SITE INFORMATION

Report Type: Closure Report

General Site Information: 2RP-449-0

Site:	**RJU Injection Trunk Line**					
Company:	**COG Operating LLC**					
Section, Township and Range	**Unit A**	**Sec 34**	**T17S**	**R29E**		
Lease Number:	**API # 30-015-03765**					
County:	**Eddy County**					
GPS:	**32 47.701° N**			**104 03.233° W**		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	From Loco Hills, NM, travel west on Hwy 82 for 2.25 miles to intersection of Hwy 82 and CR 213 (Standard Road). Travel south on CR 213 for 1.9 miles to end of pavement then 500 feet to two track. Go 500 feet down two track to site.					

Release Data:

Date Released:	4/15/2010
Type Release:	Produced water
Source of Contamination:	Release from newly installed 2 inch fiber/poly trunk line.
Fluid Released:	190 bbls
Fluids Recovered:	130 bbls

Official Communication:

Name:	Josh Russo		Ike Tavarez
Company:	COG Operating, LLC		Tetra Tech
Address:	550 W. Texas, Suite 100		1910 N. Big Spring
P.O. Box			
City:	Midland, Tx 79701		Midland, Texas
Phone number:	(432) 212-2399		(432) 682-4559
Fax:	(432) 687-8008		(432) 682-3946
Email:	irusso@conchoresources.com		ike.tavarez@tetratech.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

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TETRA TECH

February 1, 2011

Mr. Mike Bratcher
Environmental Engineer Specialist
Oil Conservation Division, District 2
1301 West Grand Avenue
Artesia, NM 88210

Re: Closure Report for the COG Operating LLC., RJU Injection Trunk Line, Unit A, Section 34, Township 17 South, Range 29 East, Eddy County, New Mexico. (2RP-449-0)

Mr. Bratcher:

Tetra Tech Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the RJU injection trunk line site located in Unit A, Section 34 Township 17 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32 47.701°, W 104 03.233°. 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 April 15, 2010, when approximately 190 barrels of produced water was released from a faulty injection line. The line was subsequently excavated, removed, and replaced. Vacuum trucks were utilized to recover 130 barrels of standing fluids. The initial and final C-141s are enclosed in Appendix A.

Groundwater

No water wells were listed within Section 34 which contains the site. However, an abandoned dry water well, located in Section 35, was measured by Tetra Tech personnel with a total depth of 153' below ground surface (bgs). According to the Geology and Groundwater Resources of Eddy County, New Mexico (Report 3), one well is located in Section 22 (Bear Grass Draw) with a depth to water of 79.0' below ground surface (bgs). In addition, a well located in Section 29 had measured groundwater reported at 210' bgs. According to the NMOCD groundwater map the average depth to groundwater in this area is approximately 150' bgs. *The Geology and Groundwater Resources of Eddy County, New Mexico (Report 3)* well report data is included in Appendix B.

Tetra Tech
1910 North Big Spring, Midland,TX 79705
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.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 Results

On April 22, 2010, Tetra Tech personnel inspected and sampled the spill area. The spill area, located along the injection line, measured approximately 40' x 145'. A total of five (5) auger holes (AH-1 through AH-5) were installed using a stainless steel hand auger to assess the impacted soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1.

Referring to Table 1, none of the samples exceeded the RRAL for TPH and BTEX. Elevated chloride concentrations were detected in all of the auger holes, with no delineation below 250 mg/kg. However, the chloride concentrations in AH-5 did decline at 1-1.5' bgs and increased to 1,470 mg/kg at 5.5-6' bgs.

On June 30, 2010, Tetra Tech personnel supervised the installation of three (3) boreholes (SB-1 through SB-3), utilizing an air rotary rig, in order to further delineate the chloride impact. The soil borings, shown on Figure 3, were installed in the vicinity of the previous auger holes and were extended to a maximum depth of 30 feet bgs. Samples were collected at 2 to 3 foot intervals for the first 10 feet and 5 foot intervals thereafter, and submitted to the laboratory for chloride analysis. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 2.

Referring to Table 2, analytical results indicate the maximum extent of chloride impact greater than 1,000 mg/kg extended down to 15.0' below surface in all three of the borings. All samples had chloride concentrations which decreased with depth and appeared defined.

Corrective Action

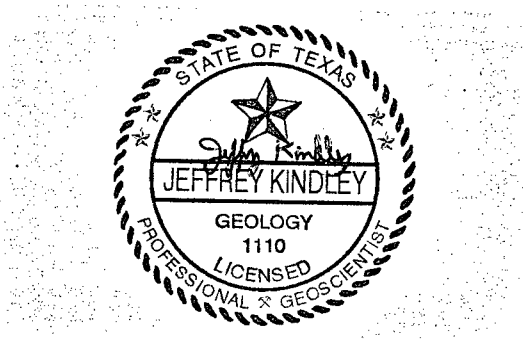
In accordance with the work plan, dated October 4, 2010, Tetra Tech personnel were onsite October 19 through the 22, 2010, to oversee the excavation of chloride impacted soils at the site. As per the work plan, the soils were excavated along the foot print of the spill (Figure 4) to a maximum depth of 10 feet bgs in the vicinity of soil

TETRA TECH

borings SB-1 through SB-3. Approximately 1,720 cubic yards of chloride impacted soils were removed and transported offsite for disposal at Controlled Recovery Inc. (CRI) of Carlsbad, NM. On October 20 and 22, 2010, Mr. Jim Amos of the BLM performed an initial and final inspection of the excavation. Afterwards, the site was backfilled with clean soils, brought up to surface grade and recontoured to match the surrounding landscape.

Closure Request

Based upon the remediation performed at this site, COG Operating LLC respectfully requests closure of this site. If you have any question or comments concerning the activities performed at the Site, please call me at (432) 682-4559.



Respectfully submitted,
Tetra Tech Inc.

Jeff Kindley, P.G.
Senior Project Manager

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

FIGURES

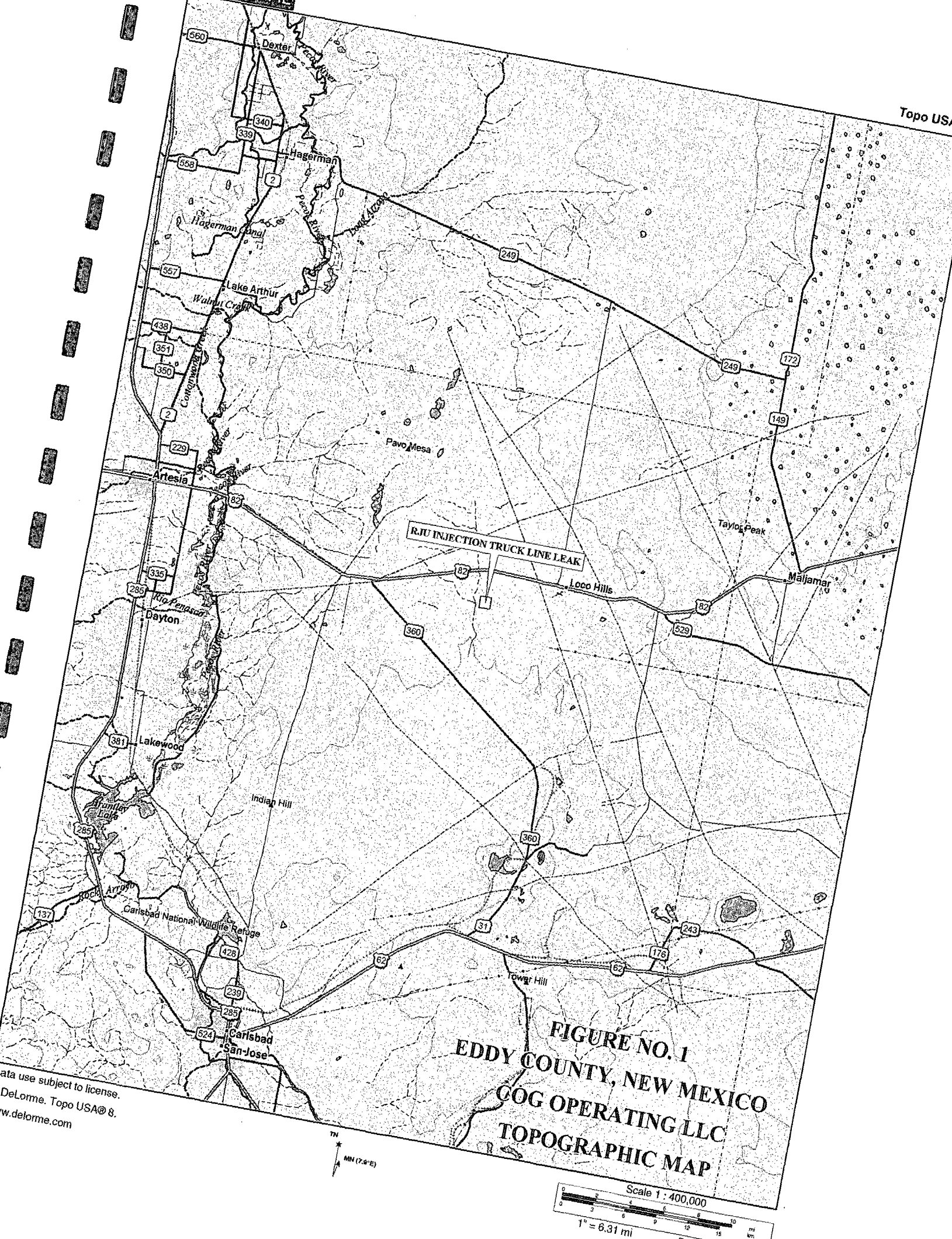


FIGURE NO. 1
EDDY COUNTY, NEW MEXICO
COG OPERATING LLC
TOPOGRAPHIC MAP

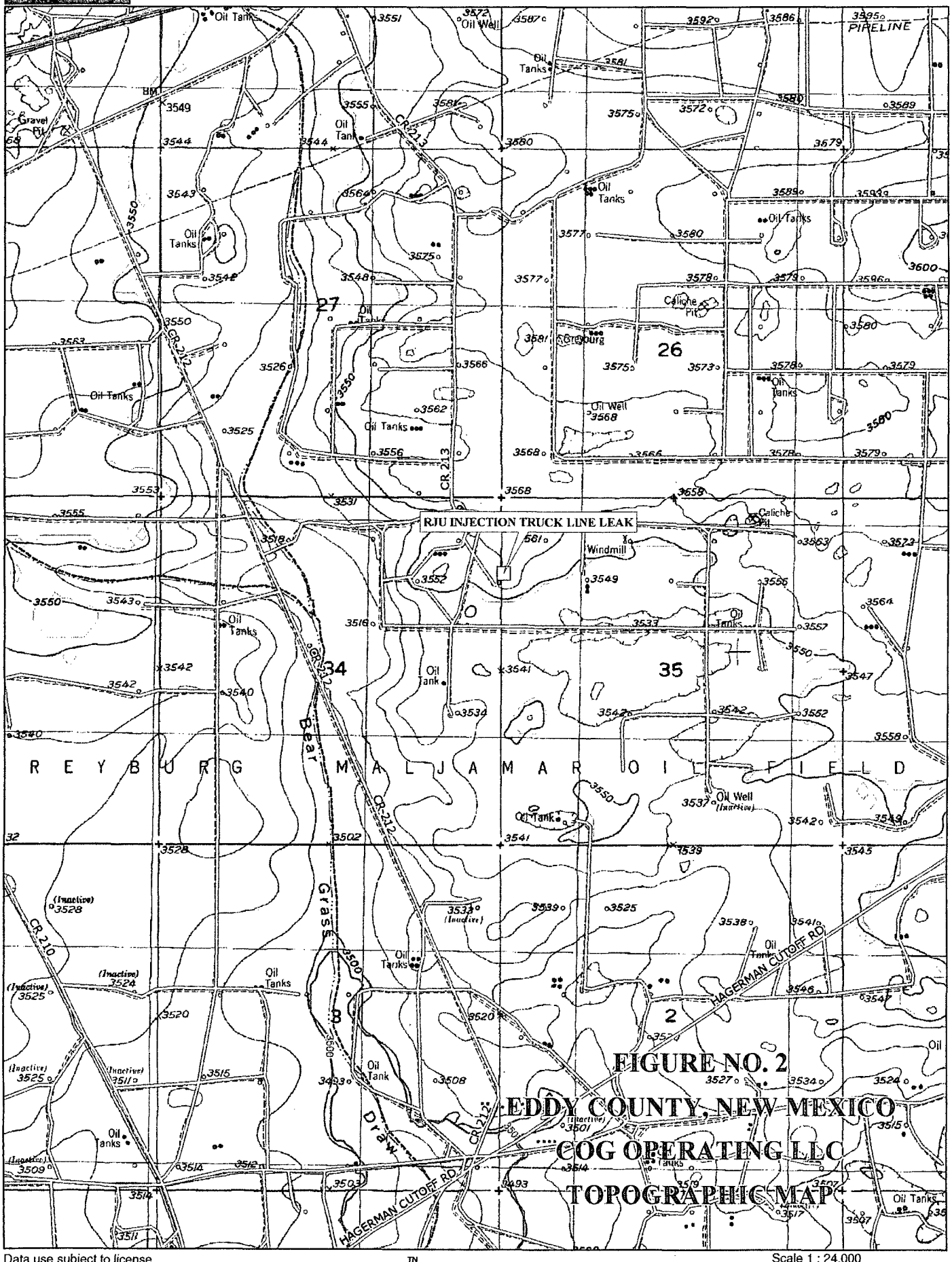


FIGURE NO. 2

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

TOPOGRAPHIC MAP

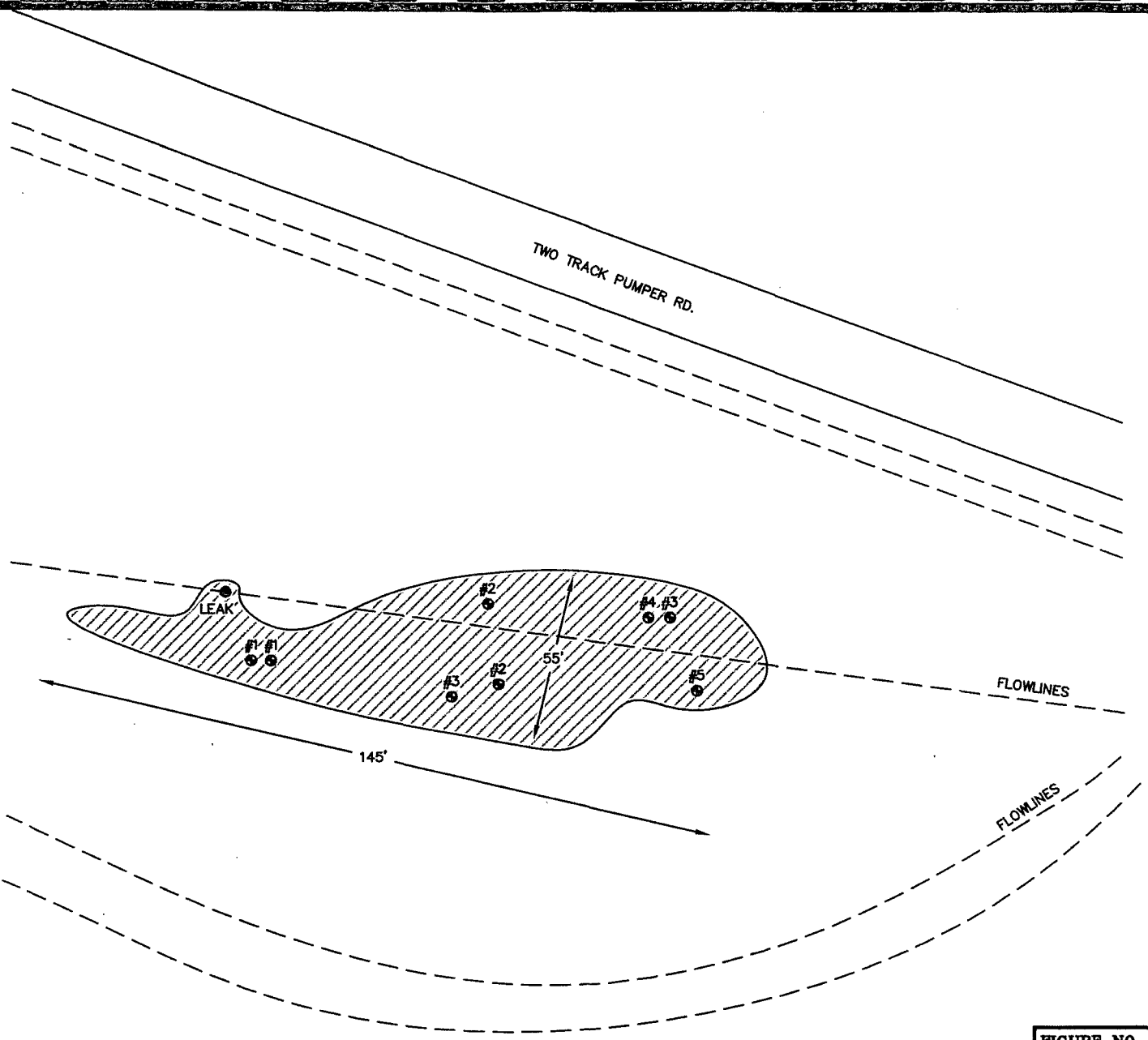
TN

MN (7.9°E)

Scale 1 : 24,000

1" = 2,000.0 ft

Data Zoom 13-0



SPILL AREA
SAMPLE LOCATIONS
SOIL BORING LOCATIONS

NOT TO SCALE

FIGURE NO. 3

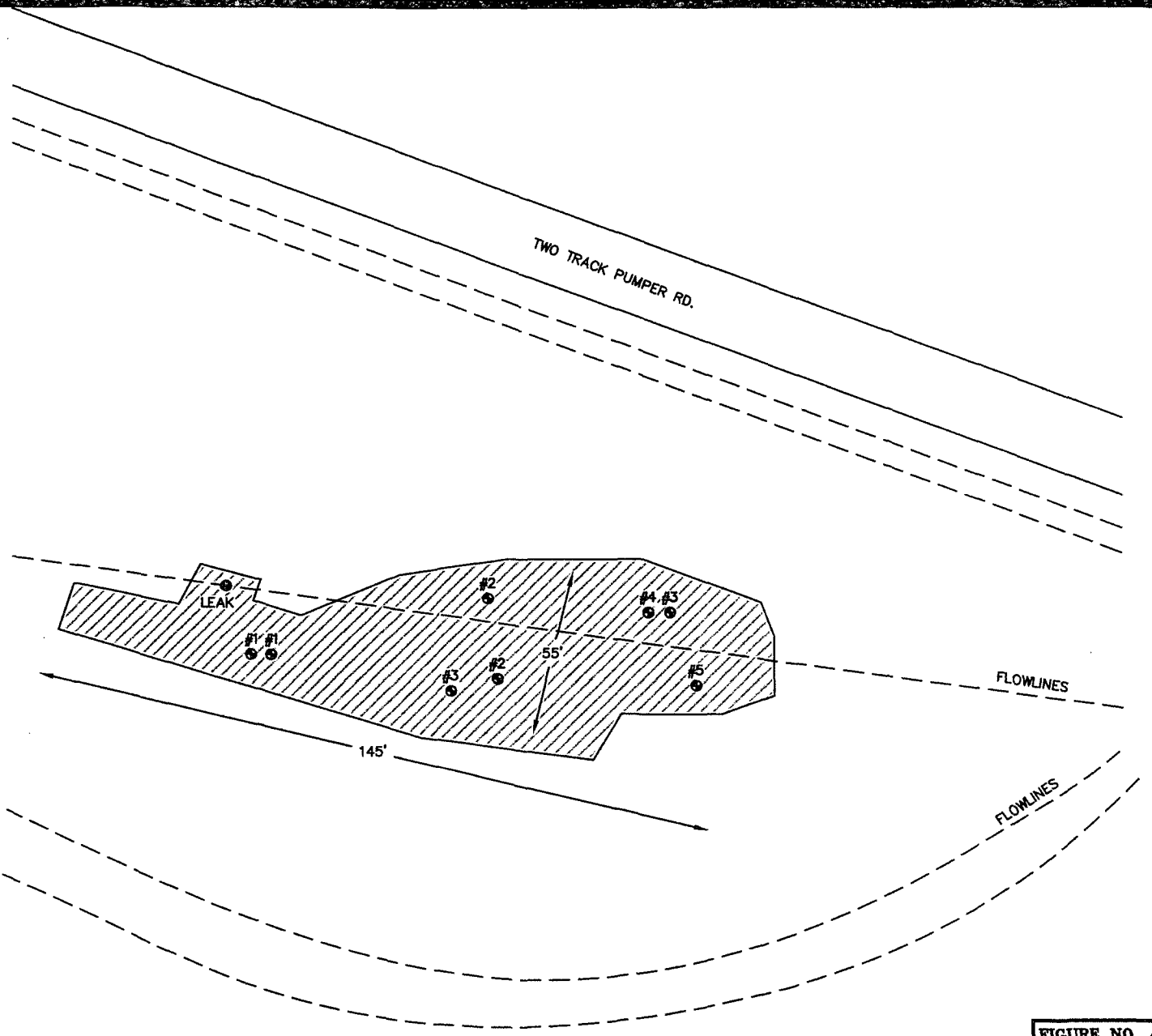
EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

RJU INJECTION TRUCK LINE LEAK

DATE: 4/21/10
DWN. BY: JJ
FILE: H:\COG\8400502 RJU FLOWLINE LEAK

TETRA TECH, INC.
MIDLAND, TEXAS



EXCAVATED AREA (10.0' DEEP)
SAMPLE LOCATIONS
SOIL BORING LOCATIONS

NOT TO SCALE

FIGURE NO. 4

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

RJU INJECTION TRUCK LINE LEAK

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 4/21/10
DWN. BY: JJ
FILE: M:\COG\84000\02 RJU FLOWLINE LEAK

TABLES

Table 1
COG Operating LLC.
RJU Inj. Line Leak
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-1	4/22/2010	0-1'			X	<1.00	<50.0	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	2,540
		1-1.5'			X	-	-	-	-	-	-	-	7,690
		2-2.5'			X	-	-	-	-	-	-	-	4,750
		3-3.5'			X	-	-	-	-	-	-	-	3,890
		4-4.5'			X	-	-	-	-	-	-	-	5,190
		5-5.5'			X	-	-	-	-	-	-	-	11,900
		5.5-6'			X	-	-	-	-	-	-	-	14,700
AH-2	4/22/2010	0-1'			X	<1.00	<50.0	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	6,040
		1-1.5'			X	-	-	-	-	-	-	-	6,800
		2-2.5'			X	-	-	-	-	-	-	-	4,300
		3-3.5'			X	-	-	-	-	-	-	-	3,970
		4-4.5'			X	-	-	-	-	-	-	-	8,870
		4.5-5'			X	-	-	-	-	-	-	-	11,700
AH-3	4/22/2010	0-1'	1' BEB		X	<1.00	<50.0	<50.0	<0.0100	<0.0100	<0.0100	0.0976	8,200
AH-4	4/22/2010	0-1'	1' BEB		X	<5.00	150	150	<0.0500	<0.0100	<0.0500	<0.0500	5,530
		1-1.5'	1' BEB		X	-	-	-	-	-	-	-	5,080
		2-2.5'	1' BEB		X	-	-	-	-	-	-	-	5,530
		3-3.5'	1' BEB		X	-	-	-	-	-	-	-	5,560
		4-4.5'	1' BEB		X	-	-	-	-	-	-	-	7,450
		4.5-5'	1' BEB		X	-	-	-	-	-	-	-	9,490
AH-5	4/22/2010	0-1'	.5' BEB		X	<1.00	<50.0	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	2,340
		1-1.5'	.5' BEB		X	-	-	-	-	-	-	-	414
		2-2.5'	.5' BEB		X	-	-	-	-	-	-	-	424
		3-3.5'	.5' BEB		X	-	-	-	-	-	-	-	475
		4-4.5'	.5' BEB		X	-	-	-	-	-	-	-	485
		5-5.5'	.5' BEB		X	-	-	-	-	-	-	-	864
		5.5-6'	.5' BEB		X	-	-	-	-	-	-	-	1,470

BEB Below Excavation Bottom

(--) Not Analyzed

Removed soils

Table 2
COG Operating LLC.
RJU Inj. Line Leak
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
SB-1	8/12/2010	1'			X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<200
	"	3'			X	-	-	-	-	-	-	-	335
	"	5'			X	-	-	-	-	-	-	-	4,460
	"	7'			X	-	-	-	-	-	-	-	11,200
	"	10'			X	-	-	-	-	-	-	-	10,700
	"	15'		X		-	-	-	-	-	-	-	1,810
	"	20'		X		-	-	-	-	-	-	-	408
	"	25'		X		-	-	-	-	-	-	-	240
	"	30'		X		-	-	-	-	-	-	-	392
SB-2	8/12/2010	1'			X	<2.00	110	110	<0.0200	<0.0200	<0.0200	<0.0200	586
	"	3'			X	-	-	-	-	-	-	-	2,490
	"	5'			X	-	-	-	-	-	-	-	586
	"	7'			X	-	-	-	-	-	-	-	6,810
	"	10'			X	-	-	-	-	-	-	-	1,380
	"	15'		X		-	-	-	-	-	-	-	1,090
	"	20'		X		-	-	-	-	-	-	-	586
	"	25'		X		-	-	-	-	-	-	-	412
	"	30'		X		-	-	-	-	-	-	-	275
SB-3	8/12/2010	1'			X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	1,470
	"	3'			X	-	-	-	-	-	-	-	2,330
	"	5'			X	-	-	-	-	-	-	-	2,930
	"	7'			X	-	-	-	-	-	-	-	9,710
	"	10'			X	-	-	-	-	-	-	-	3,170
	"	15'		X		-	-	-	-	-	-	-	1,250
	"	20'		X		-	-	-	-	-	-	-	903
	"	25'		X		-	-	-	-	-	-	-	228
	"	30'		X		-	-	-	-	-	-	-	<200

(-) Not Analyzed

Removed soils

APPENDIX A
INITIAL/FINAL C-141

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Repor

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	RJU INJECTION TRUNK-LINE	Facility Type	Trunk-Line

Surface Owner Federal	Mineral Owner	Lease No. (API#) 30-015-03765

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	34	17S	29E	660	NORTH	654	EAST	EDDY

Latitude 32 47.702 **Longitude** 104 03.251

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 190bbls	Volume Recovered 130bbls
Source of Release 2" Water flood Trunk Line	Date and Hour of Occurrence 04/15/2010	Date and Hour of Discovery 04/15/2010 12:00p.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher-OCD, Terry Gregston-BLM	
By Whom? Josh Russo	Date and Hour 04/15/2010 9:01 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The leak was caused by a new installation of faulty fiber/poly trunk line. The entire line is being removed and completely replaced.

Describe Area Affected and Cleanup Action Taken.*

190bbls of produced water was initially released and covered an area of 75'x100' next to the line in the pasture. A vacuum truck was immediately called and recovered 130bbls of fluid. One-call protocol will be made and a sundry will be submitted for archeological /wildlife sensitivity clearance prior to soil sampling by Tetra Tech. (The spill site area is located 150 yards west of the following: COG OPERATING LLC, RJU UNIT #124, 660FNL 654 FEL. Sec. 34-T17S-R29E, Eddy Co. NM, API#30-015-03765)

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Josh Russo	Approved by District Supervisor:	
Title: HSE Coordinator	Approval Date:	Expiration Date:
E-mail Address: jrusso@conchoresources.com	Conditions of Approval:	Attached ☐
Date: 04/20/2010 Phone: 432-212-2399		

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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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

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NMOCD ARTESIA

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company **COG Operating LLC**	Contact **Pat Ellis**
Address **550 W. Texas, Suite 100, Midland, Tx 79701**	Telephone No. **(432) 230-0077**
Facility Name **RJU Injection Trunk-Line**	Facility Type **Trunk-line**

Surface Owner: **Federal**	Mineral Owner	Lease No. (API #) 30-015-03765

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	34	17S	29E	660	North	654	East	Eddy

Latitude N 32 47.701° **Longitude** W 104 03.233°

NATURE OF RELEASE

Type of Release: **Produced Water**	Volume of Release **190 bbls**	Volume Recovered **130 bbls**
Source of Release 2" Water flood Trunk Line	Date and Hour of Occurrence **04/15/10**	Date and Hour of Discovery **04/15/10 12:00 P.M.**
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? **Mike Bratcher – OCD** **Terry Gregston - BLM**	
By Whom? Josh Russo	Date and Hour 04/15/10 9:01 P.M.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*
The leak was caused by a due to a failure of a newly installed fiber/poly trunk line. The entire line was removed and replaced.

Describe Area Affected and Cleanup Action Taken.* Of the 190 bbls or produced water released, approximately 130 bbls were recovered with a vacuum truck. Tetra Tech sampled and delineated the site. Upon completion of the delineation, the site was excavated to a maximum depth of 10 feet bgs and backfilled with clean soils.

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: Jeff Kindley (as agent for COG)	OIL CONSERVATION DIVISION
Printed Name: Jeff Kindley (as agent for COG)	Approved by District Supervisor:
Title: Senior Project Manager	Approval Date: / Expiration Date:
E-mail Address: jeff.kindley@tetratech.com	Conditions of Approval: / Attached ☐
Date: 01/28/11 Phone: (432) 682-4559	

* Attach Additional Sheets If Necessary

APPENDIX B
WATER WELL REPORT

Water Well Data
Average Depth to Groundwater (ft)
COG - RJU Injection Line
Eddy County, New Mexico

16 South 28 East

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

16 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19 **110**	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

16 South 30 East

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

17 South 28 East

6	5	4	3	2 **27**	1
7	8	9	10	11	12
18	17	16	15	14 **80**	13
19 **224**	20	21	22 **45** **79**	23	24
30	29	28	27	26	25
31	32	33	34 **53**	35	36

17 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22 **80**	23	24
30	29 **210** **208'**	28	27	26	25
31	32	33	34 **Site**	35(dry) 153	36

17 South 30 East

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

18 South 28 East

6	5	4	3	2	1
7	8 **81**	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30 **137**	29	28	27	26	25
31	32	33	34	35 **65**	36

18 South 29 East

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

18 South 30 East

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

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

APPENDIX C
LABORATORY ANALYSIS

TRACEANALYSIS, INC.

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

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

Report Date: May 5, 2010

Work Order: 10042912

Project Location: Eddy County, NM
Project Name: COG/RJU Inj. Line Leak
Project Number: 114-6400502

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
229851	AH-1 0-1'	soil	2010-04-22	00:00	2010-04-28
229852	AH-1 1-1.5'	soil	2010-04-22	00:00	2010-04-28
229853	AH-1 2-2.5'	soil	2010-04-22	00:00	2010-04-28
229854	AH-1 3-3.5'	soil	2010-04-22	00:00	2010-04-28
229855	AH-1 4-4.5'	soil	2010-04-22	00:00	2010-04-28
229856	AH-1 5-5.5'	soil	2010-04-22	00:00	2010-04-28
229857	AH-1 5.5-6'	soil	2010-04-22	00:00	2010-04-28
229858	AH-2 0-1'	soil	2010-04-22	00:00	2010-04-28
229859	AH-2 1-1.5'	soil	2010-04-22	00:00	2010-04-28
229860	AH-2 2-2.5'	soil	2010-04-22	00:00	2010-04-28

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
229861	AH-2 3-3.5'	soil	2010-04-22	00:00	2010-04-28
229862	AH-2 4-4.5'	soil	2010-04-22	00:00	2010-04-28
229863	AH-2 4.5-5'	soil	2010-04-22	00:00	2010-04-28
229864	AH-3 0-1' 1' BEB	soil	2010-04-22	00:00	2010-04-28
229865	AH-4 0-1' 1' BEB	soil	2010-04-22	00:00	2010-04-28
229866	AH-4 1-1.5' 1' BEB	soil	2010-04-22	00:00	2010-04-28
229867	AH-4 2-2.5' 1' BEB	soil	2010-04-22	00:00	2010-04-28
229868	AH-4 3-3.5' 1' BEB	soil	2010-04-22	00:00	2010-04-28
229869	AH-4 4-4.5' 1' BEB	soil	2010-04-22	00:00	2010-04-28
229870	AH-4 4.5-5' 1' BEB	soil	2010-04-22	00:00	2010-04-28
229871	AH-5 0-1' 0.5' BEB	soil	2010-04-22	00:00	2010-04-28
229872	AH-5 1-1.5' 0.5' BEB	soil	2010-04-22	00:00	2010-04-28
229873	AH-5 2-2.5' 0.5' BEB	soil	2010-04-22	00:00	2010-04-28
229874	AH-5 3-3.5' 0.5' BEB	soil	2010-04-22	00:00	2010-04-28
229875	AH-5 4-4.5' 0.5' BEB	soil	2010-04-22	00:00	2010-04-28
229876	AH-5 5-5.5' 0.5' BEB	soil	2010-04-22	00:00	2010-04-28
229877	AH-5 5.5-6' 0.5' BEB	soil	2010-04-22	00:00	2010-04-28

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.

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/RJU Inj. Line Leak were received by TraceAnalysis, Inc. on 2010-04-28 and assigned to work order 10042912. Samples for work order 10042912 were received intact at a temperature of 4.0 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	59540	2010-04-29 at 15:40	69564	2010-04-29 at 14:39
Chloride (Titration)	SM 4500-Cl B	59556	2010-04-30 at 10:22	69667	2010-05-04 at 11:15
Chloride (Titration)	SM 4500-Cl B	59557	2010-04-30 at 10:23	69668	2010-05-04 at 11:16
Chloride (Titration)	SM 4500-Cl B	59558	2010-04-30 at 10:23	69669	2010-05-04 at 11:18
Chloride (Titration)	SM 4500-Cl B	59559	2010-04-30 at 10:24	69670	2010-05-04 at 11:19
TPH DRO - NEW	Mod. 8015B	59537	2010-04-29 at 15:07	69560	2010-04-29 at 15:07
TPH DRO - NEW	Mod. 8015B	59614	2010-05-03 at 16:01	69648	2010-05-03 at 16:01
TPH GRO	S 8015B	59540	2010-04-29 at 15:40	69565	2010-04-29 at 15:07

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 10042912 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: 229851 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	69564	Date Analyzed:	2010-04-29	Analyzed By:	AG
Prep Batch:	59540	Sample Preparation:	2010-04-29	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	[1]	1.04	mg/Kg	1	2.00	52	60.4 - 141.2
4-Bromofluorobenzene (4-BFB)		0.951	mg/Kg	1	2.00	48	43.1 - 158.4

Sample: 229851 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69667	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59556	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**2540**		mg/Kg	100	4.00

Sample: 229851 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	69560	Date Analyzed:	2010-04-29	Analyzed By:	kg
Prep Batch:	59537	Sample Preparation:	2010-04-29	Prepared By:	kg

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

[1]SPECIAL - TFT is out of control limits due an unknown anomaly. However, 4-BFB is within control limits and shows the method to be in control. •

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		87.3	mg/Kg	1	100	87	70 - 130

Sample: 229851 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	69565	Date Analyzed:	2010-04-29	Analyzed By:	AG
Prep Batch:	59540	Sample Preparation:	2010-04-29	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.04	mg/Kg	1	2.00	52	50.3 - 155
4-Bromofluorobenzene (4-BFB)		1.08	mg/Kg	1	2.00	54	51.7 - 131.1

Sample: 229852 - AH-1 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69667	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59556	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**7690**	mg/Kg	100	4.00

Sample: 229853 - AH-1 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69667	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59556	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**4750**	mg/Kg	100	4.00

Sample: 229854 - AH-1 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69667	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59556	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**3890**	mg/Kg	100	4.00

Sample: 229855 - AH-1 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69667	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59556	Sample Preparation:	2010-04-30	Prepared By:	AR

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

Sample: 229856 - AH-1 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69668	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59557	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**11900**	mg/Kg	100	4.00

Sample: 229857 - AH-1 5.5-6'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69668	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59557	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**14700**	mg/Kg	100	4.00

Sample: 229858 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	69564	Date Analyzed:	2010-04-29	Analyzed By:	AG
Prep Batch:	59540	Sample Preparation:	2010-04-29	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.38	mg/Kg	1	2.00	69	60.4 - 141.2
4-Bromofluorobenzene (4-BFB)		1.27	mg/Kg	1	2.00	64	43.1 - 158.4

Sample: 229858 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69668	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59557	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**6040**		mg/Kg	100	4.00

Sample: 229858 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	69560	Date Analyzed:	2010-04-29	Analyzed By:	kg
Prep Batch:	59537	Sample Preparation:	2010-04-29	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		85.9	mg/Kg	1	100	86	70 - 130

Sample: 229858 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	69565	Date Analyzed:	2010-04-29	Analyzed By:	AG
Prep Batch:	59540	Sample Preparation:	2010-04-29	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.39	mg/Kg	1	2.00	70	50.3 - 155
4-Bromofluorobenzene (4-BFB)		1.40	mg/Kg	1	2.00	70	51.7 - 131.1

Sample: 229859 - AH-2 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69668	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59557	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**6800**	mg/Kg	100	4.00

Sample: 229860 - AH-2 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69668	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59557	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**4300**	mg/Kg	100	4.00

Sample: 229861 - AH-2 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69668	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59557	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**3970**	mg/Kg	100	4.00

Sample: 229862 - AH-2 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69668	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59557	Sample Preparation:	2010-04-30	Prepared By:	AR

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

Sample: 229863 - AH-2 4.5-5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69668	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59557	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**11700**	mg/Kg	100	4.00

Sample: 229864 - AH-3 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	69564	Date Analyzed:	2010-04-29	Analyzed By:	AG
Prep Batch:	59540	Sample Preparation:	2010-04-29	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		**0.0976**	mg/Kg	1	0.0100

continued ...

sample continued ...

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	[2]	1.09	mg/Kg	1	2.00	54	60.4 - 141.2
4-Bromofluorobenzene (4-BFB)		1.01	mg/Kg	1	2.00	50	43.1 - 158.4

Sample: 229864 - AH-3 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69668	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59557	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**8200**	mg/Kg	100	4.00

Sample: 229864 - AH-3 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	69560	Date Analyzed:	2010-04-29	Analyzed By:	kg
Prep Batch:	59537	Sample Preparation:	2010-04-29	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		98.6	mg/Kg	1	100	99	70 - 130

Sample: 229864 - AH-3 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	69565	Date Analyzed:	2010-04-29	Analyzed By:	AG
Prep Batch:	59540	Sample Preparation:	2010-04-29	Prepared By:	AG

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

[2]SPECIAL - TFT is out of control limits due an unknown anomaly. However, 4-BFB is within control limits and shows the method to be in control. •

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.08	mg/Kg	1	2.00	54	50.3 - 155
4-Bromofluorobenzene (4-BFB)		1.14	mg/Kg	1	2.00	57	51.7 - 131.1

Sample: 229865 - AH-4 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	69564	Date Analyzed:	2010-04-29	Analyzed By:	AG
Prep Batch:	59540	Sample Preparation:	2010-04-29	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0500	mg/Kg	5	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0500	mg/Kg	5	0.0100
Xylene		<0.0500	mg/Kg	5	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5.39	mg/Kg	5	5.00	108	60.4 - 141.2
4-Bromofluorobenzene (4-BFB)		4.89	mg/Kg	5	5.00	98	43.1 - 158.4

Sample: 229865 - AH-4 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69668	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59557	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**5530**	mg/Kg	100	4.00

Sample: 229865 - AH-4 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	69560	Date Analyzed:	2010-04-29	Analyzed By:	kg
Prep Batch:	59537	Sample Preparation:	2010-04-29	Prepared By:	kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**150**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	[3]	134	mg/Kg	1	100	134	70 - 130

Sample: 229865 - AH-4 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	69565	Date Analyzed:	2010-04-29	Analyzed By:	AG
Prep Batch:	59540	Sample Preparation:	2010-04-29	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<5.00	mg/Kg	5	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5.42	mg/Kg	5	5.00	108	50.3 - 155
4-Bromofluorobenzene (4-BFB)		5.36	mg/Kg	5	5.00	107	51.7 - 131.1

Sample: 229866 - AH-4 1-1.5' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69669	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59558	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**5080**	mg/Kg	100	4.00

Sample: 229867 - AH-4 2-2.5' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69669	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59558	Sample Preparation:	2010-04-30	Prepared By:	AR

continued ...

[3]High surrogate recovery due to peak interference.

sample 229867 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**5530**	mg/Kg	100	4.00

Sample: 229868 - AH-4 3-3.5' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69669	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59558	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**5560**	mg/Kg	100	4.00

Sample: 229869 - AH-4 4-4.5' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69669	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59558	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**7450**	mg/Kg	100	4.00

Sample: 229870 - AH-4 4.5-5' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69669	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59558	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**9490**	mg/Kg	100	4.00

Sample: 229871 - AH-5 0-1' 0.5' BEB

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	69564	Date Analyzed:	2010-04-29	Analyzed By:	AG
Prep Batch:	59540	Sample Preparation:	2010-04-29	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.92	mg/Kg	1	2.00	96	60.4 - 141.2
4-Bromofluorobenzene (4-BFB)		1.74	mg/Kg	1	2.00	87	43.1 - 158.4

Sample: 229871 - AH-5 0-1' 0.5' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69669	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59558	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**2340**	mg/Kg	100	4.00

Sample: 229871 - AH-5 0-1' 0.5' BEB

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	69648	Date Analyzed:	2010-05-03	Analyzed By:	kg
Prep Batch:	59614	Sample Preparation:	2010-05-03	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		83.1	mg/Kg	1	100	83	70 - 130

Sample: 229871 - AH-5 0-1' 0.5' BEB

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	69565	Date Analyzed:	2010-04-29	Analyzed By:	AG
Prep Batch:	59540	Sample Preparation:	2010-04-29	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.92	mg/Kg	1	2.00	96	50.3 - 155
4-Bromofluorobenzene (4-BFB)		1.90	mg/Kg	1	2.00	95	51.7 - 131.1

Sample: 229872 - AH-5 1-1.5' 0.5' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69669	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59558	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		414	mg/Kg	50	4.00

Sample: 229873 - AH-5 2-2.5' 0.5' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69669	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59558	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		424	mg/Kg	50	4.00

Sample: 229874 - AH-5 3-3.5' 0.5' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69669	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59558	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**475**	mg/Kg	50	4.00

Sample: 229875 - AH-5 4-4.5' 0.5' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69669	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59558	Sample Preparation:	2010-04-30	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**485**	mg/Kg	50	4.00

Sample: 229876 - AH-5 5-5.5' 0.5' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69670	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59559	Sample Preparation:	2010-05-04	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**864**	mg/Kg	50	4.00

Sample: 229877 - AH-5 5.5-6' 0.5' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	69670	Date Analyzed:	2010-05-04	Analyzed By:	AR
Prep Batch:	59559	Sample Preparation:	2010-05-04	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1470**	mg/Kg	50	4.00

Method Blank (1) QC Batch: 69560

QC Batch:	69560	Date Analyzed:	2010-04-29	Analyzed By:	kg
Prep Batch:	59537	QC Preparation:	2010-04-29	Prepared By:	kg

Parameter	Flag	MDL Result	Units	RL
DRO		7.58	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		75.6	mg/Kg	1	100	76	70 - 130

Method Blank (1) QC Batch: 69564

QC Batch: 69564 Date Analyzed: 2010-04-29 Analyzed By: AG
Prep Batch: 59540 QC Preparation: 2010-04-29 Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.00410	mg/Kg	0.01
Toluene		<0.00310	mg/Kg	0.01
Ethylbenzene		<0.00240	mg/Kg	0.01
Xylene		<0.00650	mg/Kg	0.01

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.98	mg/Kg	1	2.00	99	64.9 - 142.7
4-Bromofluorobenzene (4-BFB)		1.83	mg/Kg	1	2.00	92	43.9 - 141.9

Method Blank (1) QC Batch: 69565

QC Batch: 69565 Date Analyzed: 2010-04-29 Analyzed By: AG
Prep Batch: 59540 QC Preparation: 2010-04-29 Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
GRO		<0.396	mg/Kg	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.96	mg/Kg	1	2.00	98	66.2 - 145
4-Bromofluorobenzene (4-BFB)		2.00	mg/Kg	1	2.00	100	62 - 120.5

Method Blank (1) QC Batch: 69648

QC Batch: 69648 Date Analyzed: 2010-05-03 Analyzed By: kg
Prep Batch: 59614 QC Preparation: 2010-05-03 Prepared By: kg

Parameter	Flag	MDL Result	Units	RL
DRO		9.08	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		73.4	mg/Kg	1	100	73	70 - 130

Method Blank (1) QC Batch: 69667

QC Batch: 69667 Date Analyzed: 2010-05-04 Analyzed By: AR
Prep Batch: 59556 QC Preparation: 2010-04-30 Prepared By: AR

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

Method Blank (1) QC Batch: 69668

QC Batch: 69668 Date Analyzed: 2010-05-04 Analyzed By: AR
Prep Batch: 59557 QC Preparation: 2010-04-30 Prepared By: AR

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

Method Blank (1) QC Batch: 69669

QC Batch: 69669 Date Analyzed: 2010-05-04 Analyzed By: AR
Prep Batch: 59558 QC Preparation: 2010-04-30 Prepared By: AR

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

Method Blank (1) QC Batch: 69670

QC Batch: 69670 Date Analyzed: 2010-05-04 Analyzed By: AR
Prep Batch: 59559 QC Preparation: 2010-04-30 Prepared By: AR

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

Laboratory Control Spike (LCS-1)

QC Batch: 69560 | Date Analyzed: 2010-04-29 | Analyzed By: kg
Prep Batch: 59537 | QC Preparation: 2010-04-29 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	267	mg/Kg	1	250	<5.86	107	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	250	mg/Kg	1	250	<5.86	100	57.4 - 133.4	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
n-Tricosane	90.4	89.6	mg/Kg	1	100	90	90	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 69564 | Date Analyzed: 2010-04-29 | Analyzed By: AG
Prep Batch: 59540 | QC Preparation: 2010-04-29 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.87	mg/Kg	1	2.00	<0.00410	94	75.4 - 115.7
Toluene	1.87	mg/Kg	1	2.00	<0.00310	94	78.4 - 113.6
Ethylbenzene	1.83	mg/Kg	1	2.00	<0.00240	92	76 - 114.2
Xylene	5.54	mg/Kg	1	6.00	<0.00650	92	76.9 - 113.6

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.98	mg/Kg	1	2.00	<0.00410	99	75.4 - 115.7	6	20
Toluene	1.98	mg/Kg	1	2.00	<0.00310	99	78.4 - 113.6	6	20
Ethylbenzene	1.96	mg/Kg	1	2.00	<0.00240	98	76 - 114.2	7	20
Xylene	5.90	mg/Kg	1	6.00	<0.00650	98	76.9 - 113.6	6	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.75	1.86	mg/Kg	1	2.00	88	93	65 - 142.9
4-Bromofluorobenzene (4-BFB)	1.73	1.81	mg/Kg	1	2.00	86	90	43.8 - 144.9

Laboratory Control Spike (LCS-1)

QC Batch: 69565 | Date Analyzed: 2010-04-29 | Analyzed By: AG
Prep Batch: 59540 | QC Preparation: 2010-04-29 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	17.4	mg/Kg	1	20.0	<0.396	87	52.5 - 114.3

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	17.6	mg/Kg	1	20.0	<0.396	88	52.5 - 114.3	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.84	1.91	mg/Kg	1	2.00	92	96	66.2 - 148.7
4-Bromofluorobenzene (4-BFB)	1.91	2.00	mg/Kg	1	2.00	96	100	64.1 - 127.4

Laboratory Control Spike (LCS-1)

QC Batch: 69648 | Date Analyzed: 2010-05-03 | Analyzed By: kg
Prep Batch: 59614 | QC Preparation: 2010-05-03 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	261	mg/Kg	1	250	<5.86	104	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	262	mg/Kg	1	250	<5.86	105	57.4 - 133.4	0	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	88.3	86.9	mg/Kg	1	100	88	87	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 69667 | Date Analyzed: 2010-05-04 | Analyzed By: AR
Prep Batch: 59556 | QC Preparation: 2010-04-30 | Prepared By: AR

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	103	mg/Kg	1	100	<2.18	103	85 - 115	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 69668 | Date Analyzed: 2010-05-04 | Analyzed By: AR
Prep Batch: 59557 | QC Preparation: 2010-04-30 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.1	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	99.9	mg/Kg	1	100	<2.18	100	85 - 115	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 69669 | Date Analyzed: 2010-05-04 | Analyzed By: AR
Prep Batch: 59558 | QC Preparation: 2010-04-30 | 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	99.8	mg/Kg	1	100	<2.18	100	85 - 115	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 69670 | Date Analyzed: 2010-05-04 | Analyzed By: AR
Prep Batch: 59559 | QC Preparation: 2010-04-30 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.6	mg/Kg	1	100	<2.18	99	85 - 115

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

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

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

Matrix Spike (MS-1) Spiked Sample: 229865

QC Batch: 69560 | Date Analyzed: 2010-04-29 | Analyzed By: kg
Prep Batch: 59537 | QC Preparation: 2010-04-29 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	284	mg/Kg	1	250	150	54	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	340	mg/Kg	1	250	150	76	35.2 - 167.1	18	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	121	117	mg/Kg	1	100	121	117	70 - 130

Matrix Spike (MS-1) Spiked Sample: 229858

QC Batch: 69564 | Date Analyzed: 2010-04-29 | Analyzed By: AG
Prep Batch: 59540 | QC Preparation: 2010-04-29 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.90	mg/Kg	1	2.00	<0.00410	95	57.7 - 140.7
Toluene	1.97	mg/Kg	1	2.00	<0.00310	98	53.4 - 146.6

continued ...

matrix spikes continued ...

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Ethylbenzene	1.98	mg/Kg	1	2.00	<0.00240	99	62.1 - 141.6
Xylene	5.95	mg/Kg	1	6.00	<0.00650	99	61.2 - 142.7

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.31	mg/Kg	1	2.00	<0.00410	116	57.7 - 140.7	20	20
Toluene	2.38	mg/Kg	1	2.00	<0.00310	119	53.4 - 146.6	19	20
Ethylbenzene	2.37	mg/Kg	1	2.00	<0.00240	118	62.1 - 141.6	18	20
Xylene	7.17	mg/Kg	1	6.00	<0.00650	120	61.2 - 142.7	19	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.30	1.71	mg/Kg	1	2	65	86	61.7 - 139.6
4-Bromofluorobenzene (4-BFB)	1.25	1.61	mg/Kg	1	2	62	80	49.6 - 146.7

Matrix Spike (MS-1) Spiked Sample: 229837

QC Batch: 69565 | Date Analyzed: 2010-04-29 | Analyzed By: AG
Prep Batch: 59540 | QC Preparation: 2010-04-29 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	17.1	mg/Kg	1	20.0	<0.396	86	10 - 198.3

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	18.7	mg/Kg	1	20.0	<0.396	94	10 - 198.3	9	20

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

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	[4]	1.96	0.796	mg/Kg	1	2	98	40	65.5 - 143
4-Bromofluorobenzene (4-BFB)	[5]	2.09	0.983	mg/Kg	1	2	104	49	58.6 - 140

[4] Surrogate out due to peak interference.
[5] Surrogate out due to peak interference.

Matrix Spike (MS-1) Spiked Sample: 230038

QC Batch: 69648 | Date Analyzed: 2010-05-03 | Analyzed By: kg
Prep Batch: 59614 | QC Preparation: 2010-05-03 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	222	mg/Kg	1	250	<5.86	89	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	234	mg/Kg	1	250	<5.86	94	35.2 - 167.1	5	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	76.0	78.2	mg/Kg	1	100	76	78	70 - 130

Matrix Spike (MS-1) Spiked Sample: 229855

QC Batch: 69667 | Date Analyzed: 2010-05-04 | Analyzed By: AR
Prep Batch: 59556 | QC Preparation: 2010-04-30 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	15800	mg/Kg	100	10000	5190	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	16000	mg/Kg	100	10000	5190	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: 229865

QC Batch: 69668 | Date Analyzed: 2010-05-04 | Analyzed By: AR
Prep Batch: 59557 | QC Preparation: 2010-04-30 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	15700	mg/Kg	100	10000	5530	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	16000	mg/Kg	100	10000	5530	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: 229875

QC Batch: 69669 | Date Analyzed: 2010-05-04 | Analyzed By: AR
Prep Batch: 59558 | QC Preparation: 2010-04-30 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10500	mg/Kg	100	10000	485	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	10800	mg/Kg	100	10000	485	103	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: 229926

QC Batch: 69670 | Date Analyzed: 2010-05-04 | Analyzed By: AR
Prep Batch: 59559 | QC Preparation: 2010-04-30 | 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.

Standard (CCV-1)

QC Batch: 69560 | Date Analyzed: 2010-04-29 | Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	229	92	80 - 120	2010-04-29

Standard (CCV-2)

QC Batch: 69560 Date Analyzed: 2010-04-29 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	254	102	80 - 120	2010-04-29

Standard (CCV-3)

QC Batch: 69560 Date Analyzed: 2010-04-29 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	276	110	80 - 120	2010-04-29

Standard (CCV-1)

QC Batch: 69564 Date Analyzed: 2010-04-29 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	0.0965	96	80 - 120	2010-04-29
Toluene		mg/Kg	0.100	0.0953	95	80 - 120	2010-04-29
Ethylbenzene		mg/Kg	0.100	0.0906	91	80 - 120	2010-04-29
Xylene		mg/Kg	0.300	0.274	91	80 - 120	2010-04-29

Standard (CCV-2)

QC Batch: 69564 Date Analyzed: 2010-04-29 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	0.0944	94	80 - 120	2010-04-29
Toluene		mg/Kg	0.100	0.0939	94	80 - 120	2010-04-29
Ethylbenzene		mg/Kg	0.100	0.0917	92	80 - 120	2010-04-29
Xylene		mg/Kg	0.300	0.275	92	80 - 120	2010-04-29

Standard (CCV-3)

QC Batch: 69564 Date Analyzed: 2010-04-29 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	0.0961	96	80 - 120	2010-04-29
Toluene		mg/Kg	0.100	0.0959	96	80 - 120	2010-04-29
Ethylbenzene		mg/Kg	0.100	0.0944	94	80 - 120	2010-04-29
Xylene		mg/Kg	0.300	0.283	94	80 - 120	2010-04-29

Standard (CCV-1)

QC Batch: 69565 Date Analyzed: 2010-04-29 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	1.05	105	80 - 120	2010-04-29

Standard (CCV-2)

QC Batch: 69565 Date Analyzed: 2010-04-29 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	0.946	95	80 - 120	2010-04-29

Standard (CCV-3)

QC Batch: 69565 Date Analyzed: 2010-04-29 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	0.986	99	80 - 120	2010-04-29

Standard (CCV-1)

QC Batch: 69648 Date Analyzed: 2010-05-03 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	275	110	80 - 120	2010-05-03

Standard (CCV-2)

QC Batch: 69648 | Date Analyzed: 2010-05-03 | Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	252	101	80 - 120	2010-05-03

Standard (ICV-1)

QC Batch: 69667 | Date Analyzed: 2010-05-04 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.7	98	85 - 115	2010-05-04

Standard (CCV-1)

QC Batch: 69667 | Date Analyzed: 2010-05-04 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	102	102	85 - 115	2010-05-04

Standard (ICV-1)

QC Batch: 69668 | Date Analyzed: 2010-05-04 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.4	99	85 - 115	2010-05-04

Standard (CCV-1)

QC Batch: 69668 | Date Analyzed: 2010-05-04 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-05-04

Standard (ICV-1)

QC Batch: 69669 | Date Analyzed: 2010-05-04 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.6	100	85 - 115	2010-05-04

Standard (CCV-1)

QC Batch: 69669 | Date Analyzed: 2010-05-04 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-05-04

Standard (ICV-1)

QC Batch: 69670 | Date Analyzed: 2010-05-04 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-05-04

Standard (CCV-1)

QC Batch: 69670 | Date Analyzed: 2010-05-04 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.6	100	85 - 115	2010-05-04

Order #: 10042912

Analysis Request of Chain of Custody Record

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

PAGE: 1 OF: 3

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400502

PROJECT NAME: COG / RJU Inj. Line Leak Eddy Co, NM

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. / TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
229831	4/22		S		X	AH-1 0-1'	1				X		X	X											X				
832						AH-1 1'-1.5'																							
833						AH-1 2'-2.5'																							
834						AH-1 3'-3.5'																							
835						AH-1 4'-4.5'																							
836						AH-1 5'-5.5'																							
837						AH-1 5.5'-6'																							
838						AH-2 0-1'							X	X															
839						AH-2 1'-1.5'																							
840	▼		▼		▼	AH-2 2'-2.5'	▼				▼														▼				

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature)	Date: 4/28/10 Time: 1648	RECEIVED BY: (Signature)	Date: 4/28/10 Time: 1648
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:

SAMPLED BY: (Print & Initial) JT/TF Date: 4/22/10 Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS AIRBILL #: OTHER:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: Xenco
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE: RECEIVED BY: (Signature) DATE: TIME:

SAMPLE CONDITION WHEN RECEIVED: 4.0 C intact

REMARKS: If Total TPH exceeds 5,000 mg/kg run deeper samples If total BTEX is greater than 50 mg/kg run deeper samples

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

TL Benzene is greater than 10 mg/kg run deeper samples

Order #: 10042912

Analysis Request of Chain of Custody Record

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

PAGE: 2 OF: 3

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400502

PROJECT NAME: COG / RJU Inj. Line Leak Eddy Co. NM

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
229861	4/22		S		X	AH-2 3'-3.5'	1				X													X				
862						AH-2 4'-4.5'																						
863						AH-2 4.5'-5'																						
864						AH-3 0-1' 1' BEB							X	X														
865						AH-3 0-1' 1' BEB							X	X														
866						AH-4 1'-1.5' 1' BEB																						
867						AH-4 2'-2.5' 1' BEB																						
868						AH-4 3'-3.5' 1' BEB																						
869						AH-4 4'-4.5' 1' BEB																						
870						AH-4 4.5'-5' 1' BEB																						

RELINQUISHED BY: (Signature) Date: 4/28/10 Time: 1646
RECEIVED BY: (Signature) Date: 4/28/10 Time: 1646
SAMPLED BY: (Print & Initial) JT / TF Date: 4/27/10 Time:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS
AIRBILL #:
OTHER:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
TETRA TECH CONTACT PERSON: Ike Tavarez
Results by:

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 4.0°c intact

REMARKS: If total TPH exceeds 5,000 mg/kg run deeper samples If total BTEX is greater than 50 mg/kg run deeper samples. If Benzene is greater than 10 mg/kg run deeper samples

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

Order #: 1004291 2

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: Ike Tavarez
PROJECT NO.: 114-6400502
PROJECT NAME: COG / RJU Inj. Line Leak, Eddy Co, NM

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
229871	4/22		S		X	AH-5 0-1' 0.5' BEB	1				X		X	X											X				
872	↓		↓		↓	AH-5 1'-1.5' 0.5' BEB	↓				↓														↓				
873	↓		↓		↓	AH-5 2'-2.5' 0.5' BEB	↓				↓														↓				
874	↓		↓		↓	AH-5 3'-3.5' 0.5' BEB	↓				↓														↓				
875	↓		↓		↓	AH-5 4'-4.5' 0.5' BEB	↓				↓														↓				
876	↓		↓		↓	AH-5 5'-5.5' 0.5' BEB	↓				↓														↓				
877	↓		↓		↓	AH-5 5.5'-6' 0.5' BEB	↓				↓														↓				

RELINQUISHED BY: (Signature) [signature] Date: 4/28/10 Time: 16:40
RECEIVED BY: (Signature) [signature] Date: 4/28/10 Time: 16:40
SAMPLED BY: (Print & Initial) JT / TF Date: 4/22/10 Time:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS (HAND DELIVERED) UPS AIRBILL #: OTHER:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
TETRA TECH CONTACT PERSON: Ike Tavarez
Results by:
RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: Tracy
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:

SAMPLE CONDITION WHEN RECEIVED: 4.0°c intact

REMARKS: If total TPH exceeds 5,000 mg/kg run deeper samples. If total BTEX is greater than 50 mg/kg run deeper samples.

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

If Benzene is greater than 10 mg/kg run deeper

Summary Report

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

Report Date: August 20, 2010

Work Order: 10081643

Project Location: Eddy County, NM
Project Name: COG/RJU Inj. Line Leak
Project Number: 114-6400502

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
241231	SB-1 1'	soil	2010-08-12	00:00	2010-08-13
241232	SB-1 3'	soil	2010-08-12	00:00	2010-08-13
241233	SB-1 5'	soil	2010-08-12	00:00	2010-08-13
241234	SB-1 7'	soil	2010-08-12	00:00	2010-08-13
241235	SB-1 10'	soil	2010-08-12	00:00	2010-08-13
241236	SB-1 15'	soil	2010-08-12	00:00	2010-08-13
241237	SB-1 20'	soil	2010-08-12	00:00	2010-08-13
241238	SB-1 25'	soil	2010-08-12	00:00	2010-08-13
241239	SB-1 30'	soil	2010-08-12	00:00	2010-08-13
241240	SB-2 1'	soil	2010-08-12	00:00	2010-08-13
241241	SB-2 3'	soil	2010-08-12	00:00	2010-08-13
241242	SB-2 5'	soil	2010-08-12	00:00	2010-08-13
241243	SB-2 7'	soil	2010-08-12	00:00	2010-08-13
241244	SB-2 10'	soil	2010-08-12	00:00	2010-08-13
241245	SB-2 15'	soil	2010-08-12	00:00	2010-08-13
241246	SB-2 20'	soil	2010-08-12	00:00	2010-08-13
241247	SB-2 25'	soil	2010-08-12	00:00	2010-08-13
241248	SB-2 30'	soil	2010-08-12	00:00	2010-08-13
241249	SB-3 1'	soil	2010-08-12	00:00	2010-08-13
241250	SB-3 3'	soil	2010-08-12	00:00	2010-08-13
241251	SB-3 5'	soil	2010-08-12	00:00	2010-08-13
241252	SB-3 7'	soil	2010-08-12	00:00	2010-08-13
241253	SB-3 10'	soil	2010-08-12	00:00	2010-08-13
241254	SB-3 15'	soil	2010-08-12	00:00	2010-08-13
241255	SB-3 20'	soil	2010-08-12	00:00	2010-08-13
241256	SB-3 25'	soil	2010-08-12	00:00	2010-08-13
241257	SB-3 30'	soil	2010-08-12	00:00	2010-08-13

Sample - Field Code	BTEX Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
241231 - SB-1 1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
241240 - SB-2 1'	<0.0200	<0.0200	<0.0200	<0.0200	**110**	<2.00
241249 - SB-3 1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00

Sample: 241231 - SB-1 1'

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

Sample: 241232 - SB-1 3'

Param	Flag	Result	Units	RL
Chloride		**335**	mg/Kg	4.00

Sample: 241233 - SB-1 5'

Param	Flag	Result	Units	RL
Chloride		**4460**	mg/Kg	4.00

Sample: 241234 - SB-1 7'

Param	Flag	Result	Units	RL
Chloride		**11200**	mg/Kg	4.00

Sample: 241235 - SB-1 10'

Param	Flag	Result	Units	RL
Chloride		**10700**	mg/Kg	4.00

Sample: 241236 - SB-1 15'

Param	Flag	Result	Units	RL
Chloride		**1810**	mg/Kg	4.00

Sample: 241237 - SB-1 20'

continued ...

sample 241237 continued ...

Param	Flag	Result	Units	RL

Param	Flag	Result	Units	RL
Chloride		**408**	mg/Kg	4.00

Sample: 241238 - SB-1 25'

Param	Flag	Result	Units	RL
Chloride		**240**	mg/Kg	4.00

Sample: 241239 - SB-1 30'

Param	Flag	Result	Units	RL
Chloride		**392**	mg/Kg	4.00

Sample: 241240 - SB-2 1'

Param	Flag	Result	Units	RL
Chloride		**586**	mg/Kg	4.00

Sample: 241241 - SB-2 3'

Param	Flag	Result	Units	RL
Chloride		**2490**	mg/Kg	4.00

Sample: 241242 - SB-2 5'

Param	Flag	Result	Units	RL
Chloride		**586**	mg/Kg	4.00

Sample: 241243 - SB-2 7'

Param	Flag	Result	Units	RL
Chloride		**6810**	mg/Kg	4.00

Sample: 241244 - SB-2 10'

Param	Flag	Result	Units	RL
Chloride		**1380**	mg/Kg	4.00

Sample: 241245 - SB-2 15'

Param	Flag	Result	Units	RL
Chloride		**1090**	mg/Kg	4.00

Sample: 241246 - SB-2 20'

Param	Flag	Result	Units	RL
Chloride		**586**	mg/Kg	4.00

Sample: 241247 - SB-2 25'

Param	Flag	Result	Units	RL
Chloride		**412**	mg/Kg	4.00

Sample: 241248 - SB-2 30'

Param	Flag	Result	Units	RL
Chloride		**275**	mg/Kg	4.00

Sample: 241249 - SB-3 1'

Param	Flag	Result	Units	RL
Chloride		**1470**	mg/Kg	4.00

Sample: 241250 - SB-3 3'

Param	Flag	Result	Units	RL
Chloride		**2330**	mg/Kg	4.00

Sample: 241251 - SB-3 5'

Param	Flag	Result	Units	RL
Chloride		**2930**	mg/Kg	4.00

Sample: 241252 - SB-3 7'

Param	Flag	Result	Units	RL
Chloride		**9710**	mg/Kg	4.00

Sample: 241253 - SB-3 10'

Param	Flag	Result	Units	RL
Chloride		**3170**	mg/Kg	4.00

Sample: 241254 - SB-3 15'

Param	Flag	Result	Units	RL
Chloride		**1250**	mg/Kg	4.00

Sample: 241255 - SB-3 20'

Param	Flag	Result	Units	RL
Chloride		**903**	mg/Kg	4.00

Sample: 241256 - SB-3 25'

Param	Flag	Result	Units	RL
Chloride		**228**	mg/Kg	4.00

Sample: 241257 - SB-3 30'

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

TRACEANALYSIS, INC.

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

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

Report Date: August 20, 2010

Work Order: 10081643

Project Location: Eddy County, NM
Project Name: COG/RJU Inj. Line Leak
Project Number: 114-6400502

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
241231	SB-1 1'	soil	2010-08-12	00:00	2010-08-13
241232	SB-1 3'	soil	2010-08-12	00:00	2010-08-13
241233	SB-1 5'	soil	2010-08-12	00:00	2010-08-13
241234	SB-1 7'	soil	2010-08-12	00:00	2010-08-13
241235	SB-1 10'	soil	2010-08-12	00:00	2010-08-13
241236	SB-1 15'	soil	2010-08-12	00:00	2010-08-13
241237	SB-1 20'	soil	2010-08-12	00:00	2010-08-13
241238	SB-1 25'	soil	2010-08-12	00:00	2010-08-13
241239	SB-1 30'	soil	2010-08-12	00:00	2010-08-13
241240	SB-2 1'	soil	2010-08-12	00:00	2010-08-13

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
241241	SB-2 3'	soil	2010-08-12	00:00	2010-08-13
241242	SB-2 5'	soil	2010-08-12	00:00	2010-08-13
241243	SB-2 7'	soil	2010-08-12	00:00	2010-08-13
241244	SB-2 10'	soil	2010-08-12	00:00	2010-08-13
241245	SB-2 15'	soil	2010-08-12	00:00	2010-08-13
241246	SB-2 20'	soil	2010-08-12	00:00	2010-08-13
241247	SB-2 25'	soil	2010-08-12	00:00	2010-08-13
241248	SB-2 30'	soil	2010-08-12	00:00	2010-08-13
241249	SB-3 1'	soil	2010-08-12	00:00	2010-08-13
241250	SB-3 3'	soil	2010-08-12	00:00	2010-08-13
241251	SB-3 5'	soil	2010-08-12	00:00	2010-08-13
241252	SB-3 7'	soil	2010-08-12	00:00	2010-08-13
241253	SB-3 10'	soil	2010-08-12	00:00	2010-08-13
241254	SB-3 15'	soil	2010-08-12	00:00	2010-08-13
241255	SB-3 20'	soil	2010-08-12	00:00	2010-08-13
241256	SB-3 25'	soil	2010-08-12	00:00	2010-08-13
241257	SB-3 30'	soil	2010-08-12	00:00	2010-08-13

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

Blair Leftwich

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/RJU Inj. Line Leak were received by TraceAnalysis, Inc. on 2010-08-13 and assigned to work order 10081643. Samples for work order 10081643 were received intact at a temperature of 18.0 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	62330	2010-08-18 at 09:15	72769	2010-08-18 at 11:58
Chloride (Titration)	SM 4500-Cl B	62312	2010-08-17 at 11:03	72698	2010-08-17 at 16:18
Chloride (Titration)	SM 4500-Cl B	62313	2010-08-17 at 11:04	72699	2010-08-17 at 16:19
Chloride (Titration)	SM 4500-Cl B	62314	2010-08-17 at 12:05	72700	2010-08-17 at 16:20
TPH DRO - NEW	S 8015 D	62397	2010-08-19 at 10:46	72774	2010-08-19 at 10:46
TPH GRO	S 8015 D	62330	2010-08-18 at 09:15	72770	2010-08-18 at 12:25

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 10081643 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.

Samples received on ice.

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: 241231 - SB-1 1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	72769	Date Analyzed:	2010-08-18	Analyzed By:	AG
Prep Batch:	62330	Sample Preparation:	2010-08-18	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]	0.996	mg/Kg	1	2.00	50	52.8 - 137
4-Bromofluorobenzene (4-BFB)		0.900	mg/Kg	1	2.00	45	38.4 - 157

Sample: 241231 - SB-1 1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72698	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62312	Sample Preparation:	2010-08-17	Prepared By:	AR

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

Sample: 241231 - SB-1 1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	72774	Date Analyzed:	2010-08-19	Analyzed By:	kg
Prep Batch:	62397	Sample Preparation:	2010-08-19	Prepared By:	kg

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

[1] SPECIAL-TFT is out of control limits due to an unknown anomaly. However, 4-BFB is within control limits and shows the method to be in control. •

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		111	mg/Kg	1	100	111	70 - 130

Sample: 241231 - SB-1 1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	72770	Date Analyzed:	2010-08-18	Analyzed By:	AG
Prep Batch:	62330	Sample Preparation:	2010-08-18	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)		1.10	mg/Kg	1	2.00	55	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.01	mg/Kg	1	2.00	50	42 - 159

Sample: 241232 - SB-1 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72698	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62312	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**335**	mg/Kg	50	4.00

Sample: 241233 - SB-1 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72698	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62312	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**4460**	mg/Kg	100	4.00

Sample: 241234 - SB-1 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72698	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62312	Sample Preparation:	2010-08-17	Prepared By:	AR

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

Sample: 241235 - SB-1 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72698	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62312	Sample Preparation:	2010-08-17	Prepared By:	AR

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

Sample: 241236 - SB-1 15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72698	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62312	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**1810**	mg/Kg	100	4.00

Sample: 241237 - SB-1 20'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72698	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62312	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**408**	mg/Kg	50	4.00

Sample: 241238 - SB-1 25'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72698	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62312	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**240**	mg/Kg	50	4.00

Sample: 241239 - SB-1 30'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72698	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62312	Sample Preparation:	2010-08-17	Prepared By:	AR

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

Sample: 241240 - SB-2 1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	72769	Date Analyzed:	2010-08-18	Analyzed By:	AG
Prep Batch:	62330	Sample Preparation:	2010-08-18	Prepared By:	AG

Parameter	Flag	Result	RL 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)		1.17	mg/Kg	1	2.00	58	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.10	mg/Kg	1	2.00	55	38.4 - 157

Sample: 241240 - SB-2 1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72699	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62313	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**586**		mg/Kg	50	4.00

Sample: 241240 - SB-2 1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	72774	Date Analyzed:	2010-08-19	Analyzed By:	kg
Prep Batch:	62397	Sample Preparation:	2010-08-19	Prepared By:	kg

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		**110**		mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	[2]	132	mg/Kg	1	100	132	70 - 130

Sample: 241240 - SB-2 1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	72770	Date Analyzed:	2010-08-18	Analyzed By:	AG
Prep Batch:	62330	Sample Preparation:	2010-08-18	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.32	mg/Kg	1	2.00	66	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.21	mg/Kg	1	2.00	60	42 - 159

[2] High surrogate recovery due to peak interference.

Sample: 241241 - SB-2 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72699	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62313	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**2490**	mg/Kg	100	4.00

Sample: 241242 - SB-2 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72699	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62313	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**586**	mg/Kg	50	4.00

Sample: 241243 - SB-2 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72699	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62313	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**6810**	mg/Kg	100	4.00

Sample: 241244 - SB-2 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72699	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62313	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1380**	mg/Kg	100	4.00

Sample: 241245 - SB-2 15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72699	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62313	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**1090**	mg/Kg	100	4.00

Sample: 241246 - SB-2 20'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72699	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62313	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**586**	mg/Kg	50	4.00

Sample: 241247 - SB-2 25'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72699	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62313	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**412**	mg/Kg	50	4.00

Sample: 241248 - SB-2 30'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72699	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62313	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**275**	mg/Kg	50	4.00

Sample: 241249 - SB-3 1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	72769	Date Analyzed:	2010-08-18	Analyzed By:	AG
Prep Batch:	62330	Sample Preparation:	2010-08-18	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)		1.94	mg/Kg	1	2.00	97	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.64	mg/Kg	1	2.00	82	38.4 - 157

Sample: 241249 - SB-3 1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72699	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62313	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1470**	mg/Kg	100	4.00

Sample: 241249 - SB-3 1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	72774	Date Analyzed:	2010-08-19	Analyzed By:	kg
Prep Batch:	62397	Sample Preparation:	2010-08-19	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		115	mg/Kg	1	100	115	70 - 130

Sample: 241249 - SB-3 1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	72770	Date Analyzed:	2010-08-18	Analyzed By:	AG
Prep Batch:	62330	Sample Preparation:	2010-08-18	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)		2.26	mg/Kg	1	2.00	113	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.80	mg/Kg	1	2.00	90	42 - 159

Sample: 241250 - SB-3 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72700	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62314	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**2330**	mg/Kg	100	4.00

Sample: 241251 - SB-3 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72700	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62314	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**2930**	mg/Kg	100	4.00

Sample: 241252 - SB-3 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72700	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62314	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**9710**	mg/Kg	100	4.00

Sample: 241253 - SB-3 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72700	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62314	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**3170**	mg/Kg	100	4.00

Sample: 241254 - SB-3 15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72700	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62314	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1250**	mg/Kg	100	4.00

Sample: 241255 - SB-3 20'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72700	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62314	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**903**	mg/Kg	100	4.00

Sample: 241256 - SB-3 25'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72700	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62314	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**228**	mg/Kg	50	4.00

Sample: 241257 - SB-3 30'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72700	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62314	Sample Preparation:	2010-08-17	Prepared By:	AR

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

Method Blank (1) QC Batch: 72698

QC Batch:	72698	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62312	QC Preparation:	2010-08-17	Prepared By:	AR

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

Method Blank (1) QC Batch: 72699

QC Batch:	72699	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62313	QC Preparation:	2010-08-17	Prepared By:	AR

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

Method Blank (1) QC Batch: 72700

QC Batch:	72700	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62314	QC Preparation:	2010-08-17	Prepared By:	AR

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

Method Blank (1) QC Batch: 72769

QC Batch: 72769 Date Analyzed: 2010-08-18 Analyzed By: AG
Prep Batch: 62330 QC Preparation: 2010-08-18 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)		1.78	mg/Kg	1	2.00	89	66.6 - 122
4-Bromofluorobenzene (4-BFB)		1.48	mg/Kg	1	2.00	74	55.4 - 132

Method Blank (1) QC Batch: 72770

QC Batch: 72770 Date Analyzed: 2010-08-18 Analyzed By: AG
Prep Batch: 62330 QC Preparation: 2010-08-18 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)		1.99	mg/Kg	1	2.00	100	67.6 - 150
4-Bromofluorobenzene (4-BFB)		1.60	mg/Kg	1	2.00	80	52.4 - 130

Method Blank (1) QC Batch: 72774

QC Batch: 72774 Date Analyzed: 2010-08-19 Analyzed By: kg
Prep Batch: 62397 QC Preparation: 2010-08-19 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		91.6	mg/Kg	1	100	92	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 72698 | Date Analyzed: 2010-08-17 | Analyzed By: AR
Prep Batch: 62312 | QC Preparation: 2010-08-17 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.6	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	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: 72699 | Date Analyzed: 2010-08-17 | Analyzed By: AR
Prep Batch: 62313 | QC Preparation: 2010-08-17 | Prepared By: AR

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	102	mg/Kg	1	100	<2.18	102	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: 72700 | Date Analyzed: 2010-08-17 | Analyzed By: AR
Prep Batch: 62314 | QC Preparation: 2010-08-17 | 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	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: 72769 | Date Analyzed: 2010-08-18 | Analyzed By: AG
Prep Batch: 62330 | QC Preparation: 2010-08-18 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.96	mg/Kg	1	2.00	<0.0150	98	81.9 - 108
Toluene	1.89	mg/Kg	1	2.00	<0.00950	94	81.9 - 107
Ethylbenzene	1.76	mg/Kg	1	2.00	<0.0106	88	78.4 - 107
Xylene	5.34	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	1.97	mg/Kg	1	2.00	<0.0150	98	81.9 - 108	0	20
Toluene	1.91	mg/Kg	1	2.00	<0.00950	96	81.9 - 107	1	20
Ethylbenzene	1.77	mg/Kg	1	2.00	<0.0106	88	78.4 - 107	1	20
Xylene	5.38	mg/Kg	1	6.00	<0.00930	90	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)	1.76	1.73	mg/Kg	1	2.00	88	86	70.2 - 114
4-Bromofluorobenzene (4-BFB)	1.65	1.64	mg/Kg	1	2.00	82	82	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 72770 | Date Analyzed: 2010-08-18 | Analyzed By: AG
Prep Batch: 62330 | QC Preparation: 2010-08-18 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	15.2	mg/Kg	1	20.0	<1.65	76	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	14.4	mg/Kg	1	20.0	<1.65	72	69.9 - 95.4	5	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.00	1.64	mg/Kg	1	2.00	100	82	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.78	1.59	mg/Kg	1	2.00	89	80	68.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 72774 | Date Analyzed: 2010-08-19 | Analyzed By: kg
Prep Batch: 62397 | QC Preparation: 2010-08-19 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	204	mg/Kg	1	250	<14.5	82	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	215	mg/Kg	1	250	<14.5	86	57.4 - 133.4	5	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	116	103	mg/Kg	1	100	116	103	70 - 130

Matrix Spike (MS-1) Spiked Sample: 241239

QC Batch: 72698 | Date Analyzed: 2010-08-17 | Analyzed By: AR
Prep Batch: 62312 | QC Preparation: 2010-08-17 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10300	mg/Kg	100	10000	392	99	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10500	mg/Kg	100	10000	392	101	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: 241249

QC Batch: 72699 | Date Analyzed: 2010-08-17 | Analyzed By: AR
Prep Batch: 62313 | QC Preparation: 2010-08-17 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	11000	mg/Kg	100	10000	1470	95	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	11300	mg/Kg	100	10000	1470	98	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: 241263

QC Batch: 72700 | Date Analyzed: 2010-08-17 | Analyzed By: AR
Prep Batch: 62314 | QC Preparation: 2010-08-17 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	13900	mg/Kg	100	10000	3920	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	14600	mg/Kg	100	10000	3920	107	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: 241219

QC Batch: 72769 | Date Analyzed: 2010-08-18 | Analyzed By: AG
Prep Batch: 62330 | QC Preparation: 2010-08-18 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.15	mg/Kg	1	2.00	<0.0150	108	80.5 - 112
Toluene	2.13	mg/Kg	1	2.00	<0.00950	106	82.4 - 113
Ethylbenzene	2.15	mg/Kg	1	2.00	<0.0106	108	83.9 - 114
Xylene	6.47	mg/Kg	1	6.00	<0.00930	108	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	[3]	1.52	mg/Kg	1	2.00	<0.0150	76	80.5 - 112	34	20
Toluene	[4]	1.50	mg/Kg	1	2.00	<0.00950	75	82.4 - 113	35	20
Ethylbenzene	[5]	1.51	mg/Kg	1	2.00	<0.0106	76	83.9 - 114	35	20
Xylene	[6]	4.57	mg/Kg	1	6.00	<0.00930	76	84 - 114	34	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.74	1.18	mg/Kg	1	2	87	59	41.3 - 117
4-Bromofluorobenzene (4-BFB)	1.67	1.14	mg/Kg	1	2	84	57	35.5 - 129

Matrix Spike (MS-1) Spiked Sample: 241299

QC Batch: 72770 | Date Analyzed: 2010-08-18 | Analyzed By: AG
Prep Batch: 62330 | QC Preparation: 2010-08-18 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	14.6	mg/Kg	1	20.0	<1.65	73	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	15.7	mg/Kg	1	20.0	<1.65	78	61.8 - 114	7	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.12	1.23	mg/Kg	1	2	56	62	50 - 162
4-Bromofluorobenzene (4-BFB)	1.16	1.27	mg/Kg	1	2	58	64	50 - 162

Matrix Spike (MS-1) Spiked Sample: 241291

QC Batch: 72774 | Date Analyzed: 2010-08-19 | Analyzed By: kg
Prep Batch: 62397 | QC Preparation: 2010-08-19 | Prepared By: kg

continued ...

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

matrix spikes continued ...

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	220	mg/Kg	1	250	<14.5	88	35.2 - 167.1

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	228	mg/Kg	1	250	<14.5	91	35.2 - 167.1	4	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	107	106	mg/Kg	1	100	107	106	70 - 130

Standard (ICV-1)

QC Batch: 72698 Date Analyzed: 2010-08-17 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	2010-08-17

Standard (CCV-1)

QC Batch: 72698 Date Analyzed: 2010-08-17 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.2	99	85 - 115	2010-08-17

Standard (ICV-1)

QC Batch: 72699 Date Analyzed: 2010-08-17 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-08-17

Standard (CCV-1)

QC Batch: 72699 | Date Analyzed: 2010-08-17 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.7	100	85 - 115	2010-08-17

Standard (ICV-1)

QC Batch: 72700 | Date Analyzed: 2010-08-17 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-08-17

Standard (CCV-1)

QC Batch: 72700 | Date Analyzed: 2010-08-17 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.7	100	85 - 115	2010-08-17

Standard (CCV-2)

QC Batch: 72769 | Date Analyzed: 2010-08-18 | 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	0.0980	98	80 - 120	2010-08-18
Toluene		mg/Kg	0.100	0.0947	95	80 - 120	2010-08-18
Ethylbenzene		mg/Kg	0.100	0.0888	89	80 - 120	2010-08-18
Xylene		mg/Kg	0.300	0.266	89	80 - 120	2010-08-18

Standard (CCV-3)

QC Batch: 72769 | Date Analyzed: 2010-08-18 | 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	0.0988	99	80 - 120	2010-08-18
Toluene		mg/Kg	0.100	0.0941	94	80 - 120	2010-08-18
Ethylbenzene		mg/Kg	0.100	0.0868	87	80 - 120	2010-08-18
Xylene		mg/Kg	0.300	0.261	87	80 - 120	2010-08-18

Standard (CCV-2)

QC Batch: 72770 Date Analyzed: 2010-08-18 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	1.07	107	80 - 120	2010-08-18

Standard (CCV-3)

QC Batch: 72770 Date Analyzed: 2010-08-18 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	0.875	88	80 - 120	2010-08-18

Standard (CCV-2)

QC Batch: 72774 Date Analyzed: 2010-08-19 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	233	93	80 - 120	2010-08-19

Standard (CCV-3)

QC Batch: 72774 Date Analyzed: 2010-08-19 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	233	93	80 - 120	2010-08-19

Standard (CCV-4)

QC Batch: 72774 | Date Analyzed: 2010-08-19 | Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	228	91	80 - 120	2010-08-19

WO#: 10081643

Analysis Request of Chain of Custody Record

PAGE: | OF: 3

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:	SITE MANAGER:
COG	Ike Tavarez

PROJECT NO.:	PROJECT NAME:
114-640052	COG / RJV Injection Line Eddy Co., NM

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
241231	8/12		S		X	SB-1 1'	1				X		X	X											X				
232	"		"		"	SB-1 3'	1				X														X				
233						SB-1 5'	1				X														X				
234						SB-1 7'	1				X														X				
235						SB-1 10'	1				X														X				
236						SB-1 15'	1				X														X				
237						SB-1 20'	1				X														X				
238						SB-1 25'	1				X														X				
239						SB-1 30'	1				X														X				
240						SB-2 1'	1				X		X	X											X				

RELINQUISHED BY: (Signature)	Date: 8/13/10 Time: 10:00	RECEIVED BY: (Signature)	Date: 8/13/10 Time: 1000	SAMPLED BY: (Print & Initial) Kim	Date: 8/13/10 Time:
RELINQUISHED BY: (Signature)	Date: 8/13/10 Time: 15:45	RECEIVED BY: (Signature)	Date: Time:	SAMPLE SHIPPED BY: (Circle) FEDEX HAND DELIVERED BUS UPS	AIRBILL #: OTHER:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:	TETRA TECH CONTACT PERSON: Ike Tavarez	Results by:
RECEIVING LABORATORY: Trace ADDRESS: CITY: Midland STATE: TX ZIP: CONTACT: PHONE:		RECEIVED BY: (Signature) DATE: 8.13.10 TIME: 15:45			RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 18.0°C

REMARKS: If TAH > 5000 mg/kg Run deeper Samples

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

If total BTEX >50 mg/kg -or- Benzene >10 mg/kg Run deeper samples

WO#: 10081643

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: Ike Tavarez

PROJECT NO.: 114-6400502

PROJECT NAME: COG / RTV Injection Line
Eddy Co, NM

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
241241	8/12		S		X	SB-2 3'	1				X														X				
242						SB-2 5'	1				X														X				
243						SB-2 7'	1				X														X				
244						SB-2 10'	1				X														X				
245						SB-2 15'	1				X														X				
246						SB-2 20'	1				X														X				
247						SB-2 25'	1				X														X				
248						SB-2 30'	1				X														X				
249						SB-3 1'	1				X	X	X												X				
250						SB-3 3'	1				X														X				

RELINQUISHED BY: (Signature) Date: 8/13/10 Time: 10:30
RECEIVED BY: (Signature) Date: 8/13/10 Time: 10:30

RELINQUISHED BY: (Signature) Date: 8/13/10 Time: 15:45
RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Initial) Kim Date: 8/13/10 Time:

SAMPLE SHIPPED BY: (Circle) FEDEX HAND DELIVERED BUS UPS
AIRBILL #:
OTHER:

RECEIVING LABORATORY: TRACE
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: 8-13-10 TIME: 15:45

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 18.0° C

REMARKS: If TPH > 5000 mg/kg Run deeper samples

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

If Total BTEX > 50 mg/kg -or- Benzene > 10 mg/kg Run deeper samples

WO#: 10081643

Analysis Request of Chain of Custody Record

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:	SITE MANAGER:
COG	Ike Tavarez

PROJECT NO.:	PROJECT NAME:
114-6400502	COG / RTU Injection Line Eddy Co., NM

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH TX1005 (Ext. to C35)	TPH 8015 MOD.	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Aniona/Cations, pH, TDS
251	8/12		S		X	SB-3 5'	1				X															X				
252						SB-3 7'	1				X															X				
253						SB-3 10'	1				X															X				
254						SB-3 15'	1				X															X				
255						SB-3 20'	1				X															X				
256						SB-3 25'	1				X															X				
257						SB-3 30'	1				X															X				

RELINQUISHED BY: (Signature)	Date: 8/13/10 Time: 10:00	RECEIVED BY: (Signature)	Date: 8/13/10 Time: 1000
RELINQUISHED BY: (Signature)	Date: 8/13/10 Time: 1545	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:

SAMPLED BY: (Print & Initial) Kim — Date: 8/13/10 Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS — AIRBILL #: — OTHER:

TETRA TECH CONTACT PERSON: Ike Tavarez — Results by:

RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: TRACE
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: 8.13.10 TIME: 15:45

SAMPLE CONDITION WHEN RECEIVED: 18.0° C

REMARKS: If TPH > 5000 mg/kg Run deeper samples

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

If Total BTEX >50 mg/kg -or- Benzene >10 mg/kg [illegible]