-1 5'

Param	Flag	Result	Units	RL
Chloride		10700	mg/Kg	4.00

Sample: 248941 - BH-1 7'

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

Sample: 248942 - BH-1 10'

Param	Flag	Result	Units	RL
Chloride		2310	mg/Kg	4.00

Sample: 248943 - BH-1 15'

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

Sample: 248944 - BH-1 20'

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

Sample: 248945 - BH-1 25'

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

Sample: 248946 - BH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		4180	mg/Kg	4.00

Sample: 248947 - BH-2 3'

Param	Flag	Result	Units	RL
Chloride		4670	mg/Kg	4.00

Sample: 248948 - BH-2 5'

Param	Flag	Result	Units	RL
Chloride		18500	mg/Kg	4.00

Sample: 248949 - BH-2 7'

Param	Flag	Result	Units	RL
Chloride		7350	mg/Kg	4.00

Sample: 248950 - BH-2 10'

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

Sample: 248951 - BH-2 15'

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

Sample: 248952 - BH-2 20'

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

Sample: 248953 - BH-3 0-1'

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

Sample: 248954 - BH-3 3'

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

Sample: 248955 - BH-3 5'

Param	Flag	Result	Units	RL
Chloride		10300	mg/Kg	4.00

Sample: 248956 - BH-3 7'

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

Sample: 248957 - BH-3 10'

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

Sample: 248958 - BH-3 15'

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

Sample: 248959 - BH-3 20'

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

Sample: 248960 - BH-3 25'

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

Sample: 248961 - BH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		1160	mg/Kg	4.00

Sample: 248962 - BH-4 3'

Param	Flag	Result	Units	RL
Chloride		508	mg/Kg	4.00

Sample: 248963 - BH-4 5'

Param	Flag	Result	Units	RL
Chloride		7240	mg/Kg	4.00

Sample: 248964 - BH-4 7'

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

Sample: 248965 - BH-4 10'

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

Sample: 248966 - BH-4 15'

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

Sample: 248967 - BH-4 20'

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

Sample: 248968 - BH-5 0-1'

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

Sample: 248969 - BH-5 3'

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

Sample: 248970 - BH-5 5'

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

Sample: 248971 - BH-5 7'

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

Sample: 248972 - BH-5 10'

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

Sample: 248973 - BH-5 15'

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



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 889•588•3443 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

Certifications

WBENC: 237019

HUB: 1752439743100-86536
NCTRCA WFWB38444Y0909

DBE: VN 20657

NELAP Certifications

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

El Paso: T104704221-08-TX
LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

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

Report Date: November 3, 2010

Work Order: 10102817



Project Location: Lea Co., NM
Project Name: COG/Maljamar 6 in. SWD Line Leak
Project Number: 114-6400672

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
248938	BH-1 0-1'	soil	2010-10-27	00:00	2010-10-28
248939	BH-1 3'	soil	2010-10-27	00:00	2010-10-28
248940	BH-1 5'	soil	2010-10-27	00:00	2010-10-28
248941	BH-1 7'	soil	2010-10-27	00:00	2010-10-28
248942	BH-1 10'	soil	2010-10-27	00:00	2010-10-28
248943	BH-1 15'	soil	2010-10-27	00:00	2010-10-28
248944	BH-1 20'	soil	2010-10-27	00:00	2010-10-28
248945	BH-1 25'	soil	2010-10-27	00:00	2010-10-28
248946	BH-2 0-1'	soil	2010-10-27	00:00	2010-10-28
248947	BH-2 3'	soil	2010-10-27	00:00	2010-10-28

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
248948	BH-2 5'	soil	2010-10-27	00:00	2010-10-28
248949	BH-2 7'	soil	2010-10-27	00:00	2010-10-28
248950	BH-2 10'	soil	2010-10-27	00:00	2010-10-28
248951	BH-2 15'	soil	2010-10-27	00:00	2010-10-28
248952	BH-2 20'	soil	2010-10-27	00:00	2010-10-28
248953	BH-3 0-1'	soil	2010-10-27	00:00	2010-10-28
248954	BH-3 3'	soil	2010-10-27	00:00	2010-10-28
248955	BH-3 5'	soil	2010-10-27	00:00	2010-10-28
248956	BH-3 7'	soil	2010-10-27	00:00	2010-10-28
248957	BH-3 10'	soil	2010-10-27	00:00	2010-10-28
248958	BH-3 15'	soil	2010-10-27	00:00	2010-10-28
248959	BH-3 20'	soil	2010-10-27	00:00	2010-10-28
248960	BH-3 25'	soil	2010-10-27	00:00	2010-10-28
248961	BH-4 0-1'	soil	2010-10-27	00:00	2010-10-28
248962	BH-4 3'	soil	2010-10-27	00:00	2010-10-28
248963	BH-4 5'	soil	2010-10-27	00:00	2010-10-28
248964	BH-4 7'	soil	2010-10-27	00:00	2010-10-28
248965	BH-4 10'	soil	2010-10-27	00:00	2010-10-28
248966	BH-4 15'	soil	2010-10-27	00:00	2010-10-28
248967	BH-4 20'	soil	2010-10-27	00:00	2010-10-28
248968	BH-5 0-1'	soil	2010-10-27	00:00	2010-10-28
248969	BH-5 3'	soil	2010-10-27	00:00	2010-10-28
248970	BH-5 5'	soil	2010-10-27	00:00	2010-10-28
248971	BH-5 7'	soil	2010-10-27	00:00	2010-10-28
248972	BH-5 10'	soil	2010-10-27	00:00	2010-10-28
248973	BH-5 15'	soil	2010-10-27	00:00	2010-10-28

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

This report consists of a total of 18 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.



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

Standard Flags

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

Case Narrative

Samples for project COG/Maljamar 6 in. SWD Line Leak were received by TraceAnalysis, Inc. on 2010-10-28 and assigned to work order 10102817. Samples for work order 10102817 were received intact at a temperature of 3.4 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	64211	2010-10-29 at 12:32	74950	2010-11-02 at 11:41
Chloride (Titration)	SM 4500-Cl B	64211	2010-10-29 at 12:32	74951	2010-11-02 at 11:42
Chloride (Titration)	SM 4500-Cl B	64211	2010-10-29 at 12:32	74952	2010-11-02 at 11:43
Chloride (Titration)	SM 4500-Cl B	64211	2010-10-29 at 12:32	74953	2010-11-02 at 11:43

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 10102817 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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Analytical Report

Sample: 248938 - BH-1 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74950	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

Sample: 248939 - BH-1 3'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74950	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		600	mg/Kg	50	4.00

Sample: 248940 - BH-1 5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74950	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		10700	mg/Kg	100	4.00

Sample: 248941 - BH-1 7'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74950	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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sample 248941 continued ...

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

Sample: 248942 - BH-1 10'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74950 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2310	mg/Kg	100	4.00

Sample: 248943 - BH-1 15'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74950 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

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

Sample: 248944 - BH-1 20'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74950 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

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

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Sample: 248945 - BH-1 25'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74950	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

Sample: 248946 - BH-2 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74950	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		4180	mg/Kg	100	4.00

Sample: 248947 - BH-2 3'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74950	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		4670	mg/Kg	100	4.00

Sample: 248948 - BH-2 5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74951	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		18500	mg/Kg	100	4.00

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Sample: 248949 - BH-2 7'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74951	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		7350	mg/Kg	100	4.00

Sample: 248950 - BH-2 10'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74951	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

Sample: 248951 - BH-2 15'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74951	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

Sample: 248952 - BH-2 20'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74951	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

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Sample: 248953 - BH-3 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74951	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

Sample: 248954 - BH-3 3'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74951	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

Sample: 248955 - BH-3 5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74951	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		10300	mg/Kg	100	4.00

Sample: 248956 - BH-3 7'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74951	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

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Sample: 248957 - BH-3 10'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	74951	Date Analyzed:	2010-11-02
Prep Batch:	64211	Sample Preparation:	2010-10-29
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

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

Sample: 248958 - BH-3 15'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	74952	Date Analyzed:	2010-11-02
Prep Batch:	64211	Sample Preparation:	2010-10-29
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

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

Sample: 248959 - BH-3 20'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	74952	Date Analyzed:	2010-11-02
Prep Batch:	64211	Sample Preparation:	2010-10-29
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

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

Sample: 248960 - BH-3 25'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	74952	Date Analyzed:	2010-11-02
Prep Batch:	64211	Sample Preparation:	2010-10-29
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

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

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Sample: 248961 - BH-4 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74952	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1160	mg/Kg	100	4.00

Sample: 248962 - BH-4 3'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74952	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		508	mg/Kg	50	4.00

Sample: 248963 - BH-4 5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74952	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		7240	mg/Kg	100	4.00

Sample: 248964 - BH-4 7'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74952	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

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Sample: 248965 - BH-4 10'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	74952	Date Analyzed:	2010-11-02
Prep Batch:	64211	Sample Preparation:	2010-10-29
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

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

Sample: 248966 - BH-4 15'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	74952	Date Analyzed:	2010-11-02
Prep Batch:	64211	Sample Preparation:	2010-10-29
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

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

Sample: 248967 - BH-4 20'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	74952	Date Analyzed:	2010-11-02
Prep Batch:	64211	Sample Preparation:	2010-10-29
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

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

Sample: 248968 - BH-5 0-1'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	74953	Date Analyzed:	2010-11-02
Prep Batch:	64211	Sample Preparation:	2010-10-29
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

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

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Sample: 248969 - BH-5 3'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74953	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

Sample: 248970 - BH-5 5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74953	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

Sample: 248971 - BH-5 7'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74953	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

Sample: 248972 - BH-5 10'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74953	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

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Sample: 248973 - BH-5 15'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74953	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

Method Blank (1) QC Batch: 74950

QC Batch:	74950	Date Analyzed:	2010-11-02	Analyzed By:	AR
Prep Batch:	64211	QC Preparation:	2010-10-29	Prepared By:	AR

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

Method Blank (1) QC Batch: 74951

QC Batch:	74951	Date Analyzed:	2010-11-02	Analyzed By:	AR
Prep Batch:	64211	QC Preparation:	2010-10-29	Prepared By:	AR

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

Method Blank (1) QC Batch: 74952

QC Batch:	74952	Date Analyzed:	2010-11-02	Analyzed By:	AR
Prep Batch:	64211	QC Preparation:	2010-10-29	Prepared By:	AR

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

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Method Blank (1) QC Batch: 74953

QC Batch: 74953
Prep Batch: 64211

Date Analyzed: 2010-11-02
QC Preparation: 2010-10-29

Analyzed By: AR
Prepared By: AR

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

Laboratory Control Spike (LCS-1)

QC Batch: 74950
Prep Batch: 64211

Date Analyzed: 2010-11-02
QC Preparation: 2010-10-29

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.1	mg/Kg	1	100	<2.18	96	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	101	mg/Kg	1	100	<2.18	101	85 - 115	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: 74951
Prep Batch: 64211

Date Analyzed: 2010-11-02
QC Preparation: 2010-10-29

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.3	mg/Kg	1	100	<2.18	98	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	102	mg/Kg	1	100	<2.18	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: 74952
Prep Batch: 64211

Date Analyzed: 2010-11-02
QC Preparation: 2010-10-29

Analyzed By: AR
Prepared By: AR

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Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.8	mg/Kg	1	100	<2.18	98	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	102	mg/Kg	1	100	<2.18	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: 74953
Prep Batch: 64211

Date Analyzed: 2010-11-02
QC Preparation: 2010-10-29

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.7	mg/Kg	1	100	<2.18	97	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	101	mg/Kg	1	100	<2.18	101	85 - 115	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: 248947

QC Batch: 74950
Prep Batch: 64211

Date Analyzed: 2010-11-02
QC Preparation: 2010-10-29

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	13700	mg/Kg	100	10000	4670	90	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	14400	mg/Kg	100	10000	4670	97	85 - 115	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: 248957

QC Batch: 74951
Prep Batch: 64211

Date Analyzed: 2010-11-02
QC Preparation: 2010-10-29

Analyzed By: AR
Prepared By: AR

Report Date: November 3, 2010
114-6400672

Work Order: 10102817
COG/Maljamar 6 in. SWD Line Leak

Page Number: 16 of 18
Lea Co., NM

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	9830	mg/Kg	100	10000	<218	98	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10100	mg/Kg	100	10000	<218	101	85 - 115	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: 248967

QC Batch: 74952
Prep Batch: 64211

Date Analyzed: 2010-11-02
QC Preparation: 2010-10-29

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10400	mg/Kg	100	10000	<218	104	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10600	mg/Kg	100	10000	<218	106	85 - 115	2	20

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

Matrix Spike (MS-1) Spiked Sample: 249130

QC Batch: 74953
Prep Batch: 64211

Date Analyzed: 2010-11-02
QC Preparation: 2010-10-29

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	14400	mg/Kg	100	10000	3940	105	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	14800	mg/Kg	100	10000	3940	109	85 - 115	3	20

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

Standard (ICV-1)

QC Batch: 74950

Date Analyzed: 2010-11-02

Analyzed By: AR

Report Date: November 3, 2010
114-6400672

Work Order: 10102817
COG/Maljamar 6 in. SWD Line Leak

Page Number: 17 of 18
Lea Co., NM

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	103	103	85 - 115	2010-11-02

Standard (CCV-1)

QC Batch: 74950

Date Analyzed: 2010-11-02

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.2	97	85 - 115	2010-11-02

Standard (ICV-1)

QC Batch: 74951

Date Analyzed: 2010-11-02

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-11-02

Standard (CCV-1)

QC Batch: 74951

Date Analyzed: 2010-11-02

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.6	100	85 - 115	2010-11-02

Standard (ICV-1)

QC Batch: 74952

Date Analyzed: 2010-11-02

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-11-02

Standard (CCV-1)

QC Batch: 74952

Date Analyzed: 2010-11-02

Analyzed By: AR

Report Date: November 3, 2010
114-6400672

Work Order: 10102817
COG/Maljamar 6 in. SWD Line Leak

Page Number: 18 of 18
Lea Co., NM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.2	99	85 - 115	2010-11-02

Standard (ICV-1)

QC Batch: 74953

Date Analyzed: 2010-11-02

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.6	99	85 - 115	2010-11-02

Standard (CCV-1)

QC Batch: 74953

Date Analyzed: 2010-11-02

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-11-02

WO #: 10102817

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: COG		SITE MANAGER: Fke Tavaraz	
PROJECT NO.: 114-6400672		PROJECT NAME: COG / Maljamar 6" SWD	
LAB I.D. NUMBER	DATE	TIME	
248938	10/27		
939			
940			
941			
942			
943			
944			
945			
946			
947			

PRESERVATIVE METHOD	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD			
			HCL	HNO3	ICE	NONE
BTEX 80218	1					
TPH 8015 MOD. TX1005 (Ext to C35)	1					
PAH 8270	1					
TCRA Metals Ag As Ba Cd Cr Pb Hg Se	1					
TCLP Metals Ag As Ba Cd Cr Pb Hg Se	1					
TCLP Volatiles	1					
TCLP Semi Volatiles	1					
RCI	1					
GC/MS Vol. 8240/8280/824	1					
GC/MS Semi. Vol. 8270/826	1					
PCB's 8080/808	1					
Post. 808/808	1					
Chloride	1					
Gamma Spec.	1					
Alpha Beta (A/B)	1					
PLM (Asbestos)	1					
Major Anions/Cations, PH, TDS	1					

RECEIVING LABORATORY:		RECEIVED BY: (Signature)		Date: 10/28/10	Time: 13:30
ADDRESS:	CITY:	STATE:	ZIP:	DATE:	TIME:
SAMPLE CONDITION WHEN RECEIVED:		RECEIVED BY: (Signature)		Date: 10/28/10	Time: 13:30
REMARKS:		RECEIVED BY: (Signature)		Date: 10/28/10	Time: 13:30
3.4c intact		RECEIVED BY: (Signature)		Date: 10/28/10	Time: 13:30
All test Midland		RECEIVED BY: (Signature)		Date: 10/28/10	Time: 13:30

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

SITE INFORMATION

Report Type: Closure

General Site Information:

Site:	Maljamar 6" SWD Line	
Company:	COG Operating LLC	
Section, Township and Range	Sec 34 T-17S R-32E Unit D	
Lease Number:	30-025-38860	
County:	Lea County	
GPS:	32.79671	103.76334
Surface Owner:	Federal	
Mineral Owner:		
Directions:	From the intersection of Hwy 529 and CR-126, North on 126 0.5 miles to location on left.	

Release Data:

Date Released:	8/5/2010
Type Release:	Produced water
Source of Contamination:	6" SWD line
Fluid Released:	160 bbls
Fluids Recovered:	110 bbls

Official Communication:

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

Ranking Criteria

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

Acceptable Soil RRAL (mg/kg)

Benzene	Total BTEX	TPH
10	50	5,000



TETRA TECH

March 13, 2012

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

**Re: Remedial Activities and Closure Request for the COG Operating LLC.
Maljamar 6" SWD Line
Unit D, Section 34, 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 the Maljamar 6" SWD Line, located in Unit D, Section 34, Township 17 South, Range 32 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.79671°, W 103.76334°. 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 August 5, 2010, and released approximately 160 barrels of produced water from a hole in the SWD poly line. COG personnel subsequently repaired the line. Approximately 110 barrels of standing fluids were recovered with a vacuum truck. The spill migrated south along the COG right of way (ROW) approximately 450' with an average width of 15'. The spill is located between two parallel active COG flow lines. The initial C-141 form is enclosed in Appendix A.

Groundwater

The United States Geological Survey (USGS) and the New Mexico Office of the State Engineer Well Reports did not list any wells in Section 34. According to the NMOCD groundwater map, the average depth to groundwater in this area is between 100' and 120' below ground surface (bgs). To establish depth to groundwater, Tetra Tech previously installed a temporary monitor well (TMW) on July 14, 2009 in Section 30 to a depth of 180' bgs and did not encounter groundwater. The groundwater data and sample log from the dry TMW are 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 September 8, 2010, Tetra Tech personnel inspected and sampled the spill area which measured approximately 450' x 15'. A total of six (6) auger holes (AH-1 through AH-6) were installed using a stainless steel hand auger to assess the impacted soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all of the submitted samples were below the RRAL for TPH and BTEX. Elevated chloride concentrations were detected in the bottom sample from all auger holes with the exception of AH-4 which delineated to below laboratory detection limits at 5' bgs.

On November 11, 2010, Tetra Tech personnel supervised the installation of 5 soil bores (SB-1 through SB-5) adjacent to all of the hand auger locations which exhibited elevated chloride concentrations. Due to safety concerns for drilling between two live lines, a field crew was onsite to hand spot lines. Soil samples were collected to a maximum depth of 25' to define the chloride concentrations. Referring to Table 1, elevated chloride concentrations from each of the five soil bores decreased to <200 mg/kg at depths of 5' to 10' bgs.

Remedial Work and Closure Request

Based on the approved work plan, Tetra Tech personnel supervised the excavation of the site. The excavation measured approximately 15' x 450', with depths ranging from 4.0' to 10.0' below surface. The final depths of the soil remediation for the entire spill met or exceeded the depths of the approved work plan. Approximately 1,600 cubic yards of soil was hauled to proper disposal. The excavation depths are highlighted in Table 1 and shown on Figure 4.



TETRA TECH

During the excavation, Tetra Tech collected sidewall samples and field screened the samples for chloride. Based on the results, chloride concentrations were detected in areas east and west sidewalls, between the active lines. Due to safety concerns, additional excavation near the high pressure lines was not performed. As requested by BLM, backhoe trenches (T-1 through T-12) were installed on the opposite side of the lines. The trench locations are shown in Figure 5. Based on the field results, the BLM requested random samples selected for lab analysis, as shown in Table 2.

Referring to Table 2, the trench samples did not show a significant impact to the area and determined the impact was immediately confined or limited near the active lines, with exception of west area of AH-1. To assess the soils in the area, several trenches (T-9, T-11 and T-12) were installed in the area. Based on the results, the impacted soils were excavated to the appropriate depths. The excavated area is shown in Figure 5. During the inspection, the OCD and BLM approved the remediation of the site and backfilled the excavation.

Based on the remedial activities performed at this site, COG request closure of this site. A copy of the C-141 (Final) is included in Appendix A. If you require any additional information or have any questions or comments concerning this report, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH, INC.

Ike Tavaréz, PG
Project Manager

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

Maljamar 6" SWD



Figure 1

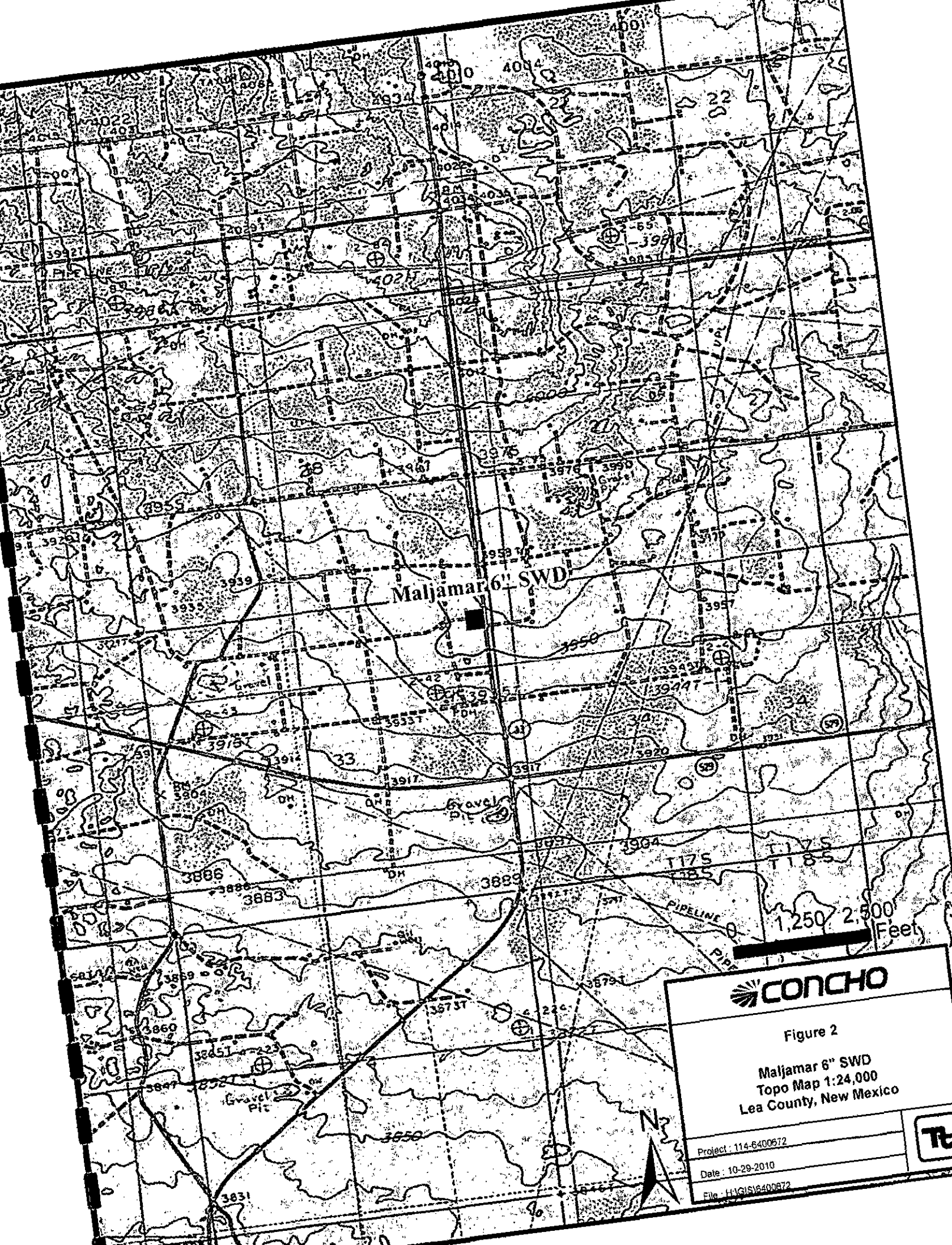
Maljamar 6" SWD
Topo Map 1:250,000
Lea County, New Mexico

Project : 114-6400672

Date : 10-29-2010

File : H:\GIS\6400672





Maljamar 6" SWD

CONCHO

Figure 2
Maljamar 6" SWD
Topo Map 1:24,000
Lea County, New Mexico

Project : 114-6400672
Date : 10-29-2010
File : H:\GIS\114-6400672

TE

LEASE ROAD

COG LINES 10' -15' APART

55'

Leak Source

**AH Samples 75' Apart

Explanation

-  Auger Hole Sample
-  Bore Hole Sample
-  Leak Source
-  Spill Assessment Area
-  Excavated to Repair Line
-  COG Line with Leak
-  COG Line

50'

AH1/BH1

AH2/BH2

AH3/BH3

AH4

AH5/BH5

AH6/BH6

450'

COUNTY ROAD 126



NOT TO SCALE



Figure 3

Maljamar 6" SWD
Spill Map with Auger Holes
& Soil Bores
Lea County, New Mexico

Project : 114-6400672

Date : 10-29-2010

File : H:\GIS\6400672



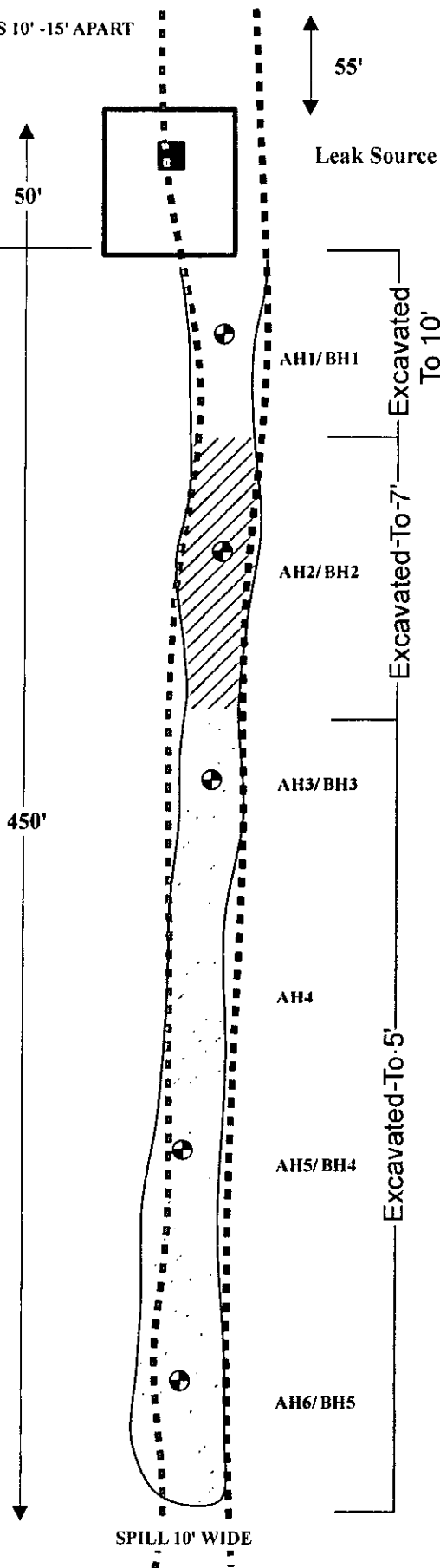
SPILL 10' WIDE

LEASE ROAD

COG LINES 10' -15' APART

**AH Samples 75' Apart

Explanation	
	Auger Hole Sample
	Bore Hole Sample
	Leak Source
	Spill Assessment Area
	Excavated to Repair Line
	COG Line with Leak
	COG Line



COUNTY ROAD 126



NOT TO SCALE



Figure 4

Maljamar 6" SWD
Excavation Depths
Lea County, New Mexico

Project : 114-6400672

Date : 10-29-2010

File : H:\GIS\6400672

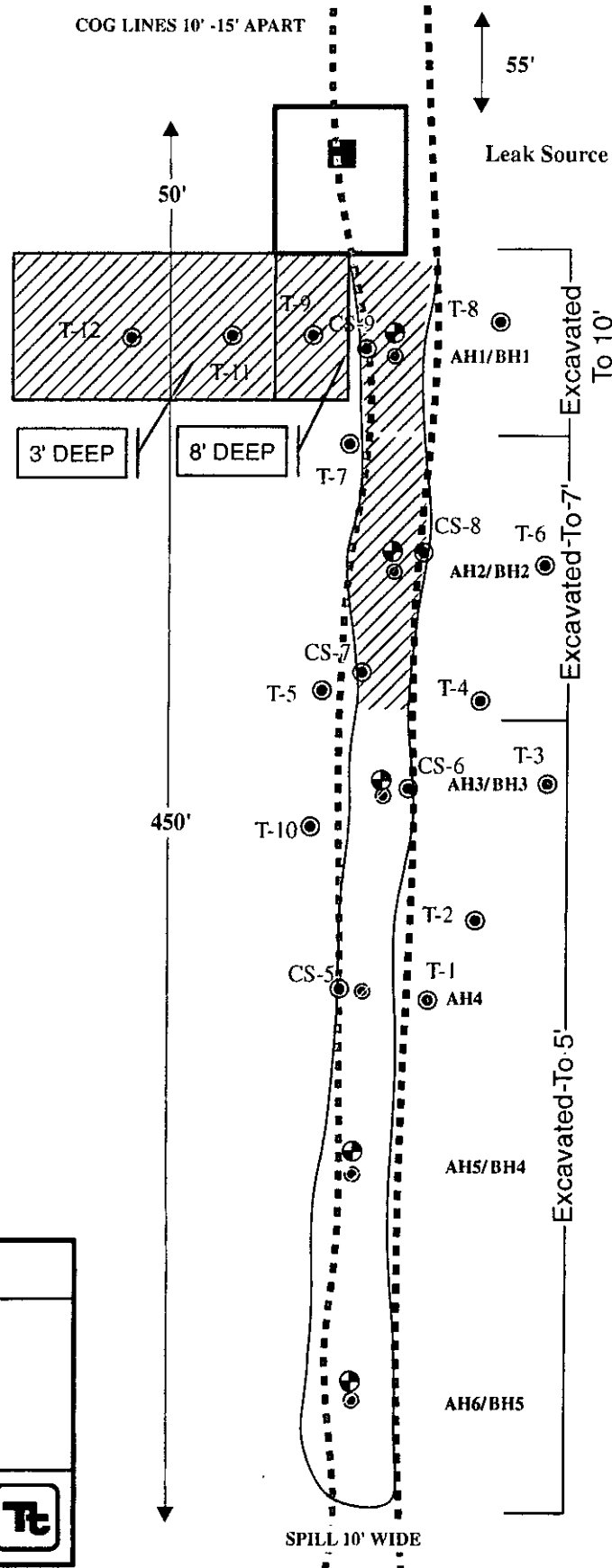


LEASE ROAD

****AH Samples 75' Apart**

Explanation

- ⊙ Auger Hole Samples
- ⊕ Bore Hole Samples
- ⊙ Sidewall Confirmation Samples
- ⊙ Backhoe Trenches
- Leak Source
- ▨ Excavated Area
- Excavated to Repair Line
- - - COG Line with Leak
- · · COG Line



NOT TO SCALE



Figure 5

Maljamar 6" SWD

Excavation Depths
& Confirmation Sampling

Lea County, New Mexico

Project : 114-6400672

Date : 10-29-2010

File : H:\GIS\16400672



Table 1
COG Operating LLC.
MALJAMAR 6 IN. SWD LINE LEAK
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)				Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-1	9/8/2010	0-1'		X		<2.00	169	169	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	8,040
	"	1-1.5'		X		-	-	-	-	-	-	-	-	14,800
	"	2-2.5'		X		-	-	-	-	-	-	-	-	23,000
	"	3-3.5'		X		-	-	-	-	-	-	-	-	15,400
	"	4-4.5'		X		-	-	-	-	-	-	-	-	1,030
	"	5-5.5'		X		-	-	-	-	-	-	-	-	273
	"	6-6.5'		X		-	-	-	-	-	-	-	-	3,670
	"	7-7.5'		X		-	-	-	-	-	-	-	-	5,190
	"	7.5-8'		X		-	-	-	-	-	-	-	-	7,060
BH-1	10/27/2010	0-1'		X		-	-	-						<200
	"	3'		X		-	-	-						600
	"	5'		X		-	-	-						10,700
	"	7'		X		-	-	-						<200
	"	10'		X		-	-	-						2,310
	"	15'		X		-	-	-						<200
	"	20'		X		-	-	-						<200
	"	25'		X		-	-	-						<200

Table 1
COG Operating LLC.
MALJAMAR 6 IN. SWD LINE LEAK
Lea County, New Mexico

[illegible]

Table 1

**COG Operating LLC.
MALJAMAR 6 IN. SWD LINE LEAK
Lea County, New Mexico**

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-6	9/8/2010	0-1'		X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<200
	"	1-1.5'		X		-	-	-	-	-	-	-	15,200
	"	2-2.5'		X		-	-	-	-	-	-	-	13,300
	"	3-3.5'		X		-	-	-	-	-	-	-	1,660
	"	4-4.5'		X		-	-	-	-	-	-	-	5,170
BH-5	10/27/2010	0-1'		X		-	-	-	-	-	-	-	<200
	"	3'		X		-	-	-	-	-	-	-	<200
	"	5'		X		-	-	-	-	-	-	-	<200
	"	7'		X		-	-	-	-	-	-	-	<200
	"	10'		X		-	-	-	-	-	-	-	<200
	"	15'		X		-	-	-	-	-	-	-	<200

BEB Below Excavation Bottom

(-) Not Analyzed

☐ Excavated depths

Table 2
COG Operating LLC.
MALJAMAR 6
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		Chloride (mg/kg)
				In-Situ	Removed	
CS-5	4/29/2011	West Wall		X		1,170
CS-7	4/29/2011	West Wall		X		4,410
CS-9	4/29/2011	West Wall		X		16,700
CS-6	4/29/2011	East Wall		X		15,000
CS-8	4/29/2011	East Wall		X		21,400
T-1	4/29/2011	5'		X		<200
T-2	4/29/2011	5'		X		<200
T-3	4/29/2011	7'		X		<200
T-4	4/29/2011	7'		X		<200
T-5	4/29/2011	7'		X		<200
T-6	4/29/2011	7'		X		<200
T-7	4/29/2011	7'		X		<200
T-8	4/29/2011	10'		X		<200
T-9	4/29/2011	10'		X		488
T-10	4/29/2011	7'		X		<200
T-11	4/29/2011	3'		X		<200
T-12	4/29/2011	3'		X		1,910

BEB Below Excavation Bottom

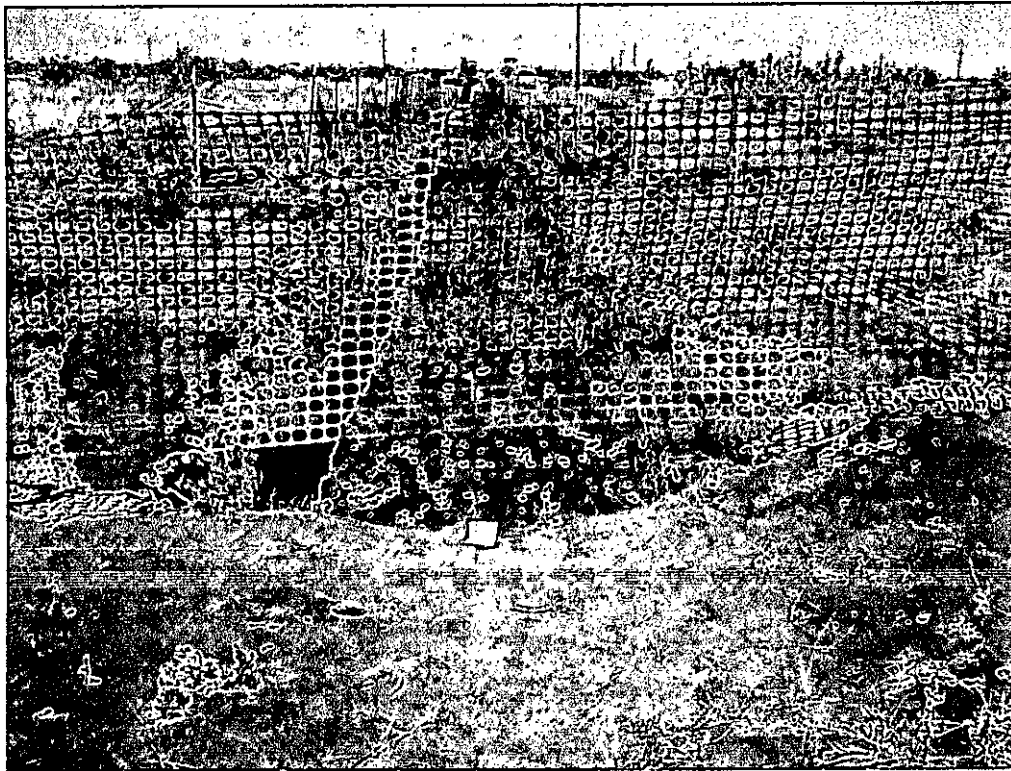
(--) Not Analyzed

CS Confirmation Samples

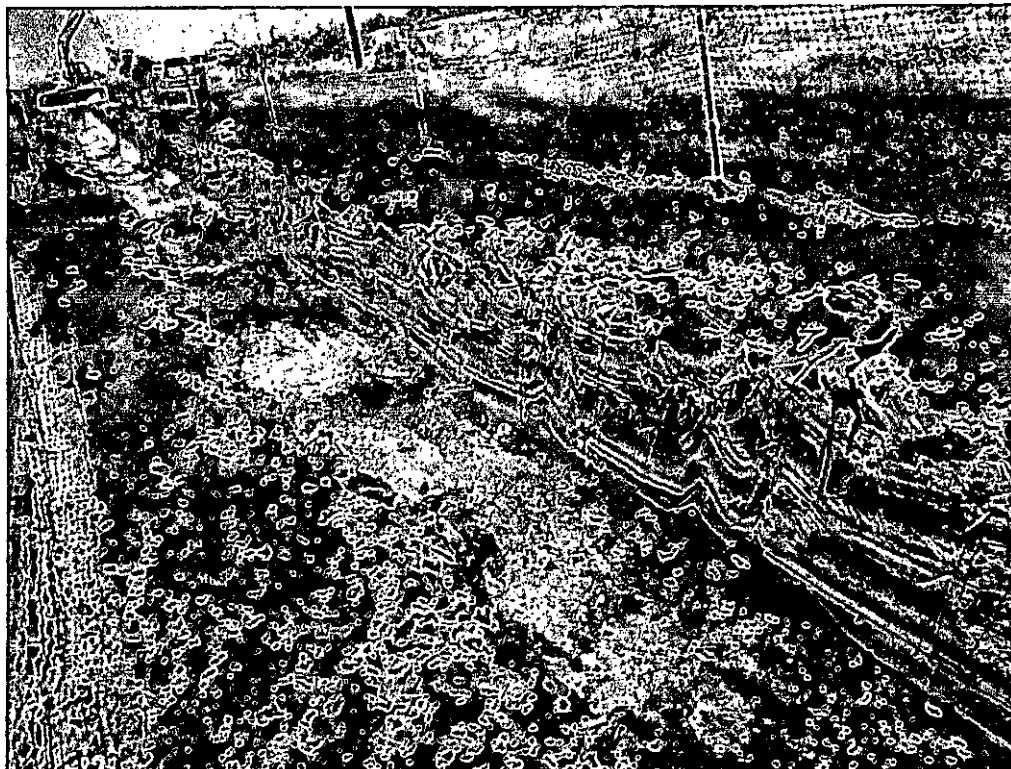
COG Operating LLC
Maljamar 6" SWD Line
Leak
Lea County, New Mexico



TETRA TECH



View North - 5' excavated area

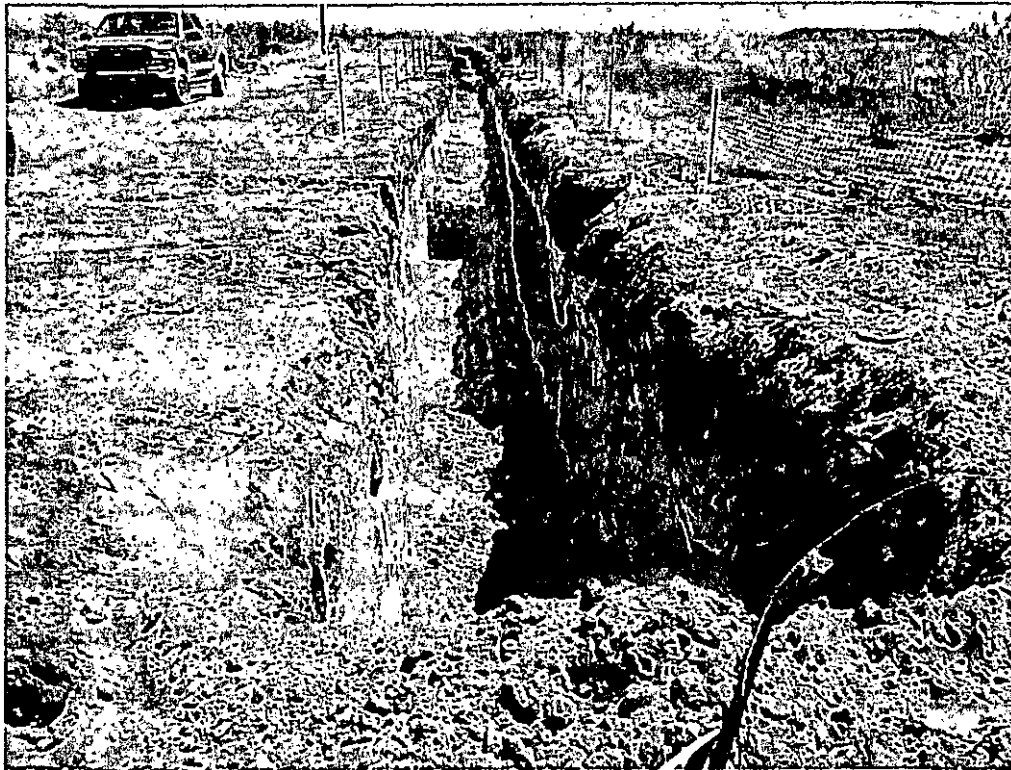


View North East - 7' excavated area

COG Operating LLC
Maljamar 6" SWD Line
Leak
Lea County, New Mexico



TETRA TECH



View South – 10' excavated area

Site info and picture details

Water Well Data
Average Depth to Groundwater (ft)
COG - Maljamar 6" SWD Line
Lea 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
280					

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

18 South			31 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
					281

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	180	29	28	27	26
31	32	33	34	35	36

18 South			32 East		
6	5	4	3	2	1
7	460	8	9	10	11
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

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

17 South			33 East		
6	5	4	3	2	1
7	167	8	9	10	11
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	100	9	10	11
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
-  Tetra Tech Temporary well (TD 180' - Dry Well)

SAMPLE LOG

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

DEPTH (Ft)	QVM	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 clayey sand
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 is 181 feet Groundwater was not encountered

Summary Report

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

Report Date: September 27, 2010

Work Order: 10091317



Project Location: Lea Co., NM
Project Name: COG/Maljamar 6 in. SWD Line Leak
Project Number: 114-6400672

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
244288	AH-1 0-1'	soil	2010-09-08	00:00	2010-09-10
244289	AH-1 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244290	AH-1 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244291	AH-1 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244292	AH-1 4-4.5'	soil	2010-09-08	00:00	2010-09-10
244293	AH-1 5-5.5'	soil	2010-09-08	00:00	2010-09-10
244294	AH-1 6-6.5'	soil	2010-09-08	00:00	2010-09-10
244295	AH-1 7-7.5'	soil	2010-09-08	00:00	2010-09-10
244296	AH-1 7.5-8'	soil	2010-09-08	00:00	2010-09-10
244297	AH-2 0-1'	soil	2010-09-08	00:00	2010-09-10
244298	AH-2 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244299	AH-2 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244300	AH-2 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244301	AH-2 4-4.5'	soil	2010-09-08	00:00	2010-09-10
244302	AH-3 0-1'	soil	2010-09-08	00:00	2010-09-10
244303	AH-3 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244304	AH-3 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244305	AH-3 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244306	AH-4 0-1'	soil	2010-09-08	00:00	2010-09-10
244307	AH-4 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244308	AH-4 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244309	AH-4 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244310	AH-4 4-4.5'	soil	2010-09-08	00:00	2010-09-10
244311	AH-4 5-5.5'	soil	2010-09-08	00:00	2010-09-10
244312	AH-4 6-6.5'	soil	2010-09-08	00:00	2010-09-10
244313	AH-5 0-1'	soil	2010-09-08	00:00	2010-09-10
244314	AH-5 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244315	AH-5 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244316	AH-5 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244317	AH-5 4-4.5'	soil	2010-09-08	00:00	2010-09-10

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
244318	AH-5 4.5-5'	soil	2010-09-08	00:00	2010-09-10
244319	AH-6 0-1'	soil	2010-09-08	00:00	2010-09-10
244320	AH-6 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244321	AH-6 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244322	AH-6 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244323	AH-6 4-4.5'	soil	2010-09-08	00:00	2010-09-10

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)
244288 - AH-1 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	169	<2.00
244297 - AH-2 0-1'					<50.0	<2.00
244302 - AH-3 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
244306 - AH-4 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
244313 - AH-5 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
244319 - AH-6 0-1'					<50.0	<2.00

Sample: 244288 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		8040	mg/Kg	4.00

Sample: 244289 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		14800	mg/Kg	4.00

Sample: 244290 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		23000	mg/Kg	4.00

Sample: 244291 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		15400	mg/Kg	4.00

Sample: 244292 - AH-1 4-4.5'

Param	Flag	Result	Units	RL
Chloride		1030	mg/Kg	4.00

Sample: 244293 - AH-1 5-5.5'

Param	Flag	Result	Units	RL
Chloride		273	mg/Kg	4.00

Sample: 244294 - AH-1 6-6.5'

Param	Flag	Result	Units	RL
Chloride		3670	mg/Kg	4.00

Sample: 244295 - AH-1 7-7.5'

Param	Flag	Result	Units	RL
Chloride		5190	mg/Kg	4.00

Sample: 244296 - AH-1 7.5-8'

Param	Flag	Result	Units	RL
Chloride		7060	mg/Kg	4.00

Sample: 244297 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		6270	mg/Kg	4.00

Sample: 244298 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		8090	mg/Kg	4.00

Sample: 244299 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		15300	mg/Kg	4.00

Sample: 244300 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		16200	mg/Kg	4.00

Sample: 244301 - AH-2 4-4.5'

Param	Flag	Result	Units	RL
Chloride		16300	mg/Kg	4.00

Sample: 244302 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		5580	mg/Kg	4.00

Sample: 244303 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		8160	mg/Kg	4.00

Sample: 244304 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		15200	mg/Kg	4.00

Sample: 244305 - AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		15600	mg/Kg	4.00

Sample: 244306 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		5030	mg/Kg	4.00

Sample: 244307 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		7850	mg/Kg	4.00

Sample: 244308 - AH-4 2-2.5'

Param	Flag	Result	Units	RL
Chloride		12100	mg/Kg	4.00

Sample: 244309 - AH-4 3-3.5'

Param	Flag	Result	Units	RL
Chloride		11200	mg/Kg	4.00

Sample: 244310 - AH-4 4-4.5'

Param	Flag	Result	Units	RL
Chloride		6030	mg/Kg	4.00

Sample: 244311 - AH-4 5-5.5'

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

Sample: 244312 - AH-4 6-6.5'

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

Sample: 244313 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		4860	mg/Kg	4.00

Sample: 244314 - AH-5 1-1.5'

Param	Flag	Result	Units	RL
Chloride		7300	mg/Kg	4.00

Sample: 244315 - AH-5 2-2.5'

Param	Flag	Result	Units	RL
Chloride		11600	mg/Kg	4.00

Sample: 244316 - AH-5 3-3.5'

Param	Flag	Result	Units	RL
Chloride		8870	mg/Kg	4.00

Sample: 244317 - AH-5 4-4.5'

Param	Flag	Result	Units	RL
Chloride		9640	mg/Kg	4.00

Sample: 244318 - AH-5 4.5-5'

Param	Flag	Result	Units	RL
Chloride		12100	mg/Kg	4.00

Sample: 244319 - AH-6 0-1'

Param	Flag	Result	Units	RL
Chloride		392	mg/Kg	4.00

Sample: 244320 - AH-6 1-1.5'

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

Sample: 244321 - AH-6 2-2.5'

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

Sample: 244322 - AH-6 3-3.5'

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

Sample: 244323 - AH-6 4-4.5'

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



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6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

Certifications

WBENC: 237019

HUB: 1752439743100-86536

DBE: VN 20657

NCTRCA WFVB38444Y0909

NELAP Certifications

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

El Paso: T104704221-08-TX
LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

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

Report Date: September 27, 2010

Work Order: 10091317



Project Location: Lea Co., NM
Project Name: COG/Maljamar 6 in. SWD Line Leak
Project Number: 114-6400672

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
244288	AH-1 0-1'	soil	2010-09-08	00:00	2010-09-10
244289	AH-1 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244290	AH-1 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244291	AH-1 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244292	AH-1 4-4.5'	soil	2010-09-08	00:00	2010-09-10
244293	AH-1 5-5.5'	soil	2010-09-08	00:00	2010-09-10
244294	AH-1 6-6.5'	soil	2010-09-08	00:00	2010-09-10
244295	AH-1 7-7.5'	soil	2010-09-08	00:00	2010-09-10
244296	AH-1 7.5-8'	soil	2010-09-08	00:00	2010-09-10
244297	AH-2 0-1'	soil	2010-09-08	00:00	2010-09-10

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
244298	AH-2 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244299	AH-2 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244300	AH-2 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244301	AH-2 4-4.5'	soil	2010-09-08	00:00	2010-09-10
244302	AH-3 0-1'	soil	2010-09-08	00:00	2010-09-10
244303	AH-3 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244304	AH-3 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244305	AH-3 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244306	AH-4 0-1'	soil	2010-09-08	00:00	2010-09-10
244307	AH-4 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244308	AH-4 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244309	AH-4 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244310	AH-4 4-4.5'	soil	2010-09-08	00:00	2010-09-10
244311	AH-4 5-5.5'	soil	2010-09-08	00:00	2010-09-10
244312	AH-4 6-6.5'	soil	2010-09-08	00:00	2010-09-10
244313	AH-5 0-1'	soil	2010-09-08	00:00	2010-09-10
244314	AH-5 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244315	AH-5 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244316	AH-5 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244317	AH-5 4-4.5'	soil	2010-09-08	00:00	2010-09-10
244318	AH-5 4.5-5'	soil	2010-09-08	00:00	2010-09-10
244319	AH-6 0-1'	soil	2010-09-08	00:00	2010-09-10
244320	AH-6 1-1.5'	soil	2010-09-08	00:00	2010-09-10
244321	AH-6 2-2.5'	soil	2010-09-08	00:00	2010-09-10
244322	AH-6 3-3.5'	soil	2010-09-08	00:00	2010-09-10
244323	AH-6 4-4.5'	soil	2010-09-08	00:00	2010-09-10

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



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

Standard Flags

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

Case Narrative

Samples for project COG/Maljamar 6 in. SWD Line Leak were received by TraceAnalysis, Inc. on 2010-09-10 and assigned to work order 10091317. Samples for work order 10091317 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
BTEX	S 8021B	63021	2010-09-13 at 09:10	73499	2010-09-14 at 09:17
BTEX	S 8021B	63055	2010-09-15 at 08:15	73591	2010-09-15 at 09:19
Chloride (Titration)	SM 4500-Cl B	63073	2010-09-15 at 08:10	73600	2010-09-17 at 11:24
Chloride (Titration)	SM 4500-Cl B	63074	2010-09-15 at 08:10	73601	2010-09-17 at 11:25
Chloride (Titration)	SM 4500-Cl B	63075	2010-09-15 at 08:10	73602	2010-09-17 at 11:26
Chloride (Titration)	SM 4500-Cl B	63076	2010-09-15 at 08:11	73603	2010-09-17 at 11:26
Chloride (Titration)	SM 4500-Cl B	63077	2010-09-15 at 08:11	73690	2010-09-21 at 14:59
TPH DRO - NEW	S 8015 D	63012	2010-09-13 at 14:45	73456	2010-09-13 at 14:45
TPH DRO - NEW	S 8015 D	63015	2010-09-13 at 14:45	73458	2010-09-13 at 14:45
TPH GRO	S 8015 D	63021	2010-09-13 at 09:10	73496	2010-09-14 at 09:44
TPH GRO	S 8015 D	63055	2010-09-15 at 08:15	73583	2010-09-15 at 09:46

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 10091317 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 27, 2010
114-6400672

Work Order: 10091317
COG/Maljamar 6 in. SWD Line Leak

Page Number: 4 of 36
Lea Co., NM

Analytical Report

Sample: 244288 - AH-1 0-1'

Laboratory: Midland
Analysis: BTEX
QC Batch: 73499
Prep Batch: 63021

Analytical Method: S 8021B
Date Analyzed: 2010-09-14
Sample Preparation: 2010-09-13

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.88	mg/Kg	1	2.00	94	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.58	mg/Kg	1	2.00	79	38.4 - 157

Sample: 244288 - AH-1 0-1'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 73600
Prep Batch: 63073

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-09-17
Sample Preparation: 2010-09-15

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		8040	mg/Kg	100	4.00

Sample: 244288 - AH-1 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 73456
Prep Batch: 63012

Analytical Method: S 8015 D
Date Analyzed: 2010-09-13
Sample Preparation: 2010-09-13

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

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		169	mg/Kg	1	50.0

Report Date: September 27, 2010
114-6400672

Work Order: 10091317
COG/Maljamar 6 in. SWD Line Leak

Page Number: 5 of 36
Lea Co., NM

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		97.8	mg/Kg	1	100	98	70 - 130

Sample: 244288 - AH-1 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 73496
Prep Batch: 63021

Analytical Method: S 8015 D
Date Analyzed: 2010-09-14
Sample Preparation: 2010-09-13

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.85	mg/Kg	1	2.00	92	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.58	mg/Kg	1	2.00	79	42 - 159

Sample: 244289 - AH-1 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 73601
Prep Batch: 63074

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-09-17
Sample Preparation: 2010-09-15

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		14800	mg/Kg	100	4.00

Sample: 244290 - AH-1 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 73601
Prep Batch: 63074

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-09-17
Sample Preparation: 2010-09-15

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		23000	mg/Kg	100	4.00

Report Date: September 27, 2010
114-6400672

Work Order: 10091317
COG/Maljamar 6 in. SWD Line Leak

Page Number: 6 of 36
Lea Co., NM

Sample: 244291 - AH-1 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73601	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63074				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		15400	mg/Kg	100	4.00

Sample: 244292 - AH-1 4-4.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73601	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63074				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1030	mg/Kg	100	4.00

Sample: 244293 - AH-1 5-5.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73601	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63074				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		273	mg/Kg	50	4.00

Sample: 244294 - AH-1 6-6.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73601	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63074				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		3670	mg/Kg	100	4.00

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Sample: 244295 - AH-1 7-7.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73601	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63074				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		5190	mg/Kg	100	4.00

Sample: 244296 - AH-1 7.5-8'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73601	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63074				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		7060	mg/Kg	100	4.00

Sample: 244297 - AH-2 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73601	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63074				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		6270	mg/Kg	100	4.00

Sample: 244297 - AH-2 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2010-09-13	Analyzed By:	kg
QC Batch:	73456	Sample Preparation:	2010-09-13	Prepared By:	kg
Prep Batch:	63012				

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

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		88.2	mg/Kg	1	100	88	70 - 130

Sample: 244297 - AH-2 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 73496
Prep Batch: 63021

Analytical Method: S 8015 D
Date Analyzed: 2010-09-14
Sample Preparation: 2010-09-13

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.69	mg/Kg	1	2.00	84	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.21	mg/Kg	1	2.00	60	42 - 159

Sample: 244298 - AH-2 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 73601
Prep Batch: 63074

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-09-17
Sample Preparation: 2010-09-15

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		8090	mg/Kg	100	4.00

Sample: 244299 - AH-2 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 73602
Prep Batch: 63075

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-09-17
Sample Preparation: 2010-09-15

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		15300	mg/Kg	100	4.00

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Sample: 244300 - AH-2 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73602	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63075				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		16200	mg/Kg	100	4.00

Sample: 244301 - AH-2 4-4.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73602	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63075				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		16300	mg/Kg	100	4.00

Sample: 244302 - AH-3 0-1'

Laboratory:	Midland	Analytical Method:	S 8021B	Prep Method:	S 5035
Analysis:	BTEX	Date Analyzed:	2010-09-14	Analyzed By:	AG
QC Batch:	73499	Sample Preparation:	2010-09-13	Prepared By:	AG
Prep Batch:	63021				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.03	mg/Kg	1	2.00	102	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.56	mg/Kg	1	2.00	78	38.4 - 157

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Sample: 244302 - AH-3 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73602 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63075 Sample Preparation: 2010-09-15 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		5580	mg/Kg	100	4.00

Sample: 244302 - AH-3 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 73456 Date Analyzed: 2010-09-13 Analyzed By: kg
Prep Batch: 63012 Sample Preparation: 2010-09-13 Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		92.8	mg/Kg	1	100	93	70 - 130

Sample: 244302 - AH-3 0-1'

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 73496 Date Analyzed: 2010-09-14 Analyzed By: AG
Prep Batch: 63021 Sample Preparation: 2010-09-13 Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.04	mg/Kg	1	2.00	102	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.41	mg/Kg	1	2.00	70	42 - 159

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Sample: 244303 - AH-3 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73602 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63075 Sample Preparation: 2010-09-15 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		8160	mg/Kg	100	4.00

Sample: 244304 - AH-3 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73602 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63075 Sample Preparation: 2010-09-15 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		15200	mg/Kg	100	4.00

Sample: 244305 - AH-3 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73602 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63075 Sample Preparation: 2010-09-15 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		15600	mg/Kg	100	4.00

Sample: 244306 - AH-4 0-1'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 73591 Date Analyzed: 2010-09-15 Analyzed By: AG
Prep Batch: 63055 Sample Preparation: 2010-09-15 Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0200	mg/Kg	1	0.0200
Toluene		<0.0200	mg/Kg	1	0.0200

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sample 244306 continued ...

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.18	mg/Kg	1	2.00	109	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.80	mg/Kg	1	2.00	90	38.4 - 157

Sample: 244306 - AH-4 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73602 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63075 Sample Preparation: 2010-09-15 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		5030	mg/Kg	100	4.00

Sample: 244306 - AH-4 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 73458 Date Analyzed: 2010-09-13 Analyzed By: kg
Prep Batch: 63015 Sample Preparation: 2010-09-13 Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		94.5	mg/Kg	1	100	94	70 - 130

Sample: 244306 - AH-4 0-1'

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 73583 Date Analyzed: 2010-09-15 Analyzed By: AG
Prep Batch: 63055 Sample Preparation: 2010-09-15 Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.26	mg/Kg	1	2.00	113	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.64	mg/Kg	1	2.00	82	42 - 159

Sample: 244307 - AH-4 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73602 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63075 Sample Preparation: 2010-09-15 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		7850	mg/Kg	100	4.00

Sample: 244308 - AH-4 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73602 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63075 Sample Preparation: 2010-09-15 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		12100	mg/Kg	100	4.00

Sample: 244309 - AH-4 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73603 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63076 Sample Preparation: 2010-09-15 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		11200	mg/Kg	100	4.00

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Sample: 244310 - AH-4 4-4.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73603 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63076 Sample Preparation: 2010-09-15 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		6030	mg/Kg	100	4.00

Sample: 244311 - AH-4 5-5.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73603 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63076 Sample Preparation: 2010-09-15 Prepared By: AR

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

Sample: 244312 - AH-4 6-6.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73603 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63076 Sample Preparation: 2010-09-15 Prepared By: AR

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

Sample: 244313 - AH-5 0-1'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 73591 Date Analyzed: 2010-09-15 Analyzed By: AG
Prep Batch: 63055 Sample Preparation: 2010-09-15 Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0200	mg/Kg	1	0.0200
Toluene		<0.0200	mg/Kg	1	0.0200

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sample 244313 continued ...

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.38	mg/Kg	1	2.00	119	52.8 - 137
4-Bromofluorobenzene (4-BFB)		2.03	mg/Kg	1	2.00	102	38.4 - 157

Sample: 244313 - AH-5 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73603 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63076 Sample Preparation: 2010-09-15 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		4860	mg/Kg	100	4.00

Sample: 244313 - AH-5 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 73458 Date Analyzed: 2010-09-13 Analyzed By: kg
Prep Batch: 63015 Sample Preparation: 2010-09-13 Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		91.3	mg/Kg	1	100	91	70 - 130

Sample: 244313 - AH-5 0-1'

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 73583 Date Analyzed: 2010-09-15 Analyzed By: AG
Prep Batch: 63055 Sample Preparation: 2010-09-15 Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.44	mg/Kg	1	2.00	122	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.84	mg/Kg	1	2.00	92	42 - 159

Sample: 244314 - AH-5 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73603 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63076 Sample Preparation: 2010-09-15 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		7300	mg/Kg	100	4.00

Sample: 244315 - AH-5 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73603 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63076 Sample Preparation: 2010-09-15 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		11600	mg/Kg	100	4.00

Sample: 244316 - AH-5 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 73603 Date Analyzed: 2010-09-17 Analyzed By: AR
Prep Batch: 63076 Sample Preparation: 2010-09-15 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		8870	mg/Kg	100	4.00

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Sample: 244317 - AH-5 4-4.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73603	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63076				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		9640	mg/Kg	100	4.00

Sample: 244318 - AH-5 4.5-5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-17	Analyzed By:	AR
QC Batch:	73603	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63076				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		12100	mg/Kg	100	4.00

Sample: 244319 - AH-6 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-21	Analyzed By:	AR
QC Batch:	73690	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63077				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		392	mg/Kg	50	4.00

Sample: 244319 - AH-6 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2010-09-13	Analyzed By:	kg
QC Batch:	73458	Sample Preparation:	2010-09-13	Prepared By:	kg
Prep Batch:	63015				

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

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		94.6	mg/Kg	1	100	95	70 - 130

Sample: 244319 - AH-6 0-1'

Laboratory: Midland	Analytical Method: S 8015 D	Prep Method: S 5035
Analysis: TPH GRO	Date Analyzed: 2010-09-15	Analyzed By: AG
QC Batch: 73583	Sample Preparation: 2010-09-15	Prepared By: AG
Prep Batch: 63055		

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.06	mg/Kg	1	2.00	103	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.54	mg/Kg	1	2.00	77	42 - 159

Sample: 244320 - AH-6 1-1.5'

Laboratory: Midland	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2010-09-21	Analyzed By: AR
QC Batch: 73690	Sample Preparation: 2010-09-15	Prepared By: AR
Prep Batch: 63077		

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

Sample: 244321 - AH-6 2-2.5'

Laboratory: Midland	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2010-09-21	Analyzed By: AR
QC Batch: 73690	Sample Preparation: 2010-09-15	Prepared By: AR
Prep Batch: 63077		

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

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Sample: 244322 - AH-6 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-21	Analyzed By:	AR
QC Batch:	73690	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63077				

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

Sample: 244323 - AH-6 4-4.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-09-21	Analyzed By:	AR
QC Batch:	73690	Sample Preparation:	2010-09-15	Prepared By:	AR
Prep Batch:	63077				

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

Method Blank (1) QC Batch: 73456

QC Batch:	73456	Date Analyzed:	2010-09-13	Analyzed By:	kg
Prep Batch:	63012	QC Preparation:	2010-09-13	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		81.8	mg/Kg	1	100	82	70 - 130

Method Blank (1) QC Batch: 73458

QC Batch:	73458	Date Analyzed:	2010-09-13	Analyzed By:	kg
Prep Batch:	63015	QC Preparation:	2010-09-13	Prepared By:	kg

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

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		99.6	mg/Kg	1	100	100	70 - 130

Method Blank (1) QC Batch: 73496

QC Batch: 73496

Date Analyzed: 2010-09-14

Analyzed By: AG

Prep Batch: 63021

QC Preparation: 2010-09-13

Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
GRO		<1.65	mg/Kg	2

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.12	mg/Kg	1	2.00	106	67.6 - 150
4-Bromofluorobenzene (4-BFB)		1.08	mg/Kg	1	2.00	54	52.4 - 130

Method Blank (1) QC Batch: 73499

QC Batch: 73499

Date Analyzed: 2010-09-14

Analyzed By: AG

Prep Batch: 63021

QC Preparation: 2010-09-13

Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.0150	mg/Kg	0.02
Toluene		<0.00950	mg/Kg	0.02
Ethylbenzene		<0.0106	mg/Kg	0.02
Xylene		<0.00930	mg/Kg	0.02

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.16	mg/Kg	1	2.00	108	66.6 - 122
4-Bromofluorobenzene (4-BFB)		1.20	mg/Kg	1	2.00	60	55.4 - 132

Method Blank (1) QC Batch: 73583

QC Batch: 73583

Date Analyzed: 2010-09-15

Analyzed By: AG

Prep Batch: 63055

QC Preparation: 2010-09-15

Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
GRO		<1.65	mg/Kg	2

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.42	mg/Kg	1	2.00	121	67.6 - 150
4-Bromofluorobenzene (4-BFB)		2.19	mg/Kg	1	2.00	110	52.4 - 130

Method Blank (1) QC Batch: 73591

QC Batch: 73591
Prep Batch: 63055

Date Analyzed: 2010-09-15
QC Preparation: 2010-09-15

Analyzed By: AG
Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.0150	mg/Kg	0.02
Toluene		<0.00950	mg/Kg	0.02
Ethylbenzene		<0.0106	mg/Kg	0.02
Xylene		<0.00930	mg/Kg	0.02

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.31	mg/Kg	1	2.00	116	66.6 - 122
4-Bromofluorobenzene (4-BFB)		2.63	mg/Kg	1	2.00	132	55.4 - 132

Method Blank (1) QC Batch: 73600

QC Batch: 73600
Prep Batch: 63073

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 73601

QC Batch: 73601
Prep Batch: 63074

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

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

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Method Blank (1) QC Batch: 73602

QC Batch: 73602
Prep Batch: 63075

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 73603

QC Batch: 73603
Prep Batch: 63076

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 73690

QC Batch: 73690
Prep Batch: 63077

Date Analyzed: 2010-09-21
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

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

Laboratory Control Spike (LCS-1)

QC Batch: 73456
Prep Batch: 63012

Date Analyzed: 2010-09-13
QC Preparation: 2010-09-13

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	235	mg/Kg	1	250	<14.5	94	57.4 - 133.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	241	mg/Kg	1	250	<14.5	96	57.4 - 133.4	2	20

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

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Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	96.8	98.3	mg/Kg	1	100	97	98	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 73458
Prep Batch: 63015

Date Analyzed: 2010-09-13
QC Preparation: 2010-09-13

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	232	mg/Kg	1	250	<14.5	93	57.4 - 133.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	247	mg/Kg	1	250	<14.5	99	57.4 - 133.4	6	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	92.9	92.8	mg/Kg	1	100	93	93	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 73496
Prep Batch: 63021

Date Analyzed: 2010-09-14
QC Preparation: 2010-09-13

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	15.9	mg/Kg	1	20.0	<1.65	80	69.9 - 95.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	15.8	mg/Kg	1	20.0	<1.65	79	69.9 - 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)	2.13	2.03	mg/Kg	1	2.00	106	102	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.43	1.31	mg/Kg	1	2.00	72	66	65.2 - 132

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Laboratory Control Spike (LCS-1)

QC Batch: 73499
Prep Batch: 63021

Date Analyzed: 2010-09-14
QC Preparation: 2010-09-13

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.06	mg/Kg	1	2.00	<0.0150	103	81.9 - 108
Toluene	2.00	mg/Kg	1	2.00	<0.00950	100	81.9 - 107
Ethylbenzene	1.96	mg/Kg	1	2.00	<0.0106	98	78.4 - 107
Xylene	5.66	mg/Kg	1	6.00	<0.00930	94	79.1 - 107

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.03	mg/Kg	1	2.00	<0.0150	102	81.9 - 108	2	20
Toluene	2.01	mg/Kg	1	2.00	<0.00950	100	81.9 - 107	0	20
Ethylbenzene	1.97	mg/Kg	1	2.00	<0.0106	98	78.4 - 107	0	20
Xylene	5.71	mg/Kg	1	6.00	<0.00930	95	79.1 - 107	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	2.05	mg/Kg	1	2.00	106	102	70.2 - 114
4-Bromofluorobenzene (4-BFB)	1.70	1.63	mg/Kg	1	2.00	85	82	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 73583
Prep Batch: 63055

Date Analyzed: 2010-09-15
QC Preparation: 2010-09-15

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	14.4	mg/Kg	1	20.0	<1.65	72	69.9 - 95.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	16.4	mg/Kg	1	20.0	<1.65	82	69.9 - 95.4	13	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.00	2.11	mg/Kg	1	2.00	100	106	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.42	1.34	mg/Kg	1	2.00	71	67	65.2 - 132

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Laboratory Control Spike (LCS-1)

QC Batch: 73591
Prep Batch: 63055

Date Analyzed: 2010-09-15
QC Preparation: 2010-09-15

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.00	mg/Kg	1	2.00	<0.0150	100	81.9 - 108
Toluene	1.94	mg/Kg	1	2.00	<0.00950	97	81.9 - 107
Ethylbenzene	1.85	mg/Kg	1	2.00	<0.0106	92	78.4 - 107
Xylene	5.35	mg/Kg	1	6.00	<0.00930	89	79.1 - 107

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

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.12	mg/Kg	1	2.00	<0.0150	106	81.9 - 108	6	20
Toluene	2.05	mg/Kg	1	2.00	<0.00950	102	81.9 - 107	6	20
Ethylbenzene	1.98	mg/Kg	1	2.00	<0.0106	99	78.4 - 107	7	20
Xylene	5.74	mg/Kg	1	6.00	<0.00930	96	79.1 - 107	7	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)	2.04	2.13	mg/Kg	1	2.00	102	106	70.2 - 114
4-Bromofluorobenzene (4-BFB)	1.50	1.61	mg/Kg	1	2.00	75	80	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 73600
Prep Batch: 63073

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.2	mg/Kg	1	100	<2.18	96	85 - 115

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

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	103	mg/Kg	1	100	<2.18	103	85 - 115	7	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 73601
Prep Batch: 63074

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

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Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.3	mg/Kg	1	100	<2.18	97	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	103	mg/Kg	1	100	<2.18	103	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: 73602
Prep Batch: 63075

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.0	mg/Kg	1	100	<2.18	98	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	102	mg/Kg	1	100	<2.18	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: 73603
Prep Batch: 63076

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.2	mg/Kg	1	100	<2.18	97	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	103	mg/Kg	1	100	<2.18	103	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: 73690
Prep Batch: 63077

Date Analyzed: 2010-09-21
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.5	mg/Kg	1	100	<2.18	98	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	103	mg/Kg	1	100	<2.18	103	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: 244302

QC Batch: 73456
Prep Batch: 63012

Date Analyzed: 2010-09-13
QC Preparation: 2010-09-13

Analyzed By: kg
Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	248	mg/Kg	1	250	<14.5	99	35.2 - 167.1

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	249	mg/Kg	1	250	<14.5	100	35.2 - 167.1	0	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	89.6	91.2	mg/Kg	1	100	90	91	70 - 130

Matrix Spike (MS-1) Spiked Sample: 244435

QC Batch: 73458
Prep Batch: 63015

Date Analyzed: 2010-09-13
QC Preparation: 2010-09-13

Analyzed By: kg
Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	726	mg/Kg	1	250	726	0	35.2 - 167.1

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	² 1120	mg/Kg	1	250	726	122	35.2 - 167.1	43	20

¹ Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

² MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

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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 ³	109	141	mg/Kg	1	100	109	141	70 - 130

Matrix Spike (MS-1) Spiked Sample: 244302

QC Batch: 73496
Prep Batch: 63021

Date Analyzed: 2010-09-14
QC Preparation: 2010-09-13

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	16.9	mg/Kg	1	20.0	<1.65	84	61.8 - 114

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	19.0	mg/Kg	1	20.0	<1.65	95	61.8 - 114	12	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.10	1.89	mg/Kg	1	2	105	94	50 - 162
4-Bromofluorobenzene (4-BFB)	1.61	1.49	mg/Kg	1	2	80	74	50 - 162

Matrix Spike (MS-1) Spiked Sample: 244319

QC Batch: 73583
Prep Batch: 63055

Date Analyzed: 2010-09-15
QC Preparation: 2010-09-15

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	16.3	mg/Kg	1	20.0	<1.65	82	61.8 - 114

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	20.1 ⁴	mg/Kg	1	20.0	<1.65	100	61.8 - 114	21	20

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

³High surrogate recovery due to peak interference.

⁴MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.96	2.31	mg/Kg	1	2	98	116	50 - 162
4-Bromofluorobenzene (4-BFB)	1.73	2.09	mg/Kg	1	2	86	104	50 - 162

Matrix Spike (MS-1) Spiked Sample: 244456

QC Batch: 73591
Prep Batch: 63055

Date Analyzed: 2010-09-15
QC Preparation: 2010-09-15

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.16	mg/Kg	1	2.00	<0.0150	108	80.5 - 112
Toluene	2.21	mg/Kg	1	2.00	<0.00950	110	82.4 - 113
Ethylbenzene ⁵	2.34	mg/Kg	1	2.00	<0.0106	117	83.9 - 114
Xylene ⁶	6.92	mg/Kg	1	6.00	<0.00930	115	84 - 114

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene ⁷	2.42	mg/Kg	1	2.00	<0.0150	121	80.5 - 112	11	20
Toluene ⁸	2.46	mg/Kg	1	2.00	<0.00950	123	82.4 - 113	11	20
Ethylbenzene ⁹	2.61	mg/Kg	1	2.00	<0.0106	130	83.9 - 114	11	20
Xylene ¹⁰	7.88	mg/Kg	1	6.00	<0.00930	131	84 - 114	13	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 2.34	2.54	mg/Kg	1	2	117	127	41.3 - 117
4-Bromofluorobenzene (4-BFB)	^{12 13} 2.72	2.93	mg/Kg	1	2	136	146	35.5 - 129

Matrix Spike (MS-1) Spiked Sample: 244288

QC Batch: 73600
Prep Batch: 63073

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

⁵Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

⁶Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

⁷MSD analyte out of range. MS/MSD has a RPD within limits. Therefore, MS shows extraction occurred properly.

⁸MSD analyte out of range. MS/MSD has a RPD within limits. Therefore, MS shows extraction occurred properly.

⁹MSD analyte out of range. MS/MSD has a RPD within limits. Therefore, MS shows extraction occurred properly.

¹⁰MSD analyte out of range. MS/MSD has a RPD within limits. Therefore, MS shows extraction occurred properly.

¹¹High surrogate recovery due to peak interference.

¹²High surrogate recovery due to peak interference.

¹³High surrogate recovery due to peak interference.

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Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	18200	mg/Kg	100	10000	8040	102	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	18500	mg/Kg	100	10000	8040	105	85 - 115	2	20

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

Matrix Spike (MS-1) Spiked Sample: 244298

QC Batch: 73601
Prep Batch: 63074

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	18700	mg/Kg	100	10000	8090	106	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	18900	mg/Kg	100	10000	8090	108	85 - 115	1	20

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

Matrix Spike (MS-1) Spiked Sample: 244308

QC Batch: 73602
Prep Batch: 63075

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	22400	mg/Kg	100	10000	12100	103	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	22700	mg/Kg	100	10000	12100	106	85 - 115	1	20

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

Matrix Spike (MS-1) Spiked Sample: 244318

QC Batch: 73603
Prep Batch: 63076

Date Analyzed: 2010-09-17
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

Report Date: September 27, 2010
114-6400672

Work Order: 10091317
COG/Maljamar 6 in. SWD Line Leak

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Lea Co., NM

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	23100	mg/Kg	100	10000	12100	110	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	23600	mg/Kg	100	10000	12100	115	85 - 115	2	20

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

Matrix Spike (MS-1) Spiked Sample: 244363

QC Batch: 73690
Prep Batch: 63077

Date Analyzed: 2010-09-21
QC Preparation: 2010-09-15

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	14200	mg/Kg	100	10000	4230	100	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	14800	mg/Kg	100	10000	4230	106	85 - 115	4	20

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

Standard (CCV-2)

QC Batch: 73456

Date Analyzed: 2010-09-13

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	237	95	80 - 120	2010-09-13

Standard (CCV-3)

QC Batch: 73456

Date Analyzed: 2010-09-13

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	257	103	80 - 120	2010-09-13

Report Date: September 27, 2010
114-6400672

Work Order: 10091317
COG/Maljamar 6 in. SWD Line Leak

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Lea Co., NM

Standard (CCV-4)

QC Batch: 73456

Date Analyzed: 2010-09-13

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	253	101	80 - 120	2010-09-13

Standard (CCV-1)

QC Batch: 73458

Date Analyzed: 2010-09-13

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	256	102	80 - 120	2010-09-13

Standard (CCV-2)

QC Batch: 73458

Date Analyzed: 2010-09-13

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	269	108	80 - 120	2010-09-13

Standard (CCV-2)

QC Batch: 73496

Date Analyzed: 2010-09-14

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.898	90	80 - 120	2010-09-14

Standard (CCV-3)

QC Batch: 73496

Date Analyzed: 2010-09-14

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.870	87	80 - 120	2010-09-14

Report Date: September 27, 2010
114-6400672

Work Order: 10091317
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Standard (CCV-2)

QC Batch: 73499

Date Analyzed: 2010-09-14

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.108	108	80 - 120	2010-09-14
Toluene		mg/Kg	0.100	0.108	108	80 - 120	2010-09-14
Ethylbenzene		mg/Kg	0.100	0.105	105	80 - 120	2010-09-14
Xylene		mg/Kg	0.300	0.309	103	80 - 120	2010-09-14

Standard (CCV-3)

QC Batch: 73499

Date Analyzed: 2010-09-14

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.103	103	80 - 120	2010-09-14
Toluene		mg/Kg	0.100	0.0994	99	80 - 120	2010-09-14
Ethylbenzene		mg/Kg	0.100	0.0936	94	80 - 120	2010-09-14
Xylene		mg/Kg	0.300	0.269	90	80 - 120	2010-09-14

Standard (CCV-1)

QC Batch: 73583

Date Analyzed: 2010-09-15

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.909	91	80 - 120	2010-09-15

Standard (CCV-2)

QC Batch: 73583

Date Analyzed: 2010-09-15

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.19	119	80 - 120	2010-09-15

Standard (CCV-1)

QC Batch: 73591

Date Analyzed: 2010-09-15

Analyzed By: AG

Report Date: September 27, 2010
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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0986	99	80 - 120	2010-09-15
Toluene		mg/Kg	0.100	0.0954	95	80 - 120	2010-09-15
Ethylbenzene		mg/Kg	0.100	0.0889	89	80 - 120	2010-09-15
Xylene		mg/Kg	0.300	0.257	86	80 - 120	2010-09-15

Standard (CCV-2)

QC Batch: 73591

Date Analyzed: 2010-09-15

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.113	113	80 - 120	2010-09-15
Toluene		mg/Kg	0.100	0.112	112	80 - 120	2010-09-15
Ethylbenzene		mg/Kg	0.100	0.112	112	80 - 120	2010-09-15
Xylene		mg/Kg	0.300	0.339	113	80 - 120	2010-09-15

Standard (ICV-1)

QC Batch: 73600

Date Analyzed: 2010-09-17

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-09-17

Standard (CCV-1)

QC Batch: 73600

Date Analyzed: 2010-09-17

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.7	99	85 - 115	2010-09-17

Standard (ICV-1)

QC Batch: 73601

Date Analyzed: 2010-09-17

Analyzed By: AR

Report Date: September 27, 2010
114-6400672

Work Order: 10091317
COG/Maljamar 6 in. SWD Line Leak

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Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-09-17

Standard (CCV-1)

QC Batch: 73601 Date Analyzed: 2010-09-17 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.7	99	85 - 115	2010-09-17

Standard (ICV-1)

QC Batch: 73602 Date Analyzed: 2010-09-17 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.8	100	85 - 115	2010-09-17

Standard (CCV-1)

QC Batch: 73602 Date Analyzed: 2010-09-17 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-09-17

Standard (ICV-1)

QC Batch: 73603 Date Analyzed: 2010-09-17 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.5	98	85 - 115	2010-09-17

Standard (CCV-1)

QC Batch: 73603 Date Analyzed: 2010-09-17 Analyzed By: AR

Report Date: September 27, 2010
114-6400672

Work Order: 10091317
COG/Maljamar 6 in. SWD Line Leak

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Lea Co., NM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	103	103	85 - 115	2010-09-17

Standard (ICV-1)

QC Batch: 73690

Date Analyzed: 2010-09-21

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-09-21

Standard (CCV-1)

QC Batch: 73690

Date Analyzed: 2010-09-21

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.3	99	85 - 115	2010-09-21

W00 #: 10091317

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		SITE MANAGER: Ike Tavaraz	
PROJECT NO.: 114-6400672		PROJECT NAME: COG / Meljamar 6" Sub Line Link	
LAB I.D. NUMBER	DATE	TIME	SAMPLE IDENTIFICATION
	2010	9:18	
244288			1
299			
300			
301			
302			
303			
304			
305			
306			
307			

BTX 8021B	PCN 8015 MOD TX1005 (Ext. to C39)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8240/8260/824	GC/MS Semi Vol. 8270/825	PCB's 8080/808	Post. 808/608	Chlorda	Gamma Spec.	Alpha Beta (Al)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
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RELINQUISHED BY (Signature) Sally Knott	RELINQUISHED BY (Signature) Sally Knott	RELINQUISHED BY (Signature) Sally Knott	RELINQUISHED BY (Signature) Sally Knott
DATE: 09/10/10	DATE: 09/10/10	DATE: 09/10/10	DATE: 09/10/10
TIME: 15:30	TIME: 15:30	TIME: 15:30	TIME: 15:30
RECEIVED BY (Signature) Ike Tavaraz	RECEIVED BY (Signature) Ike Tavaraz	RECEIVED BY (Signature) Ike Tavaraz	RECEIVED BY (Signature) Ike Tavaraz
DATE: 09/10/10	DATE: 09/10/10	DATE: 09/10/10	DATE: 09/10/10
TIME: 15:30	TIME: 15:30	TIME: 15:30	TIME: 15:30

REMARKS: If total TPH exceeds ms/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.

W0 # 10091217

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: C061		SITE MANAGER:									
PROJECT NO.: 114-6406672		PROJECT NAME:									
LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMB	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS		PRESERVATIVE METHOD		
							1	2	HCL	HNO3	ICE
241308	9/8		S		X	AH-4 2'2.5'	1		X		
309						AH-4 3'3.5'					
310						AH-4 4'4.5'					
311						AH-4 5'5.5'					
312						AH-4 6'6.5'					
313						AH-5 0'-1'					
314						AH-5 1'-1.5'					
315						AH-5 2'-2.5'					
316						AH-5 3'-3.5'					
317						AH-5 4'-4.5'					
RELINQUISHED BY: (Signature)		Date: 9/10/10		Time: 1530		RECEIVED BY: (Signature)		Date: 9/10/10		Time: 1530	
RELINQUISHED BY: (Signature)		Date:		Time:		RECEIVED BY: (Signature)		Date:		Time:	
RELINQUISHED BY: (Signature)		Date:		Time:		RECEIVED BY: (Signature)		Date:		Time:	
RECEIVING LABORATORY:		Date: 7/6/11		Time:		RECEIVED BY: (Signature)		Date:		Time:	
ADDRESS: Pittland		STATE: TX		ZIP:		RECEIVED BY: (Signature)		Date:		Time:	
CONTRACT:		PHONE:		DATE:		RECEIVED BY: (Signature)		Date:		Time:	
SAMPLE CONDITION WHEN RECEIVED:		TIME:		DATE:		RECEIVED BY: (Signature)		Date:		Time:	

SAMPLE SHIPPED BY: (Circle) FEDEX AIRBILL #:		SAMPLE SHIPPED BY: (Print & Initial) J1		Date: 9/10/10		Time: 1530	
OTHER: <u>GRAND DELIVERED</u> UPS		TETRA TECH CONTACT PERSON: <u>Ike Tavaris</u>		Results by:		RUSH Charges Authorized: Yes No	
REMARKS: <u>It total TPH exceeds mg/kg run deeper samples</u>		REMARKS: <u>3,7°C intact</u>		REMARKS: <u>It total TPH exceeds mg/kg run deeper samples</u>		REMARKS: <u>Return Original copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.</u>	

wo # 10091317

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: <u>COG</u>		SITE MANAGER: <u>Ike Tovar</u>	
PROJECT NO.: <u>114-440672</u>		PROJECT NAME: <u>COG/Mallinor 6" 8WD Line Leak</u>	
LAB I.D. NUMBER	DATE	TIME	SAMPLE IDENTIFICATION
244318	2010	4/8	4.5'-5'
319			0-1'
320			1'-1.5'
321			2'-2.5'
322			3'-3.5'
323			4'-4.5'

MATRIX	COMB	GRAB	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD
S	X		1		HCL
					HNO3
					ICE
					NONE

PAH 8270	PCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCF Semi Volatiles	RCI	GC/MS Vol. 8240/8260/824	GC/MS Semi. Vol. 8270/825	PCB's 8080/808	Post. 808/808	Chlorides	Gamma Spec.	Alpha Beta (Ar)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
TPH 8015 MOD TX1005 (Ext to C35)										X				

RELINQUISHED BY: (Signature) <u>Debrah Bach</u>	Date: <u>04/10/10</u>	Time: <u>15:30</u>	RECEIVED BY: (Signature) <u>Ike Tovar</u>	Date: <u>04/10/10</u>	Time: <u>15:30</u>
RELINQUISHED BY: (Signature)	Date:	Time:	RECEIVED BY: (Signature)	Date:	Time:
RELINQUISHED BY: (Signature)	Date:	Time:	RECEIVED BY: (Signature)	Date:	Time:
RECEIVING LABORATORY: CITY: <u>Midland</u> STATE: <u>TX</u> PHONE: _____ ZIP: _____	REMARKS: <u>It total TPH exceeds mg/kg run deeper samples</u>				

SAMPLE CONDITION WHEN RECEIVED: 37°C intact

RECEIVED BY: Ike Tovar

RUSH Charges Authorized: Yes ☐ No ☐

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

Summary Report

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

Report Date: November 3, 2010

Work Order: 10102817



Project Location: Lea Co., NM
Project Name: COG/Maljamar 6 in. SWD Line Leak
Project Number: 114-6400672

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
248938	BH-1 0-1'	soil	2010-10-27	00:00	2010-10-28
248939	BH-1 3'	soil	2010-10-27	00:00	2010-10-28
248940	BH-1 5'	soil	2010-10-27	00:00	2010-10-28
248941	BH-1 7'	soil	2010-10-27	00:00	2010-10-28
248942	BH-1 10'	soil	2010-10-27	00:00	2010-10-28
248943	BH-1 15'	soil	2010-10-27	00:00	2010-10-28
248944	BH-1 20'	soil	2010-10-27	00:00	2010-10-28
248945	BH-1 25'	soil	2010-10-27	00:00	2010-10-28
248946	BH-2 0-1'	soil	2010-10-27	00:00	2010-10-28
248947	BH-2 3'	soil	2010-10-27	00:00	2010-10-28
248948	BH-2 5'	soil	2010-10-27	00:00	2010-10-28
248949	BH-2 7'	soil	2010-10-27	00:00	2010-10-28
248950	BH-2 10'	soil	2010-10-27	00:00	2010-10-28
248951	BH-2 15'	soil	2010-10-27	00:00	2010-10-28
248952	BH-2 20'	soil	2010-10-27	00:00	2010-10-28
248953	BH-3 0-1'	soil	2010-10-27	00:00	2010-10-28
248954	BH-3 3'	soil	2010-10-27	00:00	2010-10-28
248955	BH-3 5'	soil	2010-10-27	00:00	2010-10-28
248956	BH-3 7'	soil	2010-10-27	00:00	2010-10-28
248957	BH-3 10'	soil	2010-10-27	00:00	2010-10-28
248958	BH-3 15'	soil	2010-10-27	00:00	2010-10-28
248959	BH-3 20'	soil	2010-10-27	00:00	2010-10-28
248960	BH-3 25'	soil	2010-10-27	00:00	2010-10-28
248961	BH-4 0-1'	soil	2010-10-27	00:00	2010-10-28
248962	BH-4 3'	soil	2010-10-27	00:00	2010-10-28
248963	BH-4 5'	soil	2010-10-27	00:00	2010-10-28
248964	BH-4 7'	soil	2010-10-27	00:00	2010-10-28
248965	BH-4 10'	soil	2010-10-27	00:00	2010-10-28
248966	BH-4 15'	soil	2010-10-27	00:00	2010-10-28
248967	BH-4 20'	soil	2010-10-27	00:00	2010-10-28

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
248968	BH-5 0-1'	soil	2010-10-27	00:00	2010-10-28
248969	BH-5 3'	soil	2010-10-27	00:00	2010-10-28
248970	BH-5 5'	soil	2010-10-27	00:00	2010-10-28
248971	BH-5 7'	soil	2010-10-27	00:00	2010-10-28
248972	BH-5 10'	soil	2010-10-27	00:00	2010-10-28
248973	BH-5 15'	soil	2010-10-27	00:00	2010-10-28

Sample: 248938 - BH-1 0-1'

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

Sample: 248939 - BH-1 3'

Param	Flag	Result	Units	RL
Chloride		600	mg/Kg	4.00

Sample: 248940 - BH-1 5'

Param	Flag	Result	Units	RL
Chloride		10700	mg/Kg	4.00

Sample: 248941 - BH-1 7'

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

Sample: 248942 - BH-1 10'

Param	Flag	Result	Units	RL
Chloride		2310	mg/Kg	4.00

Sample: 248943 - BH-1 15'

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

Sample: 248944 - BH-1 20'

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

Sample: 248945 - BH-1 25'

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

Sample: 248946 - BH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		4180	mg/Kg	4.00

Sample: 248947 - BH-2 3'

Param	Flag	Result	Units	RL
Chloride		4670	mg/Kg	4.00

Sample: 248948 - BH-2 5'

Param	Flag	Result	Units	RL
Chloride		18500	mg/Kg	4.00

Sample: 248949 - BH-2 7'

Param	Flag	Result	Units	RL
Chloride		7350	mg/Kg	4.00

Sample: 248950 - BH-2 10'

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

Sample: 248951 - BH-2 15'

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

Sample: 248952 - BH-2 20'

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

Sample: 248953 - BH-3 0-1'

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

Sample: 248954 - BH-3 3'

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

Sample: 248955 - BH-3 5'

Param	Flag	Result	Units	RL
Chloride		10300	mg/Kg	4.00

Sample: 248956 - BH-3 7'

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

Sample: 248957 - BH-3 10'

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

Sample: 248958 - BH-3 15'

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

Sample: 248959 - BH-3 20'

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

Sample: 248960 - BH-3 25'

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

Sample: 248961 - BH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		1160	mg/Kg	4.00

Sample: 248962 - BH-4 3'

Param	Flag	Result	Units	RL
Chloride		508	mg/Kg	4.00

Sample: 248963 - BH-4 5'

Param	Flag	Result	Units	RL
Chloride		7240	mg/Kg	4.00

Sample: 248964 - BH-4 7'

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

Sample: 248965 - BH-4 10'

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

Sample: 248966 - BH-4 15'

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

Sample: 248967 - BH-4 20'

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

Sample: 248968 - BH-5 0-1'

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

Sample: 248969 - BH-5 3'

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

Sample: 248970 - BH-5 5'

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

Sample: 248971 - BH-5 7'

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

Sample: 248972 - BH-5 10'

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

Sample: 248973 - BH-5 15'

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



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Certifications

WBENC: 237019

HUB: 1752439743100-86536

DBE: VN 20657

NCTRCA WFWB38444Y0909

NELAP Certifications

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

El Paso: T104704221-08-TX
LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

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

Report Date: November 3, 2010

Work Order: 10102817



Project Location: Lea Co., NM
Project Name: COG/Maljanar 6 in. SWD Line Leak
Project Number: 114-6400672

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
248938	BH-1 0-1'	soil	2010-10-27	00:00	2010-10-28
248939	BH-1 3'	soil	2010-10-27	00:00	2010-10-28
248940	BH-1 5'	soil	2010-10-27	00:00	2010-10-28
248941	BH-1 7'	soil	2010-10-27	00:00	2010-10-28
248942	BH-1 10'	soil	2010-10-27	00:00	2010-10-28
248943	BH-1 15'	soil	2010-10-27	00:00	2010-10-28
248944	BH-1 20'	soil	2010-10-27	00:00	2010-10-28
248945	BH-1 25'	soil	2010-10-27	00:00	2010-10-28
248946	BH-2 0-1'	soil	2010-10-27	00:00	2010-10-28
248947	BH-2 3'	soil	2010-10-27	00:00	2010-10-28

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
248948	BH-2 5'	soil	2010-10-27	00:00	2010-10-28
248949	BH-2 7'	soil	2010-10-27	00:00	2010-10-28
248950	BH-2 10'	soil	2010-10-27	00:00	2010-10-28
248951	BH-2 15'	soil	2010-10-27	00:00	2010-10-28
248952	BH-2 20'	soil	2010-10-27	00:00	2010-10-28
248953	BH-3 0-1'	soil	2010-10-27	00:00	2010-10-28
248954	BH-3 3'	soil	2010-10-27	00:00	2010-10-28
248955	BH-3 5'	soil	2010-10-27	00:00	2010-10-28
248956	BH-3 7'	soil	2010-10-27	00:00	2010-10-28
248957	BH-3 10'	soil	2010-10-27	00:00	2010-10-28
248958	BH-3 15'	soil	2010-10-27	00:00	2010-10-28
248959	BH-3 20'	soil	2010-10-27	00:00	2010-10-28
248960	BH-3 25'	soil	2010-10-27	00:00	2010-10-28
248961	BH-4 0-1'	soil	2010-10-27	00:00	2010-10-28
248962	BH-4 3'	soil	2010-10-27	00:00	2010-10-28
248963	BH-4 5'	soil	2010-10-27	00:00	2010-10-28
248964	BH-4 7'	soil	2010-10-27	00:00	2010-10-28
248965	BH-4 10'	soil	2010-10-27	00:00	2010-10-28
248966	BH-4 15'	soil	2010-10-27	00:00	2010-10-28
248967	BH-4 20'	soil	2010-10-27	00:00	2010-10-28
248968	BH-5 0-1'	soil	2010-10-27	00:00	2010-10-28
248969	BH-5 3'	soil	2010-10-27	00:00	2010-10-28
248970	BH-5 5'	soil	2010-10-27	00:00	2010-10-28
248971	BH-5 7'	soil	2010-10-27	00:00	2010-10-28
248972	BH-5 10'	soil	2010-10-27	00:00	2010-10-28
248973	BH-5 15'	soil	2010-10-27	00:00	2010-10-28

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

This report consists of a total of 18 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.



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

Standard Flags

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

Case Narrative

Samples for project COG/Maljamar 6 in. SWD Line Leak were received by TraceAnalysis, Inc. on 2010-10-28 and assigned to work order 10102817. Samples for work order 10102817 were received intact at a temperature of 3.4 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	64211	2010-10-29 at 12:32	74950	2010-11-02 at 11:41
Chloride (Titration)	SM 4500-Cl B	64211	2010-10-29 at 12:32	74951	2010-11-02 at 11:42
Chloride (Titration)	SM 4500-Cl B	64211	2010-10-29 at 12:32	74952	2010-11-02 at 11:43
Chloride (Titration)	SM 4500-Cl B	64211	2010-10-29 at 12:32	74953	2010-11-02 at 11:43

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 10102817 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Analytical Report

Sample: 248938 - BH-1 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74950	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

Sample: 248939 - BH-1 3'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74950	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		600	mg/Kg	50	4.00

Sample: 248940 - BH-1 5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74950	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		10700	mg/Kg	100	4.00

Sample: 248941 - BH-1 7'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74950	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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sample 248941 continued ...

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

Sample: 248942 - BH-1 10'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74950 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2310	mg/Kg	100	4.00

Sample: 248943 - BH-1 15'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74950 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

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

Sample: 248944 - BH-1 20'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74950 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

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

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Sample: 248945 - BH-1 25'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74950 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

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

Sample: 248946 - BH-2 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74950 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		4180	mg/Kg	100	4.00

Sample: 248947 - BH-2 3'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74950 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		4670	mg/Kg	100	4.00

Sample: 248948 - BH-2 5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74951 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		18500	mg/Kg	100	4.00

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Sample: 248949 - BH-2 7'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74951	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		7350	mg/Kg	100	4.00

Sample: 248950 - BH-2 10'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74951	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

Sample: 248951 - BH-2 15'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74951	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

Sample: 248952 - BH-2 20'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74951	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

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Sample: 248953 - BH-3 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74951	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

Sample: 248954 - BH-3 3'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74951	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

Sample: 248955 - BH-3 5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74951	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		10300	mg/Kg	100	4.00

Sample: 248956 - BH-3 7'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74951	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

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Sample: 248957 - BH-3 10'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74951	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

Sample: 248958 - BH-3 15'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74952	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

Sample: 248959 - BH-3 20'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74952	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

Sample: 248960 - BH-3 25'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74952	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

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Sample: 248961 - BH-4 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74952 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1160	mg/Kg	100	4.00

Sample: 248962 - BH-4 3'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74952 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		508	mg/Kg	50	4.00

Sample: 248963 - BH-4 5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74952 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		7240	mg/Kg	100	4.00

Sample: 248964 - BH-4 7'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74952 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

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

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Sample: 248965 - BH-4 10'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74952 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

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

Sample: 248966 - BH-4 15'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74952 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

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

Sample: 248967 - BH-4 20'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74952 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

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

Sample: 248968 - BH-5 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74953 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

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

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Sample: 248969 - BH-5 3'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74953 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

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

Sample: 248970 - BH-5 5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74953 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

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

Sample: 248971 - BH-5 7'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74953 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

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

Sample: 248972 - BH-5 10'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 74953 Date Analyzed: 2010-11-02 Analyzed By: AR
Prep Batch: 64211 Sample Preparation: 2010-10-29 Prepared By: AR

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

Report Date: November 3, 2010
114-6400672

Work Order: 10102817
COG/Maljamar 6 in. SWD Line Leak

Page Number: 13 of 18
Lea Co., NM

Sample: 248973 - BH-5 15'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-11-02	Analyzed By:	AR
QC Batch:	74953	Sample Preparation:	2010-10-29	Prepared By:	AR
Prep Batch:	64211				

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

Method Blank (1) QC Batch: 74950

QC Batch:	74950	Date Analyzed:	2010-11-02	Analyzed By:	AR
Prep Batch:	64211	QC Preparation:	2010-10-29	Prepared By:	AR

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

Method Blank (1) QC Batch: 74951

QC Batch:	74951	Date Analyzed:	2010-11-02	Analyzed By:	AR
Prep Batch:	64211	QC Preparation:	2010-10-29	Prepared By:	AR

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

Method Blank (1) QC Batch: 74952

QC Batch:	74952	Date Analyzed:	2010-11-02	Analyzed By:	AR
Prep Batch:	64211	QC Preparation:	2010-10-29	Prepared By:	AR

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

Report Date: November 3, 2010
114-6400672

Work Order: 10102817
COG/Maljamar 6 in. SWD Line Leak

Page Number: 14 of 18
Lea Co., NM

Method Blank (1) QC Batch: 74953

QC Batch: 74953
Prep Batch: 64211

Date Analyzed: 2010-11-02
QC Preparation: 2010-10-29

Analyzed By: AR
Prepared By: AR

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

Laboratory Control Spike (LCS-1)

QC Batch: 74950
Prep Batch: 64211

Date Analyzed: 2010-11-02
QC Preparation: 2010-10-29

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.1	mg/Kg	1	100	<2.18	96	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	101	mg/Kg	1	100	<2.18	101	85 - 115	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: 74951
Prep Batch: 64211

Date Analyzed: 2010-11-02
QC Preparation: 2010-10-29

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.3	mg/Kg	1	100	<2.18	98	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	102	mg/Kg	1	100	<2.18	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: 74952
Prep Batch: 64211

Date Analyzed: 2010-11-02
QC Preparation: 2010-10-29

Analyzed By: AR
Prepared By: AR

Report Date: November 3, 2010
114-6400672

Work Order: 10102817
COG/Maljamar 6 in. SWD Line Leak

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Lea Co., NM

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.8	mg/Kg	1	100	<2.18	98	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	102	mg/Kg	1	100	<2.18	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: 74953
Prep Batch: 64211

Date Analyzed: 2010-11-02
QC Preparation: 2010-10-29

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.7	mg/Kg	1	100	<2.18	97	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	101	mg/Kg	1	100	<2.18	101	85 - 115	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: 248947

QC Batch: 74950
Prep Batch: 64211

Date Analyzed: 2010-11-02
QC Preparation: 2010-10-29

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	13700	mg/Kg	100	10000	4670	90	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	14400	mg/Kg	100	10000	4670	97	85 - 115	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: 248957

QC Batch: 74951
Prep Batch: 64211

Date Analyzed: 2010-11-02
QC Preparation: 2010-10-29

Analyzed By: AR
Prepared By: AR

Report Date: November 3, 2010
114-6400672

Work Order: 10102817
COG/Maljamar 6 in. SWD Line Leak

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Lea Co., NM

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	9830	mg/Kg	100	10000	<218	98	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10100	mg/Kg	100	10000	<218	101	85 - 115	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: 248967

QC Batch: 74952
Prep Batch: 64211

Date Analyzed: 2010-11-02
QC Preparation: 2010-10-29

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10400	mg/Kg	100	10000	<218	104	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10600	mg/Kg	100	10000	<218	106	85 - 115	2	20

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

Matrix Spike (MS-1) Spiked Sample: 249130

QC Batch: 74953
Prep Batch: 64211

Date Analyzed: 2010-11-02
QC Preparation: 2010-10-29

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	14400	mg/Kg	100	10000	3940	105	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	14800	mg/Kg	100	10000	3940	109	85 - 115	3	20

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

Standard (ICV-1)

QC Batch: 74950

Date Analyzed: 2010-11-02

Analyzed By: AR

Report Date: November 3, 2010
114-6400672

Work Order: 10102817
COG/Maljamar 6 in. SWD Line Leak

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Lea Co., NM

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	103	103	85 - 115	2010-11-02

Standard (CCV-1)

QC Batch: 74950

Date Analyzed: 2010-11-02

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.2	97	85 - 115	2010-11-02

Standard (ICV-1)

QC Batch: 74951

Date Analyzed: 2010-11-02

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-11-02

Standard (CCV-1)

QC Batch: 74951

Date Analyzed: 2010-11-02

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.6	100	85 - 115	2010-11-02

Standard (ICV-1)

QC Batch: 74952

Date Analyzed: 2010-11-02

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-11-02

Standard (CCV-1)

QC Batch: 74952

Date Analyzed: 2010-11-02

Analyzed By: AR

Report Date: November 3, 2010
114-6400672

Work Order: 10102817
COG/Maljamar 6 in. SWD Line Leak

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Lea Co., NM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.2	99	85 - 115	2010-11-02

Standard (ICV-1)

QC Batch: 74953

Date Analyzed: 2010-11-02

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.6	99	85 - 115	2010-11-02

Standard (CCV-1)

QC Batch: 74953

Date Analyzed: 2010-11-02

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-11-02

ALWC #: 10102817

Analysis Request of Chain of Custody Record

PAGE: 2 OF 4

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**

SITE MANAGER: **Ike Tavarre**

PROJECT NO.: **1146400672**

PROJECT NAME: **COG / Maljano - 6" SWD**

LAB ID. NUMBER: **248948**

DATE: **2/10**

TIME: **10:27**

DATE: **2/10**

TIME: **10:27**

MATRIX: **S**

COMP: **X**

GRAB: **X**

SAMPLE IDENTIFICATION: **Lea Co, NM**

LAB ID. NUMBER	DATE	TIME	MATRIX	COMP	GRAB	NUMBER OF CONTAINERS	PREPARED (Y/N)	HCL	HN03	ICE	NONE	PRESERVATIVE METHOD
248948	2/10	10:27	S	X	X	1	1					
949						1	1					
950						1	1					
951						1	1					
952						1	1					
953						1	1					
954						1	1					
955						1	1					
956						1	1					
957						1	1					

RELINQUISHED BY (Signature): **[Signature]** Date: **2/10/10** Time: **1:20**

RELINQUISHED BY (Signature): **[Signature]** Date: **2/10/10** Time: **1:20**

RELINQUISHED BY (Signature): **[Signature]** Date: **2/10/10** Time: **1:20**

RELINQUISHED BY (Signature): **[Signature]** Date: **2/10/10** Time: **1:20**

RECEIVING LABORATORY: **[Signature]** Date: **2/10/10** Time: **1:20**

ADDRESS: **[Signature]** Date: **2/10/10** Time: **1:20**

CITY: **[Signature]** Date: **2/10/10** Time: **1:20**

STATE: **[Signature]** Date: **2/10/10** Time: **1:20**

ZIP: **[Signature]** Date: **2/10/10** Time: **1:20**

PHONE: **[Signature]** Date: **2/10/10** Time: **1:20**

REMARKS: **3.4°C intact**

SAMPLED BY (Print & Initial): **Kim** Date: **2/28/10** Time: **1:20**

SAMPLE SHIPPED BY (Date): **2/28/10** Time: **1:20**

FEDERAL (BUS AND DELIVERED) **[Signature]** Date: **2/28/10** Time: **1:20**

TETRA TECH CONTACT PERSON: **Ike Tavarre** Date: **2/28/10** Time: **1:20**

Results by: **[Signature]** Date: **2/28/10** Time: **1:20**

RUSH Charges Authorized: **[Signature]** Date: **2/28/10** Time: **1:20**

Yes No

Analysis Request of Chain of Custody Record

ANALYSIS REQUEST
(Circle or Specify Method No.)

PAGE: 3 OF: 4

5

5



TETRA TECH

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

(432) 682-4559 • Fax (432) 682-3946

[illegible]

SAMPLE CONDITION WHEN RECEIVED:

File

amc (N)tel

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

Summary Report

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

Report Date: May 25, 2011

Work Order: 11051102

Project Location: Lea Co., NM
Project Name: COG/Maljamar 6
Project Number: 114-6400672

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
266068	CS-5 West Wall	soil	2011-04-29	00:00	2011-05-10
266069	CS-6 East Wall	soil	2011-04-29	00:00	2011-05-10
266070	CS-7 West Wall	soil	2011-04-29	00:00	2011-05-10
266071	CS-8 East Wall	soil	2011-04-29	00:00	2011-05-10
266072	CS-9 West Wall	soil	2011-04-29	00:00	2011-05-10
266073	T-1 5'	soil	2011-04-29	00:00	2011-05-10
266074	T-2 5'	soil	2011-04-29	00:00	2011-05-10
266075	T-3 7'	soil	2011-04-29	00:00	2011-05-10
266076	T-4 7'	soil	2011-04-29	00:00	2011-05-10
266077	T-5 7'	soil	2011-04-29	00:00	2011-05-10
266078	T-6 7'	soil	2011-04-29	00:00	2011-05-10
266079	T-7 7'	soil	2011-04-29	00:00	2011-05-10
266080	T-8 10'	soil	2011-04-29	00:00	2011-05-10
266081	T-9 10'	soil	2011-04-29	00:00	2011-05-10
266082	T-10 7'	soil	2011-04-29	00:00	2011-05-10
266083	T-11 3'	soil	2011-04-29	00:00	2011-05-10
266084	T-12 3'	soil	2011-04-29	00:00	2011-05-10

Sample: 266068 - CS-5 West Wall

Param	Flag	Result	Units	RL
Chloride		1170	mg/Kg	4

Sample: 266069 - CS-6 East Wall

Param	Flag	Result	Units	RL
Chloride		15000	mg/Kg	4

Sample: 266070 - CS-7 West Wall

Param	Flag	Result	Units	RL
Chloride		4410	mg/Kg	4

Sample: 266071 - CS-8 East Wall

Param	Flag	Result	Units	RL
Chloride		21400	mg/Kg	4

Sample: 266072 - CS-9 West Wall

Param	Flag	Result	Units	RL
Chloride		16700	mg/Kg	4

Sample: 266073 - T-1 5'

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

Sample: 266074 - T-2 5'

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

Sample: 266075 - T-3 7'

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

Sample: 266076 - T-4 7'

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

Sample: 266077 - T-5 7'

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

Sample: 266078 - T-6 7'

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

Sample: 266079 - T-7 7'

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

Sample: 266080 - T-8 10'

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

Sample: 266081 - T-9 10'

Param	Flag	Result	Units	RL
Chloride		488	mg/Kg	4

Sample: 266082 - T-10 7'

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

Sample: 266083 - T-11 3'

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

Sample: 266084 - T-12 3'

Param	Flag	Result	Units	RL
Chloride		1910	mg/Kg	4



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: 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: May 25, 2011

Work Order: 11051102

Project Location: Lea Co., NM
Project Name: COG/Maljanar 6
Project Number: 114-6400672

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
266068	CS-5 West Wall	soil	2011-04-29	00:00	2011-05-10
266069	CS-6 East Wall	soil	2011-04-29	00:00	2011-05-10
266070	CS-7 West Wall	soil	2011-04-29	00:00	2011-05-10
266071	CS-8 East Wall	soil	2011-04-29	00:00	2011-05-10
266072	CS-9 West Wall	soil	2011-04-29	00:00	2011-05-10
266073	T-1 5'	soil	2011-04-29	00:00	2011-05-10
266074	T-2 5'	soil	2011-04-29	00:00	2011-05-10
266075	T-3 7'	soil	2011-04-29	00:00	2011-05-10
266076	T-4 7'	soil	2011-04-29	00:00	2011-05-10
266077	T-5 7'	soil	2011-04-29	00:00	2011-05-10
266078	T-6 7'	soil	2011-04-29	00:00	2011-05-10
266079	T-7 7'	soil	2011-04-29	00:00	2011-05-10
266080	T-8 10'	soil	2011-04-29	00:00	2011-05-10
266081	T-9 10'	soil	2011-04-29	00:00	2011-05-10
266082	T-10 7'	soil	2011-04-29	00:00	2011-05-10
266083	T-11 3'	soil	2011-04-29	00:00	2011-05-10
266084	T-12 3'	soil	2011-04-29	00:00	2011-05-10

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

A handwritten signature in black ink that reads "Michael Abel". The signature is written in a cursive, flowing style.

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

Case Narrative

Samples for project COG/Maljammar 6 were received by TraceAnalysis, Inc. on 2011-05-10 and assigned to work order 11051102. Samples for work order 11051102 were received intact at a temperature of 8.4 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	69151	2011-05-20 at 10:57	81558	2011-05-24 at 12:43
Chloride (Titration)	SM 4500-Cl B	69151	2011-05-20 at 10:57	81559	2011-05-24 at 12:44

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 11051102 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: May 25, 2011
114-6400672

Work Order: 11051102
COG/Maljanar 6

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Lea Co., NM

Analytical Report

Sample: 266068 - CS-5 West Wall

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-05-24	Analyzed By:	AR
QC Batch:	81558	Sample Preparation:	2011-05-20	Prepared By:	AR
Prep Batch:	69151				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1170	mg/Kg	100	4.00

Sample: 266069 - CS-6 East Wall

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-05-24	Analyzed By:	AR
QC Batch:	81558	Sample Preparation:	2011-05-20	Prepared By:	AR
Prep Batch:	69151				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			15000	mg/Kg	100	4.00

Sample: 266070 - CS-7 West Wall

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-05-24	Analyzed By:	AR
QC Batch:	81558	Sample Preparation:	2011-05-20	Prepared By:	AR
Prep Batch:	69151				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			4410	mg/Kg	100	4.00

Report Date: May 25, 2011
114-6400672

Work Order: 11051102
COG/Maljanar 6

Page Number: 6 of 14
Lea Co., NM

Sample: 266071 - CS-8 East Wall

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	81558	Date Analyzed:	2011-05-24
Prep Batch:	69151	Sample Preparation:	2011-05-20
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			21400	mg/Kg	100	4.00

Sample: 266072 - CS-9 West Wall

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	81558	Date Analyzed:	2011-05-24
Prep Batch:	69151	Sample Preparation:	2011-05-20
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			16700	mg/Kg	100	4.00

Sample: 266073 - T-1 5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	81558	Date Analyzed:	2011-05-24
Prep Batch:	69151	Sample Preparation:	2011-05-20
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

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

Sample: 266074 - T-2 5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	81558	Date Analyzed:	2011-05-24
Prep Batch:	69151	Sample Preparation:	2011-05-20
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

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

Sample: 266075 - T-3 7'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 81558 Date Analyzed: 2011-05-24 Analyzed By: AR
Prep Batch: 69151 Sample Preparation: 2011-05-20 Prepared By: AR

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

Sample: 266076 - T-4 7'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 81558 Date Analyzed: 2011-05-24 Analyzed By: AR
Prep Batch: 69151 Sample Preparation: 2011-05-20 Prepared By: AR

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

Sample: 266077 - T-5 7'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 81558 Date Analyzed: 2011-05-24 Analyzed By: AR
Prep Batch: 69151 Sample Preparation: 2011-05-20 Prepared By: AR

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

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Sample: 266078 - T-6 7'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-05-24	Analyzed By:	AR
QC Batch:	81559	Sample Preparation:	2011-05-20	Prepared By:	AR
Prep Batch:	69151				

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

Sample: 266079 - T-7 7'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-05-24	Analyzed By:	AR
QC Batch:	81559	Sample Preparation:	2011-05-20	Prepared By:	AR
Prep Batch:	69151				

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

Sample: 266080 - T-8 10'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-05-24	Analyzed By:	AR
QC Batch:	81559	Sample Preparation:	2011-05-20	Prepared By:	AR
Prep Batch:	69151				

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

Sample: 266081 - T-9 10'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-05-24	Analyzed By:	AR
QC Batch:	81559	Sample Preparation:	2011-05-20	Prepared By:	AR
Prep Batch:	69151				

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			488	mg/Kg	50	4.00

Sample: 266082 - T-10 7'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 81559 Date Analyzed: 2011-05-24 Analyzed By: AR
Prep Batch: 69151 Sample Preparation: 2011-05-20 Prepared By: AR

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

Sample: 266083 - T-11 3'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 81559 Date Analyzed: 2011-05-24 Analyzed By: AR
Prep Batch: 69151 Sample Preparation: 2011-05-20 Prepared By: AR

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

Sample: 266084 - T-12 3'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 81559 Date Analyzed: 2011-05-24 Analyzed By: AR
Prep Batch: 69151 Sample Preparation: 2011-05-20 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1910	mg/Kg	100	4.00

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Method Blanks

Method Blank (1) QC Batch: 81558

QC Batch: 81558
Prep Batch: 69151

Date Analyzed: 2011-05-24
QC Preparation: 2011-05-20

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 81559

QC Batch: 81559
Prep Batch: 69151

Date Analyzed: 2011-05-24
QC Preparation: 2011-05-20

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: 81558
Prep Batch: 69151

Date Analyzed: 2011-05-24
QC Preparation: 2011-05-20

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			95.7	mg/Kg	1	100	<3.85	96	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			104	mg/Kg	1	100	<3.85	104	85 - 115	8	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 81559
Prep Batch: 69151

Date Analyzed: 2011-05-24
QC Preparation: 2011-05-20

Analyzed By: AR
Prepared By: AR

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

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			103	mg/Kg	1	100	<3.85	103	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: 266077

QC Batch: 81558
Prep Batch: 69151

Date Analyzed: 2011-05-24
QC Preparation: 2011-05-20

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			10200	mg/Kg	100	10000	<385	102	80 - 120

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			10700	mg/Kg	100	10000	<385	107	80 - 120	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: 266087

QC Batch: 81559
Prep Batch: 69151

Date Analyzed: 2011-05-24
QC Preparation: 2011-05-20

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10400	mg/Kg	100	10000	<385	104	80 - 120

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			10800	mg/Kg	100	10000	<385	108	80 - 120	4	20

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

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Calibration Standards

Standard (ICV-1)

QC Batch: 81558

Date Analyzed: 2011-05-24

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	98.0	98	85 - 115	2011-05-24

Standard (CCV-1)

QC Batch: 81558

Date Analyzed: 2011-05-24

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	102	102	85 - 115	2011-05-24

Standard (ICV-1)

QC Batch: 81559

Date Analyzed: 2011-05-24

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.7	100	85 - 115	2011-05-24

Standard (CCV-1)

QC Batch: 81559

Date Analyzed: 2011-05-24

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	2011-05-24

Appendix

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 MQL. Sample contains less then 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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TETRA TECH

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME	PROJECT NAME	SITE MANAGER	PRESERVATIVE METHOD	NUMBER OF CONTAINERS	FILTERED (Y/N)	SAMPLE IDENTIFICATION	PRESERVATIVE METHOD		BTEX 8021B	TPH 8015 MOD. TX1005 (Ext to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8240/8260/824	GC/MS Semi. Vol. 8270/825	PCB's 8080/808	Pest. 808/808	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS	
							HNO3	NONE																	
266068	4/25	CS-5	West Well	1																					
069		CS-6	East Well	1																					
070		CS-7	West Well	1																					
071		CS-8	East Well	1																					
072		CS-9	West Well	1																					
073		T-1	5'	1																					
074		T-2	5'	1																					
075		T-3	2'	1																					
076		T-4	2'	1																					
077		T-5	2'	1																					

RELINQUISHED BY: (Signature)	Date: 5-10-11	RECEIVED BY: (Signature)	Date: 5-10-11
RELINQUISHED BY: (Signature)	Date: 5-10-11	RECEIVED BY: (Signature)	Date: 5-10-11
RELINQUISHED BY: (Signature)	Date: 5-10-11	RECEIVED BY: (Signature)	Date: 5-10-11
RECEIVING LABORATORY:	ADDRESS:	CITY:	STATE:
CONTACT:	PHONE:	ZIP:	DATE:
SAMPLE CONDITION WHEN RECEIVED:			
8:4' intact			

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

