SITE INFORMATION

Report Type: Closure Report

General Site Information:						
Site:	SRO 4" Water Transfer Line					
Company:	COG Operating LLC					
Section, Township and Range	Unit D	Sec 9	T26S	R28E		
Lease Number:	API-30-015-38257					
County:	Eddy County					
GPS:	32.06478° N			104.10001° W		
Surface Owner:	State					
Mineral Owner:						
Directions:	In Malaga on Hwy 285, travel south on Hwy 285 for 11.4 miles, turn right (west) onto Whites City Rd. (lease road) and travel for 2 miles, turn right (north) and travel 500', site is on right hand side of lease road.					

Release Data:	
Date Released:	2/24/2012
Type Release:	Produced Water
Source of Contamination:	Flowline failure
Fluid Released:	15 bbls
Fluids Recovered:	0 bbls

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

Ranking Criteria		
Depth to Groundwater:	***Ranking Score***	***Site Data***
<50 ft	20	20
50-99 ft	10	
>100 ft.	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*	
Total Ranking Score:	**20**	

Acceptable Soil RRAL (mg/kg)		
Benzene	***Total BTEX***	***TPH***
10	50	100

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November 13, 2012

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

Re: Closure Report for the COG Operating LLC., SRO 4" Water Transfer Line, Unit D, Section 9, Township 26 South, Range 28 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the SRO 4" Water Transfer Line located in Unit D, Section 9, Township 26 South, Range 28 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.06478°, W 104.10001°. 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 February 24, 2012, and released approximately fifteen (15) barrels of produced water from a flow line. To alleviate the problem, COG personnel repaired the flow line. Zero (0) barrels of standing fluids were recovered. The spill initiated east of the lease road affecting two areas measuring approximately 3' X 320' and 115' X 295' in the pasture. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 9. According to the NMOCD groundwater map, the depth to groundwater in this area appears to be approximately 50' below surface. The groundwater data is shown 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 100 mg/kg.

Soil Assessment and Analytical Results

On March 27, 2012, Tetra Tech personnel inspected and sampled the spill area. Ten (10) auger holes (AH-1 through AH-10) were installed using a stainless steel hand auger to assess the impacted soils. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3 and 4.

Referring to Table 1, none of the samples exceeded the RRAL for TPH or BTEX. Auger holes (AH-6, AH-9 and AH-10) did not show a chloride impact to these areas. However, the remaining areas did show elevated chloride concentrations in the soils and auger holes (AH-2, AH-3, AH-4, AH-5 and AH-8) while showing significant declines with depth, were not vertically defined. Based on the results, Tetra Tech will attempt to define the chloride impact during the remediation of the site.

Remediation and Conclusion

Based on the approved work plan, Tetra Tech personnel supervised the excavation of the site. The excavated depths ranged from 1.0' to 5.0' below surface. The excavation area measured approximately 3 x 320' at (AH-1, AH-2 and AH-3) and approxaimley 45' x 295' at (AH-4, AH-5, AH-7 and AH-8). The excavated areas and depths are highlighted in Table 1 and shown on Figure 5. Approximately 1,560 cubic yards of soil were excavated and transported to the R360 facility for proper disposal.

TETRA TECH

For delineation and evaluation, five (5) backhoe trenches (T-1 through T-5) were installed at AH-2 (T-3), AH-3 (T-4), AH-4 (T-5), AH-5 (T-2) and AH-8 (T-1). The soil samples were field screen for chlorides and submitted for analysis to vertically define the extents. The sampling results are summarized in Table 1. Based on the results, these areas were excavated to the appropriate depths. The area of AH-8 was excavated to a depth of 4.0' and capped with a 40 mil liner. In addition, a background trench was also installed 150' south of the spill area to compare surrounding background soils to the spill area soils.

Once completed, the excavations were backfilled with clean material to grade. In addition, the pasture area was prepared and seeded with a BLM mixture.

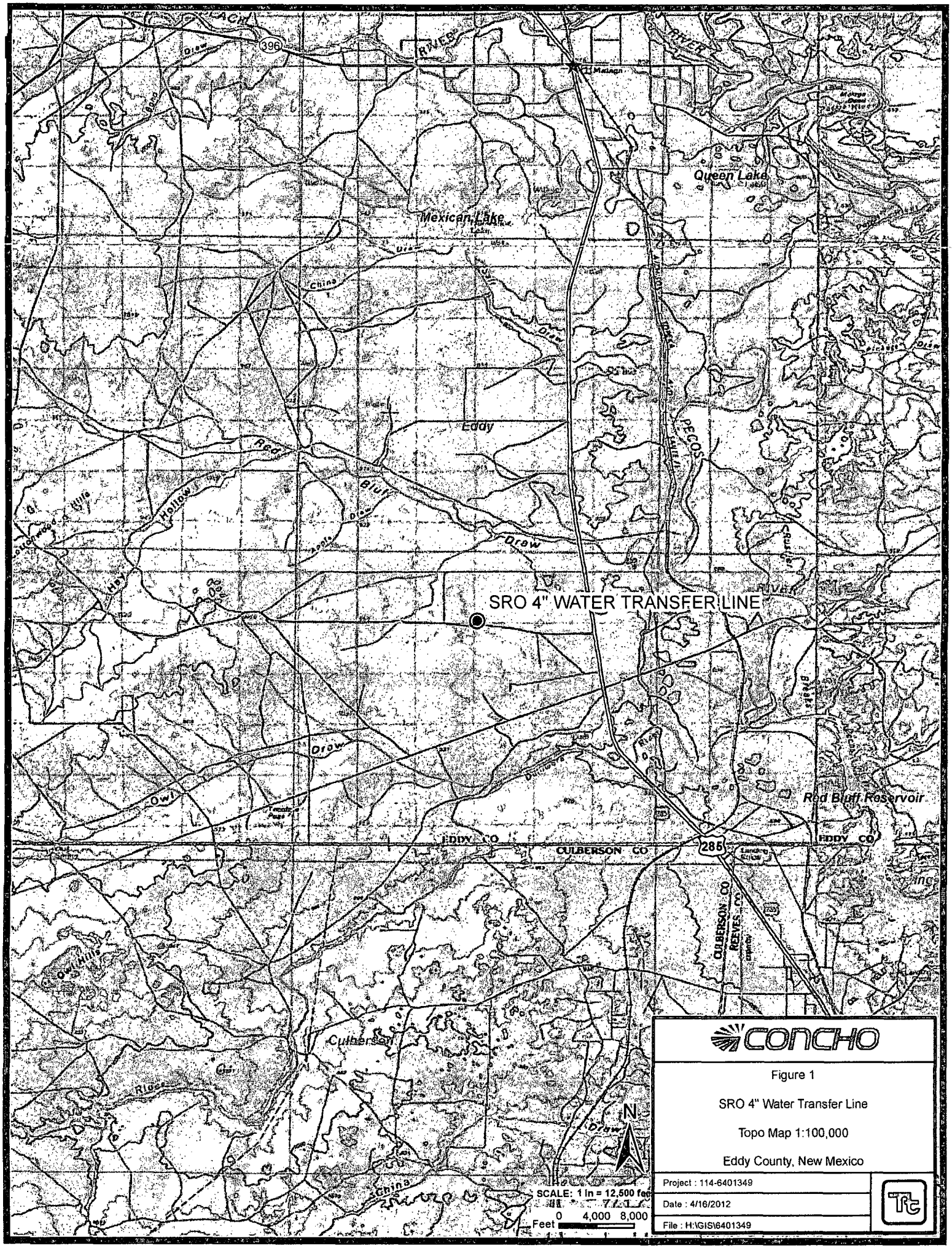
Based on the remedial activities performed, COG request closure of the site. A copy of the C-141 (Final) is included in Appendix A. If you have any questions or comments concerning the remedial activities, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Ike Tavarez
Senior Geologist

cc: Pat Ellis – COG

Figures



CONCHO

Figure 1

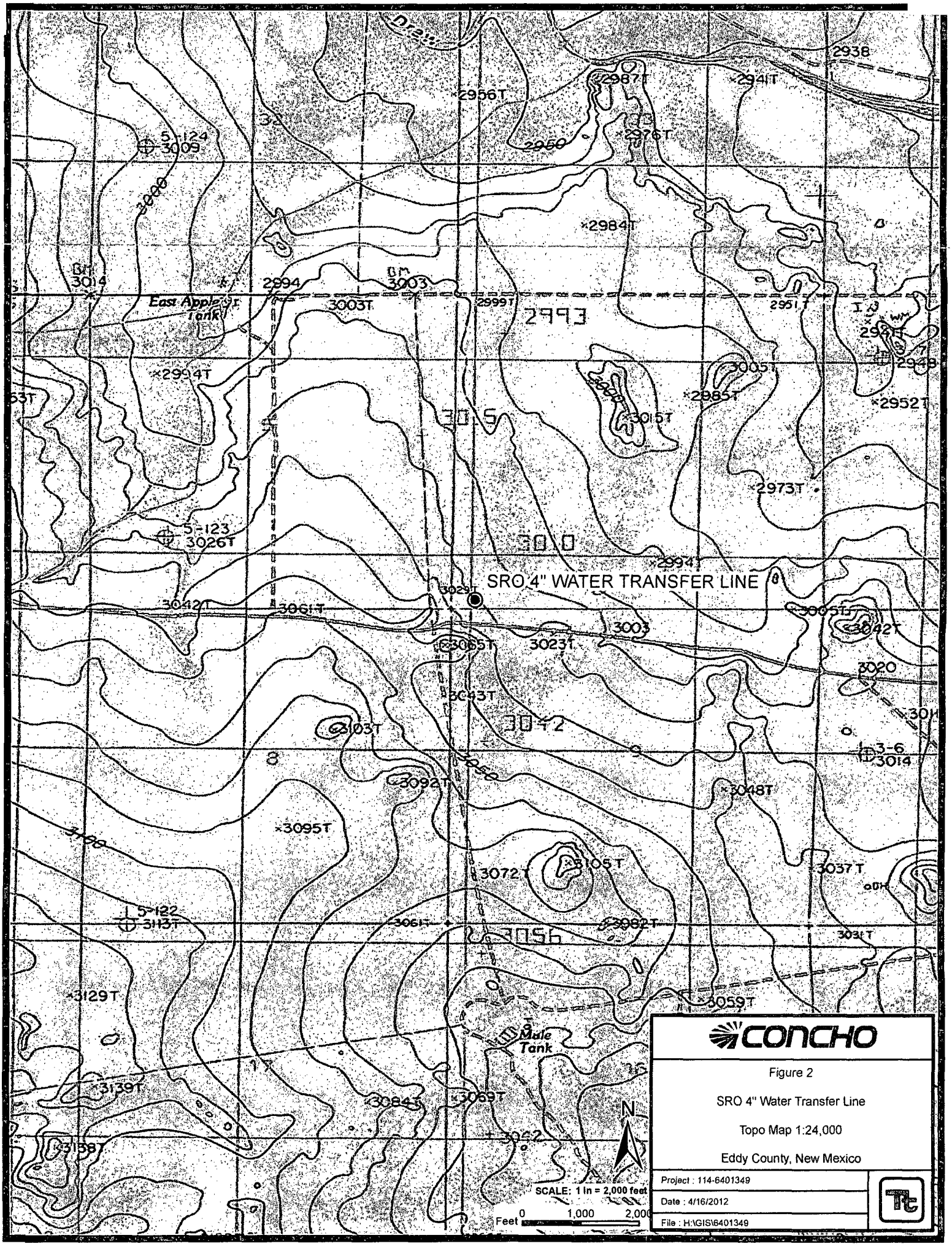
SRO 4" Water Transfer Line

Topo Map 1:100,000

Eddy County, New Mexico

Project : 114-6401349	
Date : 4/16/2012	
File : H:\GIS\6401349	

Drawn By: Isabel Marmolejo



CONCHO

Figure 2

SRO 4" Water Transfer Line

Topo Map 1:24,000

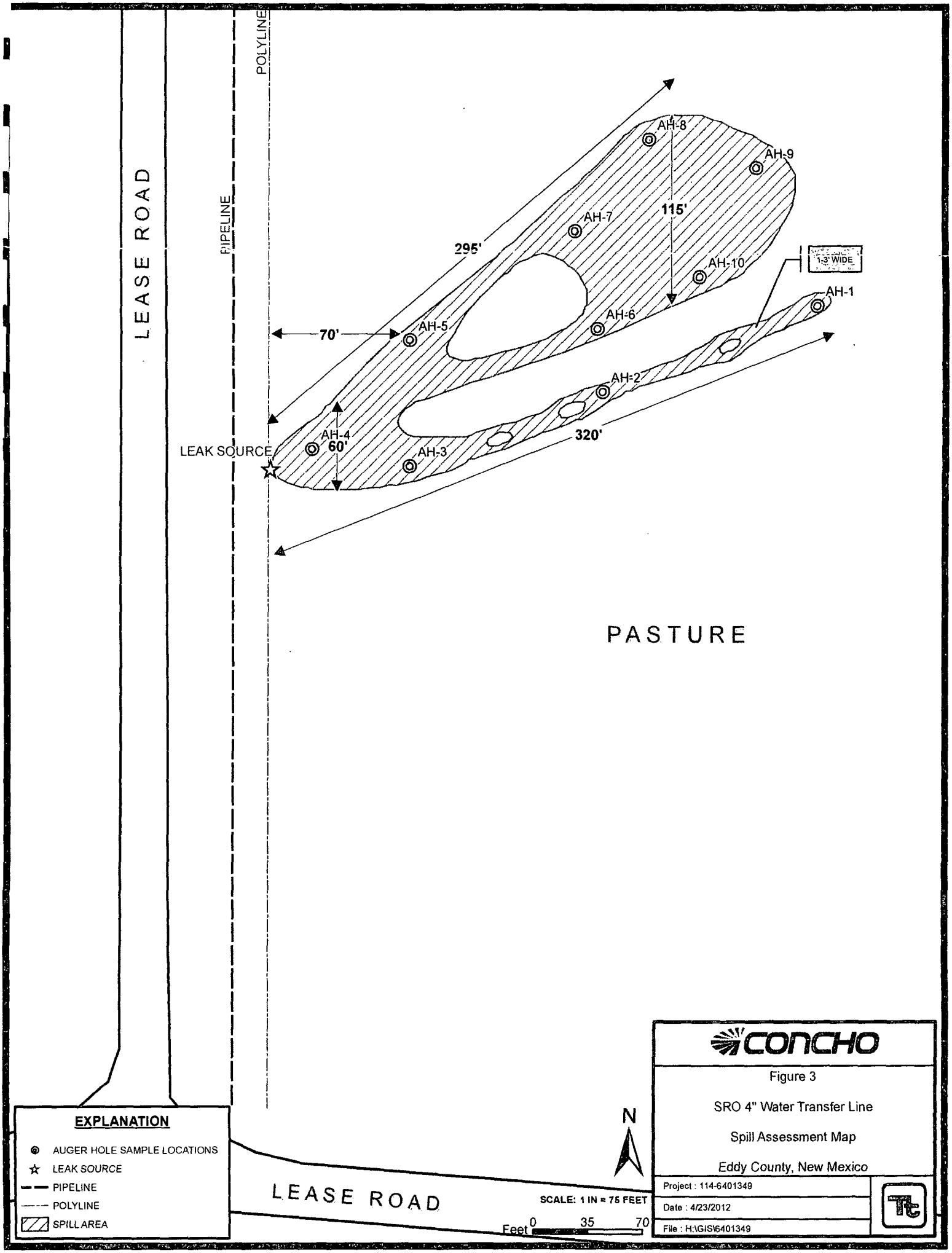
Eddy County, New Mexico

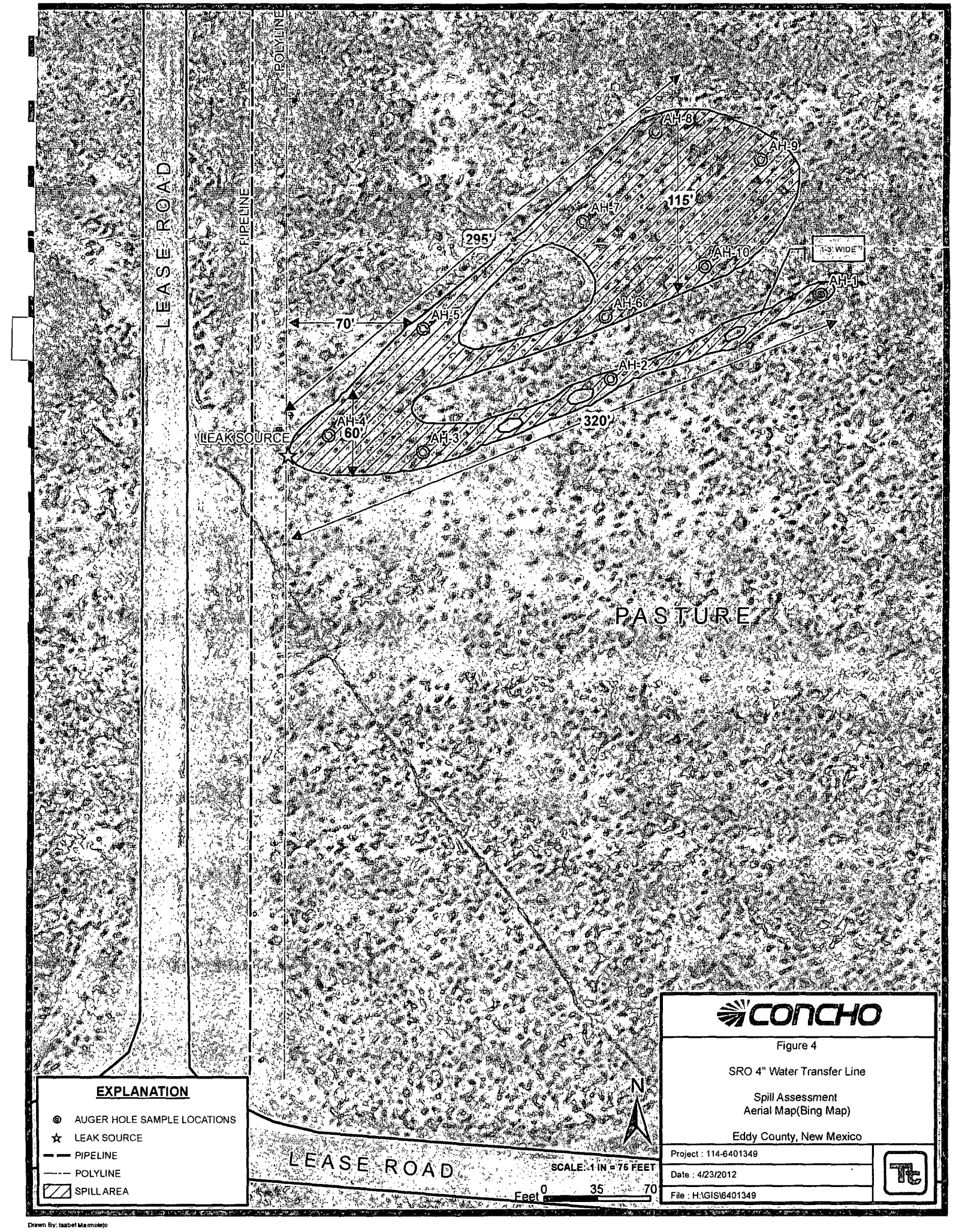
Project : 114-6401349

Date : 4/16/2012

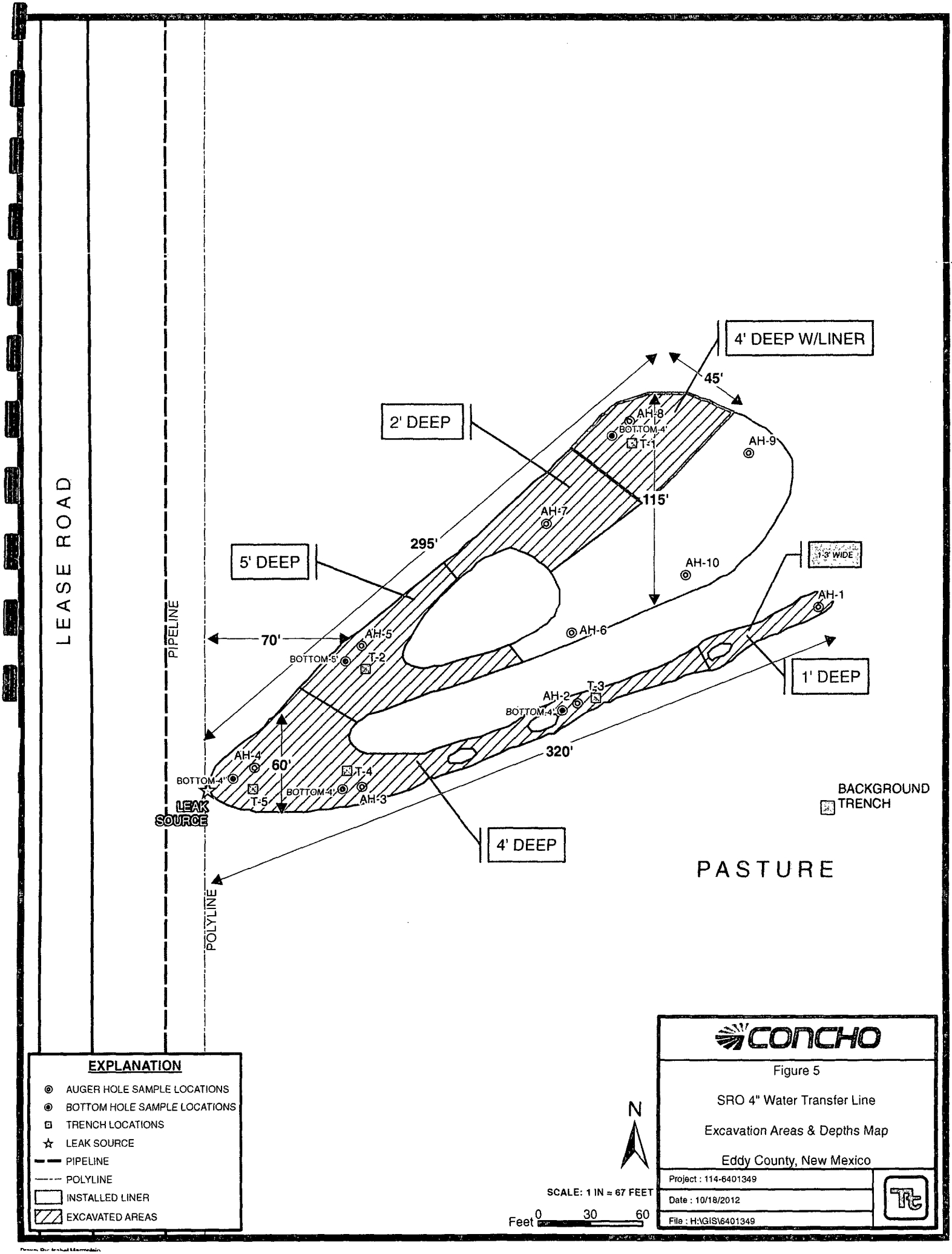
File : H:\GIS\6401349

Drawn By: Isabel Marmolejo


LEASE ROAD
PIPELINE
POLYLINE
AH-8
AH-9
AH-7
115'
295'
AH-10
1-3' WIDE
AH-1
AH-6
70'
AH-5
AH-2
AH-4
60'
320'
LEAK SOURCE
AH-3
PASTURE
EXPLANATION
AUGER HOLE SAMPLE LOCATIONS
LEAK SOURCE
PIPELINE
POLYLINE
SPILL AREA
LEASE ROAD
N
SCALE: 1 IN = 75 FEET
Feet 0 35 70
CONCHO
Figure 3
SRO 4" Water Transfer Line
Spill Assessment Map
Eddy County, New Mexico
Project : 114-6401349
Date : 4/23/2012
File : H:\GIS\6401349
Drawn By: Isabel Marmolejo



Drawn By: Isabel Marmolejo


LEASE ROAD
PIPELINE
POLYLINE
4' DEEP W/LINER
45'
2' DEEP
AH-8
BOTTOM-4'
T-1
AH-9
115'
AH-7
295'
5' DEEP
AH-10
1' WIDE
AH-1
70'
AH-5
BOTTOM-5'
T-2
AH-6
1' DEEP
T-3
AH-2
BOTTOM-4'
320'
AH-4
60'
T-4
BOTTOM-4'
BOTTOM-4'
T-5
AH-3
LEAK SOURCE
4' DEEP
BACKGROUND
TRENCH
PASTURE
EXPLANATION
AUGER HOLE SAMPLE LOCATIONS
BOTTOM HOLE SAMPLE LOCATIONS
TRENCH LOCATIONS
LEAK SOURCE
PIPELINE
POLYLINE
INSTALLED LINER
EXCAVATED AREAS
N
SCALE: 1 IN = 67 FEET
Feet 0 30 60
CONCHO
Figure 5
SRO 4" Water Transfer Line
Excavation Areas & Depths Map
Eddy County, New Mexico
Project : 114-6401349
Date : 10/18/2012
File : H:\GIS\6401349

TABLES

Table 1
COG Operating LLC.
SRO 4 Inch Water Transfer Line
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
AH-1	3/27/2012	0-1'		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	5,000
Bottom Hole 1'	"	1-1.5	X		-	-	-	-	-	-	-	-	<200
	"	2-2.5	X		-	-	-	-	-	-	-	-	381
	"	3-3.5	X		-	-	-	-	-	-	-	-	464
AH-2	3/27/2012	0-1'		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	14,400
	"	1-1.5'		X	-	-	-	-	-	-	-	-	9,360
	"	2-2.5'		X	-	-	-	-	-	-	-	-	1,840
Trench-3	6/20/2012	Bottom Hole 4'	X		-	-	-	-	-	-	-	-	226
	"	6	X		-	-	-	-	-	-	-	-	280
	"	8	X		-	-	-	-	-	-	-	-	368
	"	10	X		-	-	-	-	-	-	-	-	643
AH-3	3/27/2012	0-1'		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	17,700
	"	1-1.5		X	-	-	-	-	-	-	-	-	13,300
	"	2-2.5		X	-	-	-	-	-	-	-	-	9,920
Trench-4	6/21/2012	Bottom Hole 4'	X		-	-	-	-	-	-	-	-	221
	"	6	X		-	-	-	-	-	-	-	-	378
	"	8	X		-	-	-	-	-	-	-	-	472
	"	10	X		-	-	-	-	-	-	-	-	506

Table 1
COG Operating LLC.
SRO 4 Inch Water Transfer Line
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
AH-4	3/27/2012	0-1		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	13,200
Trench-5	6/21/2012	2		X	-	-	-	-	-	-	-	-	5,920
	"	Bottom Hole 4'	X		-	-	-	-	-	-	-	-	519
	"	6	X		-	-	-	-	-	-	-	-	569
	"	8	X		-	-	-	-	-	-	-	-	653
	"	10	X		-	-	-	-	-	-	-	-	697
AH-5	3/27/2012	0-1		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	13,700
	"	1-1.5		X	-	-	-	-	-	-	-	-	8,120
	"	2-2.5		X	-	-	-	-	-	-	-	-	5,810
	"	3-3.5		X	-	-	-	-	-	-	-	-	930
Trench-2	6/18/2012	3		X	-	-	-	-	-	-	-	-	1,380
	"	Bottom Hole 5'	X		-	-	-	-	-	-	-	-	416
	"	7	X		-	-	-	-	-	-	-	-	436
	"	9	X		-	-	-	-	-	-	-	-	516
AH-6	3/27/2012	0-1	X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<200
	"	1-1.5	X		-	-	-	-	-	-	-	-	<200
	"	2-2.5	X		-	-	-	-	-	-	-	-	203

Table 1
COG Operating LLC.
SRO 4 Inch Water Transfer Line
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
AH-7	3/27/2012	0-1		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	14,100
	"	1-1.5		X									7,000
Bottom Hole 2'	"	2-2.5	X		-	-	-	-	-	-	-	-	582
AH-8	3/27/2012	0-1		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	10,400
liner 4'	"	1-1.5		X				-					4,710
Trench-1	6/18/2012	7	X		-	-	-	-	-	-	-	-	802
Bottom Hole 4'	"	9	X		-	-	-	-	-	-	-	-	817
AH-9	3/27/2012	0-1	X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<200
	"	1-1.5	X		-	-	-	-	-	-	-	-	<200
AH-10	3/27/2012	0-1	X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<200
	"	1-1.5	X		-	-	-	-	-	-	-	-	<200

Table 1
COG Operating LLC.
SRO 4 Inch Water Transfer Line
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
Background	6/19/2012	surface	X		-	-	-	-	-	-	-	-	24.6
	"	2	X		-	-	-	-	-	-	-	-	<20.0
	"	4	X		-	-	-	-	-	-	-	-	<20.0
	"	6	X		-	-	-	-	-	-	-	-	266
	"	8	X		-	-	-	-	-	-	-	-	421
	"	10	X		-	-	-	-	-	-	-	-	601
	"	12	X		-	-	-	-	-	-	-	-	501
	"	14	X		-	-	-	-	-	-	-	-	606

(--) Not Analyzed

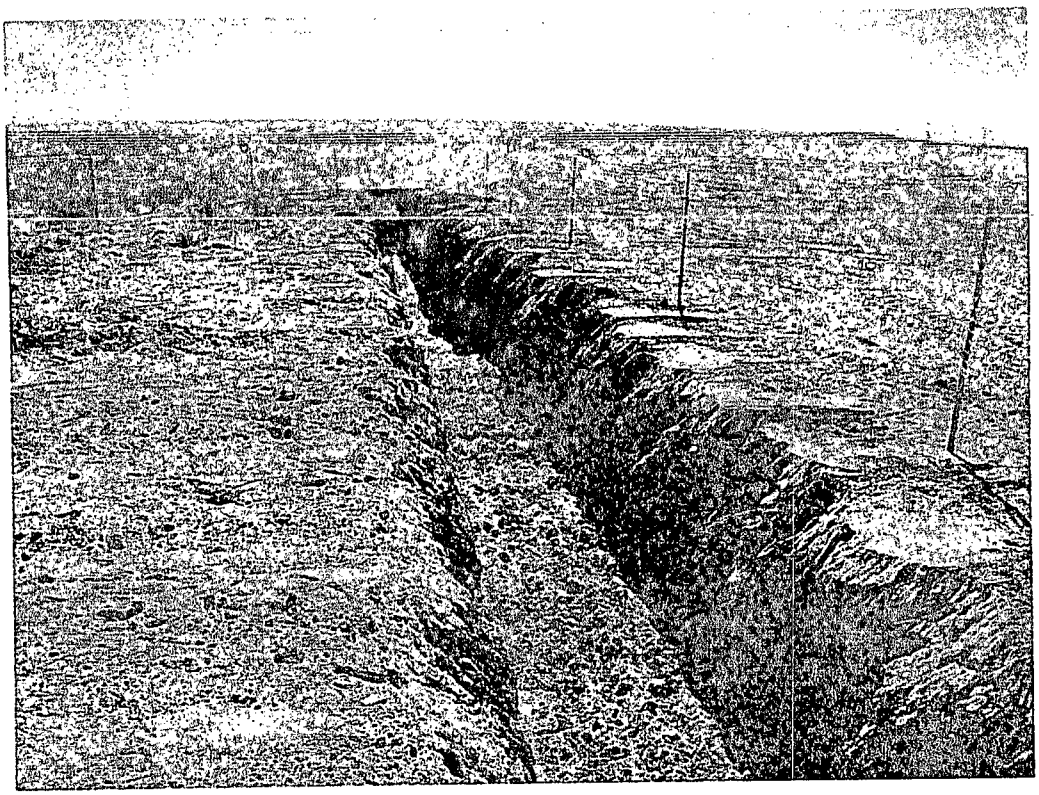
Excavated Depths

40 mil liner

PHOTOGRAPHS

COG Operating LLC
SRO 4" Water Transfer Line
Eddy County, New Mexico

TETRA TECH

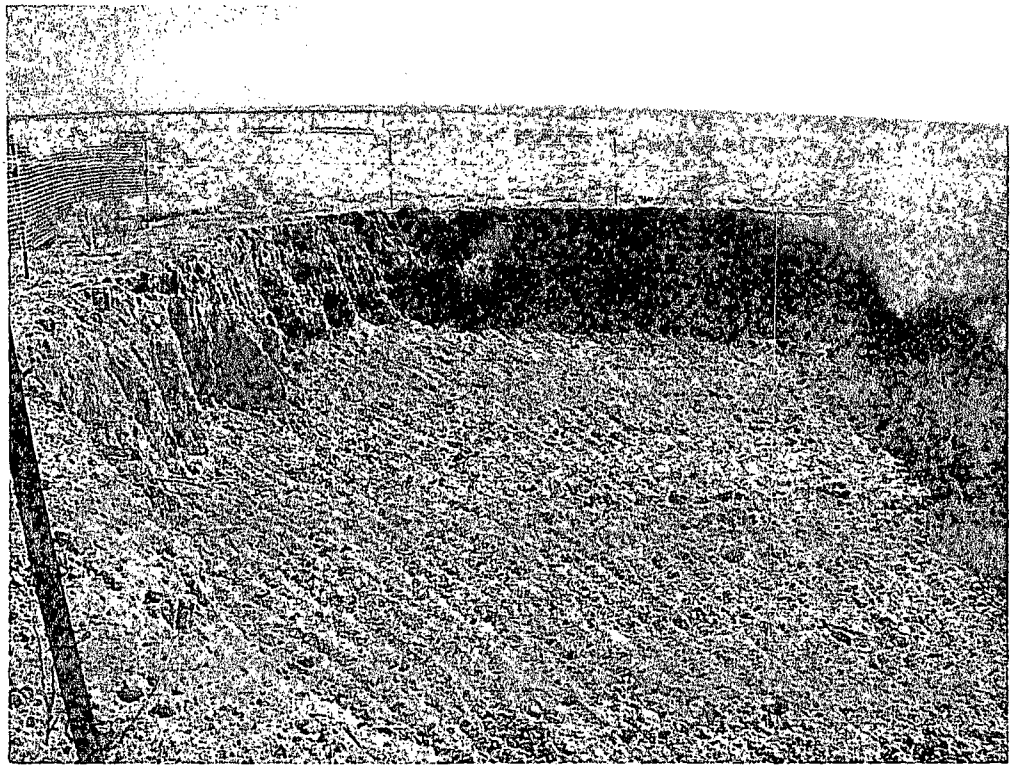


View Northwest – Excavation of AH-2.

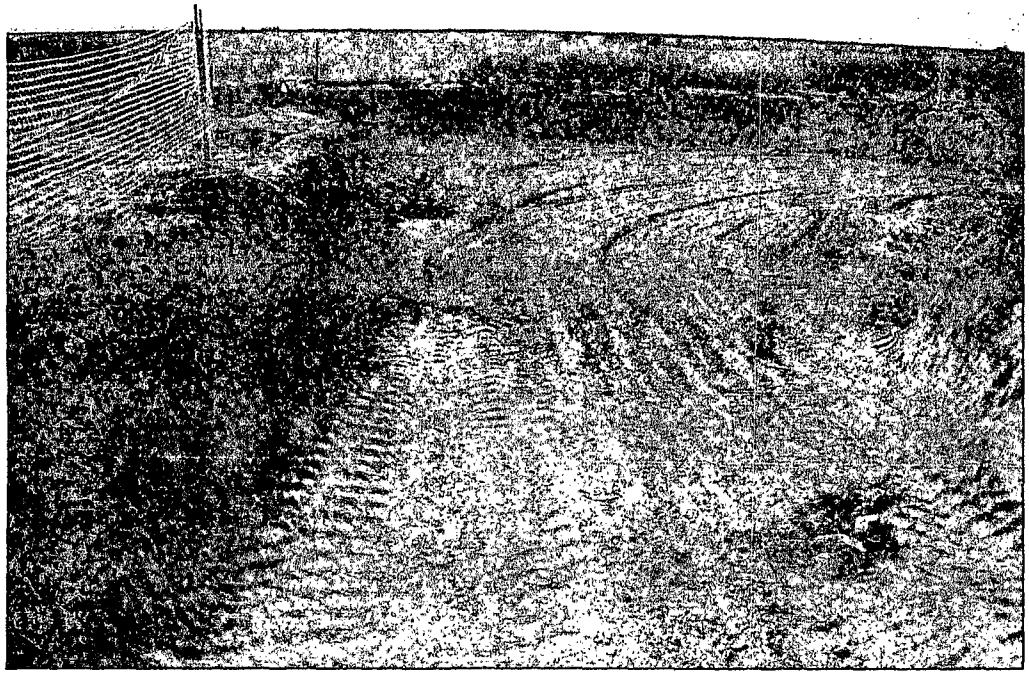
View Northwest – Excavation of AH-1.

COG Operating LLC
SRO 4" Water Transfer Line
Eddy County, New Mexico

TETRA TECH



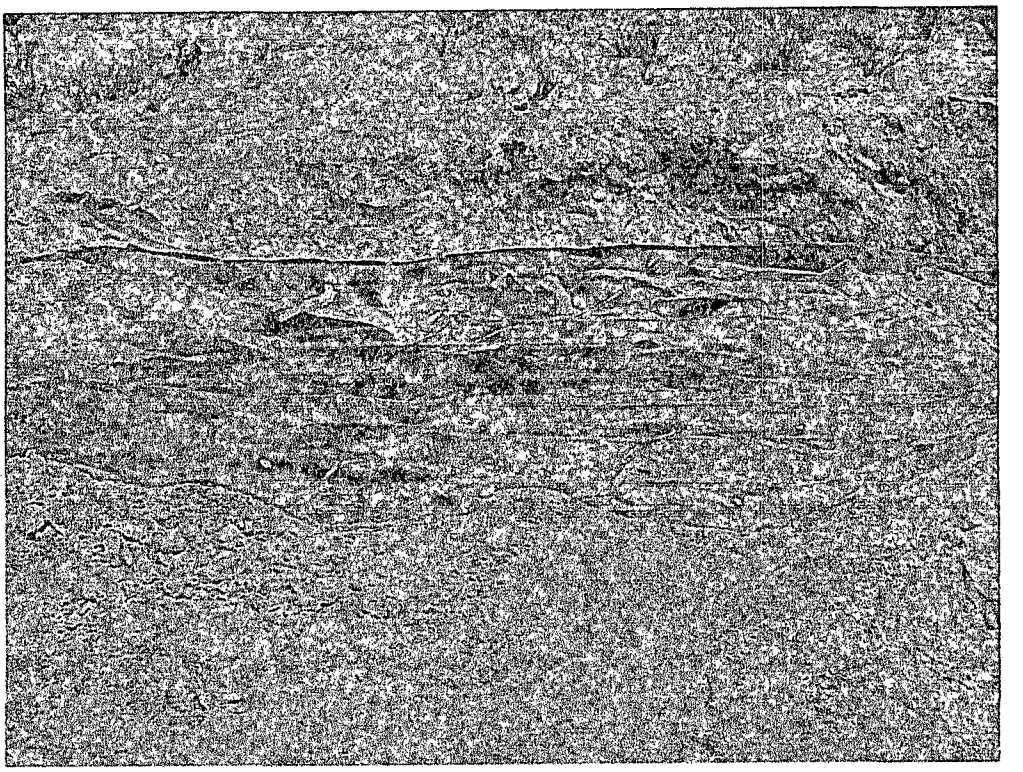
View Southwest – Excavation of AH-4.



View Northeast – Excavation of AH-7 and AH-8.

COG Operating LLC
SRO 4" Water Transfer Line
Eddy County, New Mexico

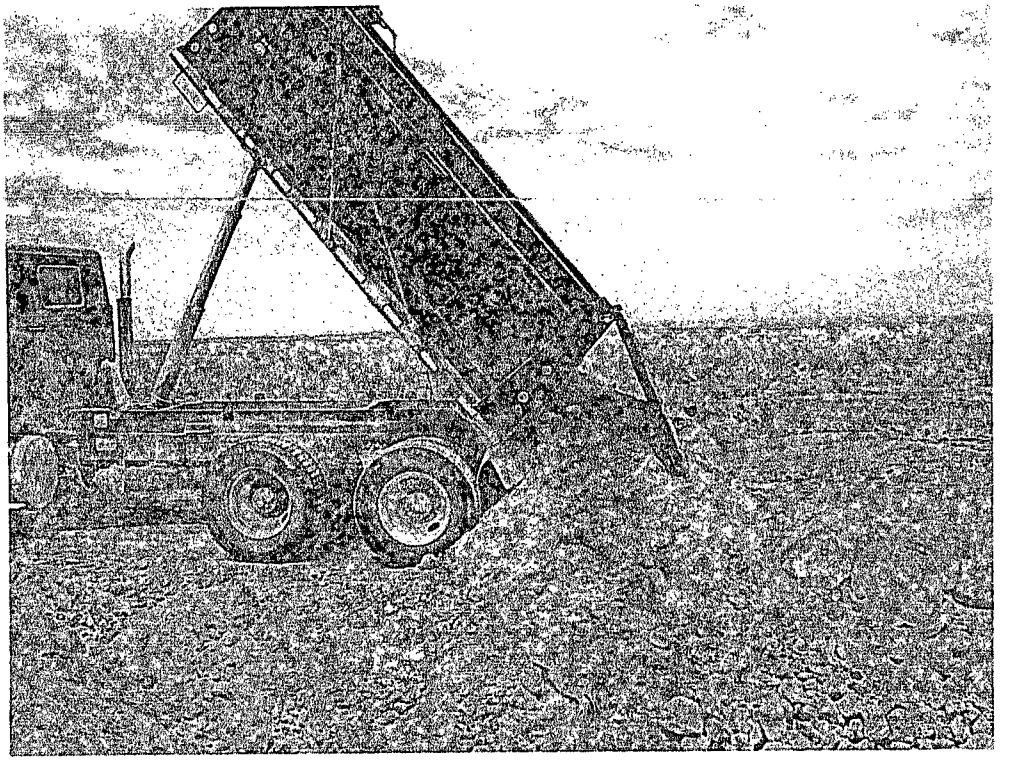
View – Lined area of AH-8.



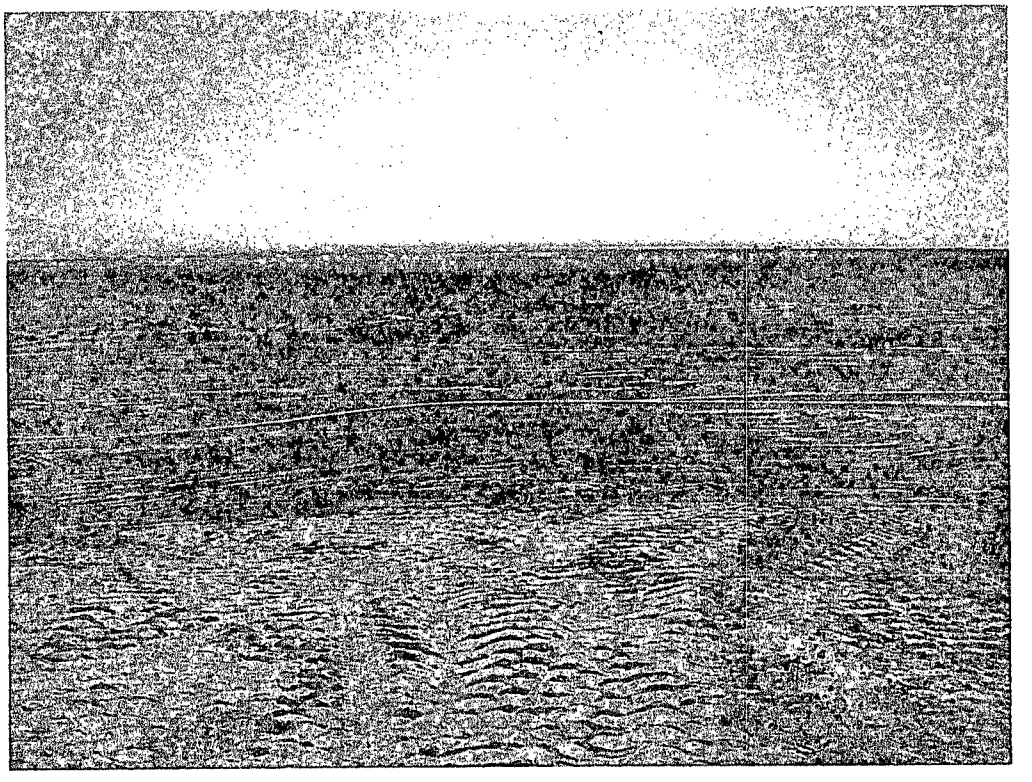
View – Lined area of AH-8.

COG Operating LLC
SRO 4" Water Transfer Line
Eddy County, New Mexico

TETRA TECH



View Northeast – Backfill



View East – Backfill

APPENDIX A

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

State of New Mexico
Energy Minerals and Natural Resources

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

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JAN 14 2013
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, Texas 79701**	Telephone No.	**(432) 230-0077**
Facility Name	**SRO 4" water transfer line**	Facility Type	**4" Water line**

Surface Owner: State	Mineral Owner	Lease No. (API#) 30-015-38257 (closest well location)

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	9	26S	28E					Eddy

Latitude N 32 03.884° **Longitude** W 104 06.007°

NATURE OF RELEASE

Type of Release: Produced Fluid	Volume of Release 15 bbls	Volume Recovered none
Source of Release: Broken "Y" connection on ploy line	Date and Hour of Occurrence 02/24/2012	Date and Hour of Discovery 02/24/2012 9:30 a.m.
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A "Y" connection on a 4" water transfer line was found damaged. A new connection has been added to the line and the line has been returned to service.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech personnel inspected the site and collected samples to define the spill extents. Impacted soil exceeding the RRAL and elevated chlorides were removed and transported to proper disposal. Once excavated to the appropriate depths, the site was backfill with clean material to grade. Tetra Tech prepared a closure report and submitted it to NMOCD for review.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Ike Tavarez (agent for COG)	Approved by District Supervisor:	
Title: Project Manager	Approval Date:	Expiration Date:
E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval:	Attached ☐
Date: 11-14-12 Phone: (432) 682-4559		

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	SRO 4" water transfer line	Facility Type	4" water line

Surface Owner State	Mineral Owner	Lease No. (API#) 30-015-38257

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	9	26S	28E					Eddy

Latitude 32 03.884 **Longitude** 104 06.007

NATURE OF RELEASE

Type of Release Produced water	Volume of Release 15bbls	Volume Recovered none
Source of Release Broken "Y" connection on poly line	Date and Hour of Occurrence 02/24/2012	Date and Hour of Discovery 02/24/2012 9:30 a.m.
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A "Y" connection on a 4" water transfer line was found damaged. A new connection has been added to the line and the line has been returned to service.

Describe Area Affected and Cleanup Action Taken.*

Initially roughly 15bbls were released from the damaged "Y" and we were unable to recover any fluid from the release. The spill area measures roughly 70' x 300' in the pasture adjacent to the line. The closest well location is the SRO 17 STATE 1H API# 30-015-38257. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation work.

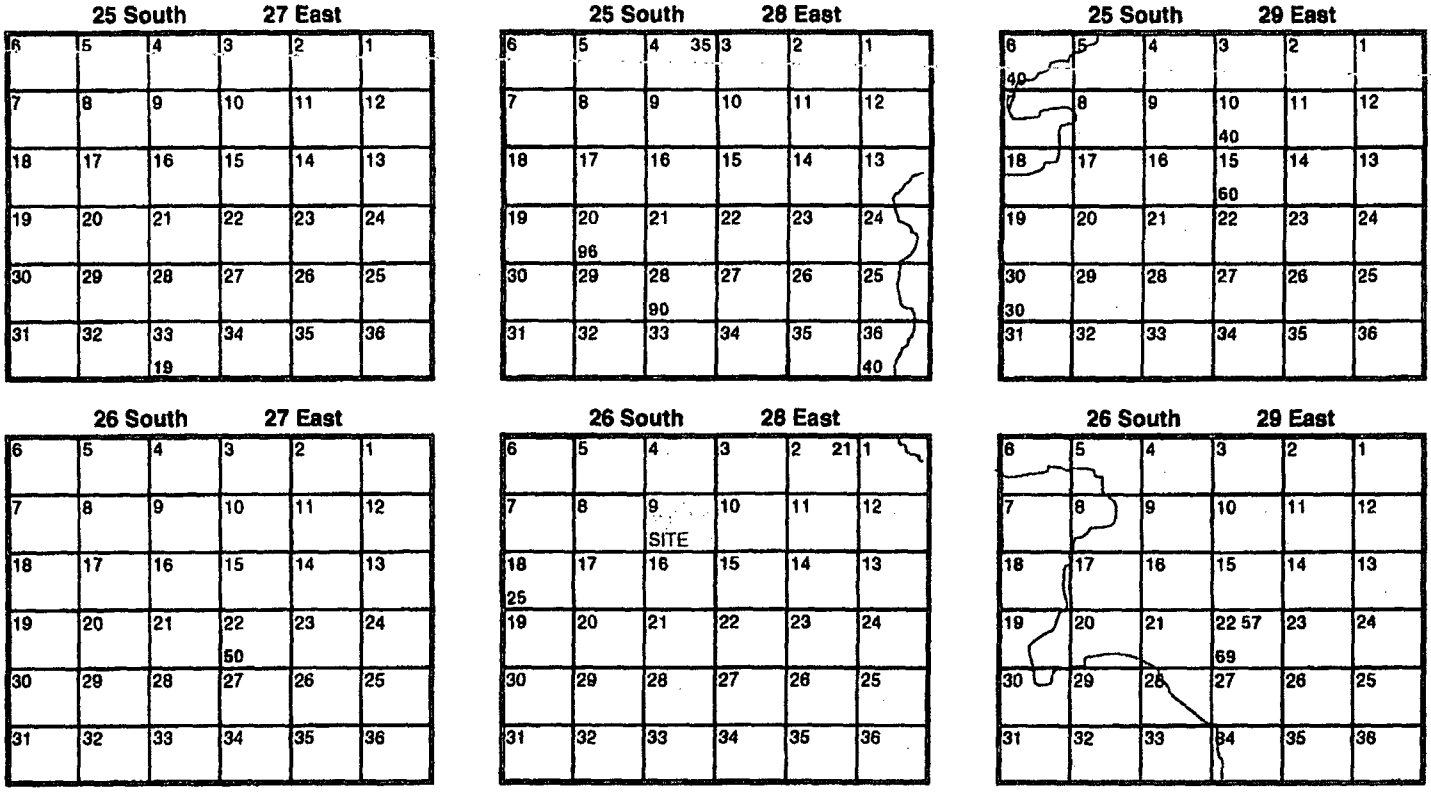
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger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

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: 03/07/2012 Phone: 432-212-2399		

* Attach Additional Sheets If Necessary

APPENDIX B

Water Well Data
Average Depth to Groundwater (ft)
COG - SRO 4" Water Transfer Line
Eddy County, New Mexico



- New Mexico State Engineers Well Reports
- USGS Well Reports
- Geology and Groundwater Conditions in Southern Eddy, County, NM
- NMOCD - Groundwater Data
- Site Location - SRO 4" Water Transfer Line

APPENDIX C

Summary Report

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

Report Date: April 11, 2012

Work Order: 12040203

Project Location: Eddy Co., NM
Project Name: COG/SRO 4 in. Water Transfer Line
Project Number: 114-6401349

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
293155	AH-1 0-1'	soil	2012-03-27	00:00	2012-03-30
293156	AH-1 1-1.5'	soil	2012-03-27	00:00	2012-03-30
293157	AH-1 2-2.5'	soil	2012-03-27	00:00	2012-03-30
293158	AH-1 3-3.5'	soil	2012-03-27	00:00	2012-03-30
293159	AH-2 0-1'	soil	2012-03-27	00:00	2012-03-30
293160	AH-2 1-1.5'	soil	2012-03-27	00:00	2012-03-30
293161	AH-2 2-2.5'	soil	2012-03-27	00:00	2012-03-30
293162	AH-3 0-1'	soil	2012-03-27	00:00	2012-03-30
293163	AH-3 1-1.5'	soil	2012-03-27	00:00	2012-03-30
293164	AH-3 2-2.5'	soil	2012-03-27	00:00	2012-03-30
293165	AH-4 0-1'	soil	2012-03-27	00:00	2012-03-30
293166	AH-5 0-1'	soil	2012-03-27	00:00	2012-03-30
293167	AH-5 1-1.5'	soil	2012-03-27	00:00	2012-03-30
293168	AH-5 2-2.5'	soil	2012-03-27	00:00	2012-03-30
293169	AH-5 3-3.5'	soil	2012-03-27	00:00	2012-03-30
293170	AH-6 0-1'	soil	2012-03-27	00:00	2012-03-30
293171	AH-6 1-1.5'	soil	2012-03-27	00:00	2012-03-30
293172	AH-6 2-2.5'	soil	2012-03-27	00:00	2012-03-30
293173	AH-7 0-1'	soil	2012-03-27	00:00	2012-03-30
293174	AH-7 1-1.5'	soil	2012-03-27	00:00	2012-03-30
293175	AH-7 2-2.5'	soil	2012-03-27	00:00	2012-03-30
293176	AH-8 0-1'	soil	2012-03-27	00:00	2012-03-30
293177	AH-8 1-1.5'	soil	2012-03-27	00:00	2012-03-30
293178	AH-9 0-1'	soil	2012-03-27	00:00	2012-03-30
293179	AH-9 1-1.5'	soil	2012-03-27	00:00	2012-03-30
293180	AH-10 0-1'	soil	2012-03-27	00:00	2012-03-30
293181	AH-10 1-1.5'	soil	2012-03-27	00:00	2012-03-30

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)
293155 - AH-1 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr	<50.0	<2.00
293159 - AH-2 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr	<50.0	<2.00
293162 - AH-3 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr	<50.0	<2.00
293165 - AH-4 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr	<50.0	<2.00
293166 - AH-5 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00 Qs
293170 - AH-6 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00 Qs
293173 - AH-7 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00 Qs
293176 - AH-8 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00 Qs
293178 - AH-9 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00 Qs
293180 - AH-10 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00 Qs

Sample: 293155 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**5000**	mg/Kg	4

Sample: 293156 - AH-1 1-1.5'

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

Sample: 293157 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**381**	mg/Kg	4

Sample: 293158 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**464**	mg/Kg	4

Sample: 293159 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**14400**	mg/Kg	4

Sample: 293160 - AH-2 1-1.5'

continued ...

sample 293160 continued ...

Param	Flag	Result	Units	RL

Param	Flag	Result	Units	RL
Chloride		**9360**	mg/Kg	4

Sample: 293161 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**1840**	mg/Kg	4

Sample: 293162 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**17700**	mg/Kg	4

Sample: 293163 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**13300**	mg/Kg	4

Sample: 293164 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**9920**	mg/Kg	4

Sample: 293165 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**13200**	mg/Kg	4

Sample: 293166 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		**13700**	mg/Kg	4

Sample: 293167 - AH-5 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**8120**	mg/Kg	4

Sample: 293168 - AH-5 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**5810**	mg/Kg	4

Sample: 293169 - AH-5 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**930**	mg/Kg	4

Sample: 293170 - AH-6 0-1'

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

Sample: 293171 - AH-6 1-1.5'

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

Sample: 293172 - AH-6 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**203**	mg/Kg	4

Sample: 293173 - AH-7 0-1'

Param	Flag	Result	Units	RL
Chloride		**14100**	mg/Kg	4

Sample: 293174 - AH-7 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**7000**	mg/Kg	4

Sample: 293175 - AH-7 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**582**	mg/Kg	4

Sample: 293176 - AH-8 0-1'

Param	Flag	Result	Units	RL
Chloride		**10400**	mg/Kg	4

Sample: 293177 - AH-8 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**4710**	mg/Kg	4

Sample: 293178 - AH-9 0-1'

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

Sample: 293179 - AH-9 1-1.5'

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

Sample: 293180 - AH-10 0-1'

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

Sample: 293181 - AH-10 1-1.5'

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

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 915-585-3443 FAX 915-585-4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432-689-6301 FAX 432-689-6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972-242-7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: April 11, 2012

Work Order: 12040203

Project Location: Eddy Co., NM
Project Name: COG/SRO 4 in. Water Transfer Line
Project Number: 114-6401349

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
293155	AH-1 0-1'	soil	2012-03-27	00:00	2012-03-30
293156	AH-1 1-1.5'	soil	2012-03-27	00:00	2012-03-30
293157	AH-1 2-2.5'	soil	2012-03-27	00:00	2012-03-30
293158	AH-1 3-3.5'	soil	2012-03-27	00:00	2012-03-30
293159	AH-2 0-1'	soil	2012-03-27	00:00	2012-03-30
293160	AH-2 1-1.5'	soil	2012-03-27	00:00	2012-03-30
293161	AH-2 2-2.5'	soil	2012-03-27	00:00	2012-03-30
293162	AH-3 0-1'	soil	2012-03-27	00:00	2012-03-30
293163	AH-3 1-1.5'	soil	2012-03-27	00:00	2012-03-30
293164	AH-3 2-2.5'	soil	2012-03-27	00:00	2012-03-30
293165	AH-4 0-1'	soil	2012-03-27	00:00	2012-03-30
293166	AH-5 0-1'	soil	2012-03-27	00:00	2012-03-30
293167	AH-5 1-1.5'	soil	2012-03-27	00:00	2012-03-30
293168	AH-5 2-2.5'	soil	2012-03-27	00:00	2012-03-30
293169	AH-5 3-3.5'	soil	2012-03-27	00:00	2012-03-30
293170	AH-6 0-1'	soil	2012-03-27	00:00	2012-03-30
293171	AH-6 1-1.5'	soil	2012-03-27	00:00	2012-03-30
293172	AH-6 2-2.5'	soil	2012-03-27	00:00	2012-03-30

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
293173	AH-7 0-1'	soil	2012-03-27	00:00	2012-03-30
293174	AH-7 1-1.5'	soil	2012-03-27	00:00	2012-03-30
293175	AH-7 2-2.5'	soil	2012-03-27	00:00	2012-03-30
293176	AH-8 0-1'	soil	2012-03-27	00:00	2012-03-30
293177	AH-8 1-1.5'	soil	2012-03-27	00:00	2012-03-30
293178	AH-9 0-1'	soil	2012-03-27	00:00	2012-03-30
293179	AH-9 1-1.5'	soil	2012-03-27	00:00	2012-03-30
293180	AH-10 0-1'	soil	2012-03-27	00:00	2012-03-30
293181	AH-10 1-1.5'	soil	2012-03-27	00:00	2012-03-30

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

Report Contents

Case Narrative

Samples for project COG/SRO 4 in. Water Transfer Line were received by TraceAnalysis, Inc. on 2012-03-30 and assigned to work order 12040203. Samples for work order 12040203 were received intact at a temperature of 0.9 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	76308	2012-04-02 at 10:48	89915	2012-04-02 at 11:09
BTEX	S 8021B	76335	2012-04-03 at 10:12	89940	2012-04-03 at 10:29
Chloride (Titration)	SM 4500-Cl B	76362	2012-04-04 at 12:51	90058	2012-04-08 at 08:39
Chloride (Titration)	SM 4500-Cl B	76362	2012-04-04 at 12:51	90105	2012-04-10 at 11:24
Chloride (Titration)	SM 4500-Cl B	76362	2012-04-04 at 12:51	90106	2012-04-10 at 11:25
Chloride (Titration)	SM 4500-Cl B	76362	2012-04-04 at 12:51	90107	2012-04-10 at 11:26
TPH DRO - NEW	S 8015 D	76291	2012-04-02 at 13:55	89889	2012-04-02 at 14:02
TPH GRO	S 8015 D	76308	2012-04-02 at 10:48	89908	2012-04-03 at 11:36
TPH GRO	S 8015 D	76335	2012-04-03 at 10:12	89939	2012-04-03 at 12:00

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 12040203 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: 293155 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	89915	Date Analyzed:	2012-04-02	Analyzed By:	tc
Prep Batch:	76308	Sample Preparation:	2012-04-02	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.28	mg/Kg	1	2.00	114	75 - 135.4
4-Bromofluorobenzene (4-BFB)			2.19	mg/Kg	1	2.00	110	63.6 - 158.9

Sample: 293155 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90058	Date Analyzed:	2012-04-08	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**5000**	mg/Kg	100	4.00

Sample: 293155 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	89889	Date Analyzed:	2012-04-02	Analyzed By:	DA
Prep Batch:	76291	Sample Preparation:	2012-04-02	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			116	mg/Kg	1	100	116	49.3 - 157.5

Sample: 293155 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	89908	Date Analyzed:	2012-04-03	Analyzed By:	tc
Prep Batch:	76308	Sample Preparation:	2012-04-02	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.30	mg/Kg	1	2.00	115	58.5 - 155.1
4-Bromofluorobenzene (4-BFB)			2.07	mg/Kg	1	2.00	104	45.1 - 162.2

Sample: 293156 - AH-1 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90105	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

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

Sample: 293157 - AH-1 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90105	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

continued ...

sample 293157 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**381**	mg/Kg	50	4.00

Sample: 293158 - AH-1 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90105	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**464**	mg/Kg	50	4.00

Sample: 293159 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	89915	Date Analyzed:	2012-04-02	Analyzed By:	tc
Prep Batch:	76308	Sample Preparation:	2012-04-02	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.19	mg/Kg	1	2.00	110	75 - 135.4
4-Bromofluorobenzene (4-BFB)			2.12	mg/Kg	1	2.00	106	63.6 - 158.9

Sample: 293159 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90105	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**14400**	mg/Kg	100	4.00

Sample: 293159 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	89889	Date Analyzed:	2012-04-02	Analyzed By:	DA
Prep Batch:	76291	Sample Preparation:	2012-04-02	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			115	mg/Kg	1	100	115	49.3 - 157.5

Sample: 293159 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	89908	Date Analyzed:	2012-04-03	Analyzed By:	tc
Prep Batch:	76308	Sample Preparation:	2012-04-02	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.21	mg/Kg	1	2.00	110	58.5 - 155.1
4-Bromofluorobenzene (4-BFB)			1.99	mg/Kg	1	2.00	100	45.1 - 162.2

Sample: 293160 - AH-2 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90105	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**9360**	mg/Kg	100	4.00

Sample: 293161 - AH-2 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90105	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

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

Sample: 293162 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	89915	Date Analyzed:	2012-04-02	Analyzed By:	tc
Prep Batch:	76308	Sample Preparation:	2012-04-02	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.17	mg/Kg	1	2.00	108	75 - 135.4
4-Bromofluorobenzene (4-BFB)			2.11	mg/Kg	1	2.00	106	63.6 - 158.9

Sample: 293162 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90105	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Chloride			**17700**		mg/Kg	100	4.00

Sample: 293162 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	89889	Date Analyzed:	2012-04-02	Analyzed By:	DA
Prep Batch:	76291	Sample Preparation:	2012-04-02	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			114	mg/Kg	1	100	114	49.3 - 157.5

Sample: 293162 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	89908	Date Analyzed:	2012-04-03	Analyzed By:	tc
Prep Batch:	76308	Sample Preparation:	2012-04-02	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.22	mg/Kg	1	2.00	111	58.5 - 155.1
4-Bromofluorobenzene (4-BFB)			1.99	mg/Kg	1	2.00	100	45.1 - 162.2

Sample: 293163 - AH-3 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90105	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**13300**	mg/Kg	100	4.00

Sample: 293164 - AH-3 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90105	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**9920**	mg/Kg	100	4.00

Sample: 293165 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	89915	Date Analyzed:	2012-04-02	Analyzed By:	tc
Prep Batch:	76308	Sample Preparation:	2012-04-02	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.35	mg/Kg	1	2.00	118	75 - 135.4
4-Bromofluorobenzene (4-BFB)			2.25	mg/Kg	1	2.00	112	63.6 - 158.9

Sample: 293165 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90105	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**13200**	mg/Kg	100	4.00

Sample: 293165 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	89889	Date Analyzed:	2012-04-02	Analyzed By:	DA
Prep Batch:	76291	Sample Preparation:	2012-04-02	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			113	mg/Kg	1	100	113	49.3 - 157.5

Sample: 293165 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	89908	Date Analyzed:	2012-04-03	Analyzed By:	tc
Prep Batch:	76308	Sample Preparation:	2012-04-02	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.37	mg/Kg	1	2.00	118	58.5 - 155.1
4-Bromofluorobenzene (4-BFB)			2.12	mg/Kg	1	2.00	106	45.1 - 162.2

Sample: 293166 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	89940	Date Analyzed:	2012-04-03	Analyzed By:	tc
Prep Batch:	76335	Sample Preparation:	2012-04-03	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	QSR	QSR	1.45	mg/Kg	1	2.00	72	75 - 135.4
4-Bromofluorobenzene (4-BFB)			1.50	mg/Kg	1	2.00	75	63.6 - 158.9

Sample: 293166 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90106	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**13700**	mg/Kg	100	4.00

Sample: 293166 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	89889	Date Analyzed:	2012-04-02	Analyzed By:	DA
Prep Batch:	76291	Sample Preparation:	2012-04-02	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			113	mg/Kg	1	100	113	49.3 - 157.5

Sample: 293166 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	89939	Date Analyzed:	2012-04-03	Analyzed By:	tc
Prep Batch:	76335	Sample Preparation:	2012-04-03	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.42	mg/Kg	1	2.00	71	58.5 - 155.1
4-Bromofluorobenzene (4-BFB)			1.38	mg/Kg	1	2.00	69	45.1 - 162.2

Sample: 293167 - AH-5 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90106	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**8120**	mg/Kg	100	4.00

Sample: 293168 - AH-5 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90106	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**5810**	mg/Kg	100	4.00

Sample: 293169 - AH-5 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90106	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**930**	mg/Kg	50	4.00

Sample: 293170 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	89940	Date Analyzed:	2012-04-03	Analyzed By:	tc
Prep Batch:	76335	Sample Preparation:	2012-04-03	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.09	mg/Kg	1	2.00	104	75 - 135.4
4-Bromofluorobenzene (4-BFB)			2.02	mg/Kg	1	2.00	101	63.6 - 158.9

Sample: 293170 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90106	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

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

Sample: 293170 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	89889	Date Analyzed:	2012-04-02	Analyzed By:	DA
Prep Batch:	76291	Sample Preparation:	2012-04-02	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			112	mg/Kg	1	100	112	49.3 - 157.5

Sample: 293170 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	89939	Date Analyzed:	2012-04-03	Analyzed By:	tc
Prep Batch:	76335	Sample Preparation:	2012-04-03	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.05	mg/Kg	1	2.00	102	58.5 - 155.1
4-Bromofluorobenzene (4-BFB)			1.87	mg/Kg	1	2.00	94	45.1 - 162.2

Sample: 293171 - AH-6 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90106	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

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

Sample: 293172 - AH-6 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90106	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**203**	mg/Kg	50	4.00

Sample: 293173 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	89940	Date Analyzed:	2012-04-03	Analyzed By:	tc
Prep Batch:	76335	Sample Preparation:	2012-04-03	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.80	mg/Kg	1	2.00	90	75 - 135.4
4-Bromofluorobenzene (4-BFB)			1.87	mg/Kg	1	2.00	94	63.6 - 158.9

Sample: 293173 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90106	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**14100**	mg/Kg	100	4.00

Sample: 293173 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	89889	Date Analyzed:	2012-04-02	Analyzed By:	DA
Prep Batch:	76291	Sample Preparation:	2012-04-02	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			116	mg/Kg	1	100	116	49.3 - 157.5

Sample: 293173 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	89939	Date Analyzed:	2012-04-03	Analyzed By:	tc
Prep Batch:	76335	Sample Preparation:	2012-04-03	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.80	mg/Kg	1	2.00	90	58.5 - 155.1
4-Bromofluorobenzene (4-BFB)			1.75	mg/Kg	1	2.00	88	45.1 - 162.2

Sample: 293174 - AH-7 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90106	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Result	Units	Dilution	RL
Chloride			**7000**		mg/Kg	100	4.00

Sample: 293175 - AH-7 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90106	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**582**	mg/Kg	50	4.00

Sample: 293176 - AH-8 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	89940	Date Analyzed:	2012-04-03	Analyzed By:	tc
Prep Batch:	76335	Sample Preparation:	2012-04-03	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.01	mg/Kg	1	2.00	100	75 - 135.4
4-Bromofluorobenzene (4-BFB)			1.97	mg/Kg	1	2.00	98	63.6 - 158.9

Sample: 293176 - AH-8 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90107	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**10400**	mg/Kg	100	4.00

Sample: 293176 - AH-8 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	89889	Date Analyzed:	2012-04-02	Analyzed By:	DA
Prep Batch:	76291	Sample Preparation:	2012-04-02	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			114	mg/Kg	1	100	114	49.3 - 157.5

Sample: 293176 - AH-8 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	89939	Date Analyzed:	2012-04-03	Analyzed By:	tc
Prep Batch:	76335	Sample Preparation:	2012-04-03	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.98	mg/Kg	1	2.00	99	58.5 - 155.1
4-Bromofluorobenzene (4-BFB)			1.84	mg/Kg	1	2.00	92	45.1 - 162.2

Sample: 293177 - AH-8 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90107	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**4710**	mg/Kg	100	4.00

Sample: 293178 - AH-9 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	89940	Date Analyzed:	2012-04-03	Analyzed By:	tc
Prep Batch:	76335	Sample Preparation:	2012-04-03	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.68	mg/Kg	1	2.00	84	75 - 135.4
4-Bromofluorobenzene (4-BFB)			1.69	mg/Kg	1	2.00	84	63.6 - 158.9

Sample: 293178 - AH-9 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90107	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

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

Sample: 293178 - AH-9 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	89889	Date Analyzed:	2012-04-02	Analyzed By:	DA
Prep Batch:	76291	Sample Preparation:	2012-04-02	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			112	mg/Kg	1	100	112	49.3 - 157.5

Sample: 293178 - AH-9 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	89939	Date Analyzed:	2012-04-03	Analyzed By:	tc
Prep Batch:	76335	Sample Preparation:	2012-04-03	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.66	mg/Kg	1	2.00	83	58.5 - 155.1
4-Bromofluorobenzene (4-BFB)			1.57	mg/Kg	1	2.00	78	45.1 - 162.2

Sample: 293179 - AH-9 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90107	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

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

Sample: 293180 - AH-10 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	89940	Date Analyzed:	2012-04-03	Analyzed By:	tc
Prep Batch:	76335	Sample Preparation:	2012-04-03	Prepared By:	tc

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	Qsr	Qsr	1.46	mg/Kg	1	2.00	73	75 - 135.4
4-Bromofluorobenzene (4-BFB)			1.56	mg/Kg	1	2.00	78	63.6 - 158.9

Sample: 293180 - AH-10 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90107	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

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

Sample: 293180 - AH-10 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	89889	Date Analyzed:	2012-04-02	Analyzed By:	DA
Prep Batch:	76291	Sample Preparation:	2012-04-02	Prepared By:	DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			111	mg/Kg	1	100	111	49.3 - 157.5

Sample: 293180 - AH-10 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	89939	Date Analyzed:	2012-04-03	Analyzed By:	tc
Prep Batch:	76335	Sample Preparation:	2012-04-03	Prepared By:	tc

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Qs,U	1	<2.00	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.46	mg/Kg	1	2.00	73	58.5 - 155.1
4-Bromofluorobenzene (4-BFB)			1.45	mg/Kg	1	2.00	72	45.1 - 162.2

Sample: 293181 - AH-10 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	90107	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	Sample Preparation:	2012-04-04	Prepared By:	AR

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

Method Blanks

Method Blank (1) QC Batch: 89889

QC Batch: 89889 | Date Analyzed: 2012-04-02 | Analyzed By: DA
Prep Batch: 76291 | QC Preparation: 2012-04-02 | Prepared By: DA

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			99.5	mg/Kg	1	100	100	52 - 140.8

Method Blank (1) QC Batch: 89908

QC Batch: 89908 | Date Analyzed: 2012-04-03 | Analyzed By: tc
Prep Batch: 76308 | QC Preparation: 2012-04-02 | Prepared By: tc

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	1.22	mg/Kg	2

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.65	mg/Kg	1	2.00	82	78.6 - 111
4-Bromofluorobenzene (4-BFB)			1.53	mg/Kg	1	2.00	76	55 - 100

Method Blank (1) QC Batch: 89915

QC Batch: 89915 | Date Analyzed: 2012-04-02 | Analyzed By: tc
Prep Batch: 76308 | QC Preparation: 2012-04-02 | Prepared By: tc

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00470	mg/Kg	0.02
Toluene		1	<0.00980	mg/Kg	0.02

continued ...

method blank continued ...

Parameter	Flag	Cert	MDL Result	Units	RL
Ethylbenzene		1	<0.00500	mg/Kg	0.02
Xylene		1	<0.0170	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.62	mg/Kg	1	2.00	81	78 - 123.6
4-Bromofluorobenzene (4-BFB)			1.64	mg/Kg	1	2.00	82	55.9 - 112.4

Method Blank (1) QC Batch: 89939

QC Batch:	89939	Date Analyzed:	2012-04-03	Analyzed By:	tc
Prep Batch:	76335	QC Preparation:	2012-04-03	Prepared By:	tc

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	1.49	mg/Kg	2

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.58	mg/Kg	1	2.00	79	78.6 - 111
4-Bromofluorobenzene (4-BFB)			1.44	mg/Kg	1	2.00	72	55 - 100

Method Blank (1) QC Batch: 89940

QC Batch:	89940	Date Analyzed:	2012-04-03	Analyzed By:	tc
Prep Batch:	76335	QC Preparation:	2012-04-03	Prepared By:	tc

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00470	mg/Kg	0.02
Toluene		1	<0.00980	mg/Kg	0.02
Ethylbenzene		1	<0.00500	mg/Kg	0.02
Xylene		1	<0.0170	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.59	mg/Kg	1	2.00	80	78 - 123.6
4-Bromofluorobenzene (4-BFB)			1.53	mg/Kg	1	2.00	76	55.9 - 112.4

Method Blank (1) QC Batch: 90058

QC Batch:	90058	Date Analyzed:	2012-04-08	Analyzed By:	AR
Prep Batch:	76362	QC Preparation:	2012-04-04	Prepared By:	AR

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

Method Blank (1) QC Batch: 90105

QC Batch:	90105	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	QC Preparation:	2012-04-04	Prepared By:	AR

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

Method Blank (1) QC Batch: 90106

QC Batch:	90106	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	QC Preparation:	2012-04-04	Prepared By:	AR

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

Method Blank (1) QC Batch: 90107

QC Batch:	90107	Date Analyzed:	2012-04-10	Analyzed By:	AR
Prep Batch:	76362	QC Preparation:	2012-04-04	Prepared By:	AR

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

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 89889 | Date Analyzed: 2012-04-02 | Analyzed By: DA
Prep Batch: 76291 | QC Preparation: 2012-04-02 | Prepared By: DA

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO			234	mg/Kg	1	250	<14.5	94	62 - 128.3

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO			219	mg/Kg	1	250	<14.5	88	62 - 128.3	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	106	96.8	mg/Kg	1	100	106	97	58.6 - 149.6

Laboratory Control Spike (LCS-1)

QC Batch: 89908 | Date Analyzed: 2012-04-03 | Analyzed By: tc
Prep Batch: 76308 | QC Preparation: 2012-04-02 | Prepared By: tc

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO			18.9	mg/Kg	1	20.0	<1.22	94	68.3 - 105.7

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO			19.2	mg/Kg	1	20.0	<1.22	96	68.3 - 105.7	2	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.91	2.00	mg/Kg	1	2.00	96	100	80 - 111.2
4-Bromofluorobenzene (4-BFB)	1.80	1.90	mg/Kg	1	2.00	90	95	66.4 - 106.6

Laboratory Control Spike (LCS-1)

QC Batch: 89915 | Date Analyzed: 2012-04-02 | Analyzed By: tc
Prep Batch: 76308 | QC Preparation: 2012-04-02 | Prepared By: tc

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.23	mg/Kg	1	2.00	<0.00470	112	86.5 - 124.9
Toluene		1	2.22	mg/Kg	1	2.00	<0.00980	111	84.7 - 122.5
Ethylbenzene		1	2.23	mg/Kg	1	2.00	<0.00500	112	79.4 - 118.9
Xylene		1	6.68	mg/Kg	1	6.00	<0.0170	111	79.5 - 118.9

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.19	mg/Kg	1	2.00	<0.00470	110	86.5 - 124.9	2	20
Toluene		1	2.20	mg/Kg	1	2.00	<0.00980	110	84.7 - 122.5	1	20
Ethylbenzene		1	2.21	mg/Kg	1	2.00	<0.00500	110	79.4 - 118.9	1	20
Xylene		1	6.70	mg/Kg	1	6.00	<0.0170	112	79.5 - 118.9	0	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.89	1.95	mg/Kg	1	2.00	94	98	73.9 - 127
4-Bromofluorobenzene (4-BFB)	1.90	1.93	mg/Kg	1	2.00	95	96	70.4 - 119.9

Laboratory Control Spike (LCS-1)

QC Batch: 89939 | Date Analyzed: 2012-04-03 | Analyzed By: tc
Prep Batch: 76335 | QC Preparation: 2012-04-03 | Prepared By: tc

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	15.9	mg/Kg	1	20.0	<1.22	80	68.3 - 105.7

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	16.8	mg/Kg	1	20.0	<1.22	84	68.3 - 105.7	6	20

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

continued ...

control spikes continued ...

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.97	1.68	mg/Kg	1	2.00	98	84	80 - 111.2
4-Bromofluorobenzene (4-BFB)	1.81	1.57	mg/Kg	1	2.00	90	78	66.4 - 106.6

Laboratory Control Spike (LCS-1)

QC Batch: 89940 | Date Analyzed: 2012-04-03 | Analyzed By: tc
Prep Batch: 76335 | QC Preparation: 2012-04-03 | Prepared By: tc

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.20	mg/Kg	1	2.00	<0.00470	110	86.5 - 124.9
Toluene		1	2.18	mg/Kg	1	2.00	<0.00980	109	84.7 - 122.5
Ethylbenzene		1	2.17	mg/Kg	1	2.00	<0.00500	108	79.4 - 118.9
Xylene		1	6.49	mg/Kg	1	6.00	<0.0170	108	79.5 - 118.9

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.17	mg/Kg	1	2.00	<0.00470	108	86.5 - 124.9	1	20
Toluene		1	2.17	mg/Kg	1	2.00	<0.00980	108	84.7 - 122.5	0	20
Ethylbenzene		1	2.16	mg/Kg	1	2.00	<0.00500	108	79.4 - 118.9	0	20
Xylene		1	6.42	mg/Kg	1	6.00	<0.0170	107	79.5 - 118.9	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.51	1.83	mg/Kg	1	2.00	76	92	73.9 - 127
4-Bromofluorobenzene (4-BFB)	1.47	1.80	mg/Kg	1	2.00	74	90	70.4 - 119.9

Laboratory Control Spike (LCS-1)

QC Batch: 90058 | Date Analyzed: 2012-04-08 | Analyzed By: AR
Prep Batch: 76362 | QC Preparation: 2012-04-04 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			94.8	mg/Kg	1	100	<3.85	95	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			102	mg/Kg	1	100	<3.85	102	85 - 115	7	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 90105 | Date Analyzed: 2012-04-10 | Analyzed By: AR
Prep Batch: 76362 | QC Preparation: 2012-04-04 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			97.0	mg/Kg	1	100	<3.85	97	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			102	mg/Kg	1	100	<3.85	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: 90106 | Date Analyzed: 2012-04-10 | Analyzed By: AR
Prep Batch: 76362 | QC Preparation: 2012-04-04 | Prepared By: AR

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

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			96.5	mg/Kg	1	100	<3.85	96	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: 90107 | Date Analyzed: 2012-04-10 | Analyzed By: AR
Prep Batch: 76362 | QC Preparation: 2012-04-04 | Prepared By: AR

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

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			96.7	mg/Kg	1	100	<3.85	97	85 - 115	5	20

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

Matrix Spike (MS-1) Spiked Sample: 293155

QC Batch: 89889 | Date Analyzed: 2012-04-02 | Analyzed By: DA
Prep Batch: 76291 | QC Preparation: 2012-04-02 | Prepared By: DA

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	258	mg/Kg	1	250	<14.5	103	45.5 - 127

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	256	mg/Kg	1	250	<14.5	102	45.5 - 127	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	124	125	mg/Kg	1	100	124	125	45.4 - 145.8

Matrix Spike (MS-1) Spiked Sample: 293145

QC Batch: 89908 | Date Analyzed: 2012-04-03 | Analyzed By: tc
Prep Batch: 76308 | QC Preparation: 2012-04-02 | Prepared By: tc

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	89.9	mg/Kg	5	50.0	34.1827	111	28.2 - 157.2

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	97.4	mg/Kg	5	50.0	34.1827	126	28.2 - 157.2	8	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	5.33	5.45	mg/Kg	5	5	107	109	75.5 - 122.3
4-Bromofluorobenzene (4-BFB)	5.00	5.12	mg/Kg	5	5	100	102	77.9 - 122.4

Matrix Spike (MS-1) Spiked Sample: 293125

QC Batch: 89915 | Date Analyzed: 2012-04-02 | Analyzed By: tc
Prep Batch: 76308 | QC Preparation: 2012-04-02 | Prepared By: tc

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.90	mg/Kg	1	2.00	<0.00470	95	69.3 - 159.2
Toluene		1	1.93	mg/Kg	1	2.00	<0.00980	96	68.7 - 157
Ethylbenzene		1	2.01	mg/Kg	1	2.00	<0.00500	100	71.6 - 158.2
Xylene		1	6.02	mg/Kg	1	6.00	<0.0170	100	70.8 - 159.8

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	Qr	Qr	1 2.42	mg/Kg	1	2.00	<0.00470	121	69.3 - 159.2	24	20
Toluene	Qr	Qr	1 2.48	mg/Kg	1	2.00	<0.00980	124	68.7 - 157	25	20
Ethylbenzene	Qr	Qr	1 2.59	mg/Kg	1	2.00	<0.00500	130	71.6 - 158.2	25	20
Xylene	Qr	Qr	1 7.83	mg/Kg	1	6.00	<0.0170	130	70.8 - 159.8	26	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)	1.84	2.20	mg/Kg	1	2	92	110	71.4 - 133.9
4-Bromofluorobenzene (4-BFB)	1.76	2.17	mg/Kg	1	2	88	108	72.6 - 144.1

Matrix Spike (MS-1) Spiked Sample: 293178

QC Batch: 89939 | Date Analyzed: 2012-04-03 | Analyzed By: tc
Prep Batch: 76335 | QC Preparation: 2012-04-03 | Prepared By: tc

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	Qs	Qs	2.85	mg/Kg	1	20.0	1.4473	7	28.2 - 157.2

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	Qs	Qs	2.42	mg/Kg	1	20.0	1.4473	5	28.2 - 157.2	16	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)	1.78	1.88	mg/Kg	1	2	89	94	75.5 - 122.3
4-Bromofluorobenzene (4-BFB)	1.69	1.71	mg/Kg	1	2	84	86	77.9 - 122.4

Matrix Spike (MS-1) Spiked Sample: 293180

QC Batch: 89940 | Date Analyzed: 2012-04-03 | Analyzed By: tc
Prep Batch: 76335 | QC Preparation: 2012-04-03 | Prepared By: tc

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.00	mg/Kg	1	2.00	<0.00470	100	69.3 - 159.2
Toluene		1	2.04	mg/Kg	1	2.00	<0.00980	102	68.7 - 157
Ethylbenzene		1	2.10	mg/Kg	1	2.00	<0.00500	105	71.6 - 158.2
Xylene		1	6.35	mg/Kg	1	6.00	<0.0170	106	70.8 - 159.8

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.08	mg/Kg	1	2.00	<0.00470	104	69.3 - 159.2	4	20
Toluene		1	2.12	mg/Kg	1	2.00	<0.00980	106	68.7 - 157	4	20
Ethylbenzene		1	2.18	mg/Kg	1	2.00	<0.00500	109	71.6 - 158.2	4	20
Xylene		1	6.60	mg/Kg	1	6.00	<0.0170	110	70.8 - 159.8	4	20

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

continued ...

matrix spikes continued ...

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.78	2.05	mg/Kg	1	2	89	102	71.4 - 133.9
4-Bromofluorobenzene (4-BFB)	1.74	2.01	mg/Kg	1	2	87	100	72.6 - 144.1

Matrix Spike (MS-1) Spiked Sample: 293155

QC Batch: 90058 | Date Analyzed: 2012-04-08 | Analyzed By: AR
Prep Batch: 76362 | QC Preparation: 2012-04-04 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			14800	mg/Kg	100	10000	5000	98	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			15400	mg/Kg	100	10000	5000	104	79.4 - 120.6	4	20

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

Matrix Spike (MS-1) Spiked Sample: 293165

QC Batch: 90105 | Date Analyzed: 2012-04-10 | Analyzed By: AR
Prep Batch: 76362 | QC Preparation: 2012-04-04 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			22700	mg/Kg	100	10000	13200	95	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			23700	mg/Kg	100	10000	13200	105	79.4 - 120.6	4	20

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

Matrix Spike (MS-1) Spiked Sample: 293175

QC Batch: 90106 | Date Analyzed: 2012-04-10 | Analyzed By: AR
Prep Batch: 76362 | QC Preparation: 2012-04-04 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10600	mg/Kg	100	10000	582	100	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			11400	mg/Kg	100	10000	582	108	79.4 - 120.6	7	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: 293181

QC Batch: 90107 | Date Analyzed: 2012-04-10 | Analyzed By: AR
Prep Batch: 76362 | QC Preparation: 2012-04-04 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			9800	mg/Kg	100	10000	<385	98	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			10300	mg/Kg	100	10000	<385	103	79.4 - 120.6	5	20

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

Calibration Standards

Standard (CCV-1)

QC Batch: 89889 | Date Analyzed: 2012-04-02 | Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	265	106	80 - 120	2012-04-02

Standard (CCV-2)

QC Batch: 89889 | Date Analyzed: 2012-04-02 | Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	298	119	80 - 120	2012-04-02

Standard (CCV-3)

QC Batch: 89889 | Date Analyzed: 2012-04-02 | Analyzed By: DA

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	292	117	80 - 120	2012-04-02

Standard (CCV-1)

QC Batch: 89908 | Date Analyzed: 2012-04-03 | Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.17	117	80 - 120	2012-04-03

Standard (CCV-2)

QC Batch: 89908 | Date Analyzed: 2012-04-03 | Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.15	115	80 - 120	2012-04-03

Standard (CCV-1)

QC Batch: 89915 | Date Analyzed: 2012-04-02 | Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.105	105	80 - 120	2012-04-02
Toluene		1	mg/kg	0.100	0.106	106	80 - 120	2012-04-02
Ethylbenzene		1	mg/kg	0.100	0.106	106	80 - 120	2012-04-02
Xylene		1	mg/kg	0.300	0.318	106	80 - 120	2012-04-02

Standard (CCV-2)

QC Batch: 89915 | Date Analyzed: 2012-04-02 | Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.109	109	80 - 120	2012-04-02
Toluene		1	mg/kg	0.100	0.108	108	80 - 120	2012-04-02
Ethylbenzene		1	mg/kg	0.100	0.106	106	80 - 120	2012-04-02
Xylene		1	mg/kg	0.300	0.315	105	80 - 120	2012-04-02

Standard (CCV-1)

QC Batch: 89939 | Date Analyzed: 2012-04-03 | Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.03	103	80 - 120	2012-04-03

Standard (CCV-2)

QC Batch: 89939 | Date Analyzed: 2012-04-03 | Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.03	103	80 - 120	2012-04-03

Standard (CCV-1)

QC Batch: 89940 | Date Analyzed: 2012-04-03 | Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.105	105	80 - 120	2012-04-03
Toluene		1	mg/kg	0.100	0.105	105	80 - 120	2012-04-03
Ethylbenzene		1	mg/kg	0.100	0.103	103	80 - 120	2012-04-03
Xylene		1	mg/kg	0.300	0.312	104	80 - 120	2012-04-03

Standard (CCV-2)

QC Batch: 89940 | Date Analyzed: 2012-04-03 | Analyzed By: tc

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.104	104	80 - 120	2012-04-03
Toluene		1	mg/kg	0.100	0.106	106	80 - 120	2012-04-03
Ethylbenzene		1	mg/kg	0.100	0.102	102	80 - 120	2012-04-03
Xylene		1	mg/kg	0.300	0.303	101	80 - 120	2012-04-03

Standard (ICV-1)

QC Batch: 90058 | Date Analyzed: 2012-04-08 | Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	98.4	98	85 - 115	2012-04-08

Standard (CCV-1)

QC Batch: 90058 | Date Analyzed: 2012-04-08 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	102	102	85 - 115	2012-04-08

Standard (ICV-1)

QC Batch: 90105 | Date Analyzed: 2012-04-10 | Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.5	100	85 - 115	2012-04-10

Standard (CCV-1)

QC Batch: 90105 | Date Analyzed: 2012-04-10 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2012-04-10

Standard (ICV-1)

QC Batch: 90106 | Date Analyzed: 2012-04-10 | Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-04-10

Standard (CCV-1)

QC Batch: 90106 | Date Analyzed: 2012-04-10 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.8	100	85 - 115	2012-04-10

Standard (ICV-1)

QC Batch: 90107 Date Analyzed: 2012-04-10 Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	98.6	99	85 - 115	2012-04-10

Standard (CCV-1)

QC Batch: 90107 Date Analyzed: 2012-04-10 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2012-04-10

Appendix

Report Definitions

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

Laboratory Certifications

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

Standard Flags

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

Attachments

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

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 2

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:
114-6401349	SRO 4" water transfer line Eddy Co NM

LAB I.D. NUMBER	DATE 2012	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. 8270/626	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
293155	3/27		S		X	AH-1	0-1'	1				X		X	X												X			
156							1-1.5'																				X			
157							2-2.5'																				X			
158							3-3.5'																				X			
159						AH-2	0-1'							X	X												X			
160							1-1.5'																				Y			
161							2-2.5'																				X			
162						AH-3	0-1'							X	X												Y			
163							1-1.5'																				Y			
164							2-2.5'																				Y			

RELINQUISHED BY: (Signature)	Date: 3/30/12 Time: 3:45 PM	RECEIVED BY: (Signature)	Date: 3/30/12 Time: 15:40
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:

SAMPLED BY: (Print & Initial) TF — Date: 3-27-12 Time:

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

RECEIVING LABORATORY: Xenco
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE: DATE: TIME:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: .90 intact

REMARKS: Run deeper sample if TPH exceeds 100mg/kg

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

Run deeper samples if Benzene exceeds 10mg/kg or total BTEX exceed 50mg/kg

Analysis Request of Chain of Custody Record

PAGE: 2 OF: 3

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.: 114-6401349

PROJECT NAME: SRO 4" water transfer line Eddy Co NM

LAB I.D. NUMBER	DATE 2012	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 M(D). 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
165	3/27		S		X	AH-4 0-1'	1				X		X	X											X			
166						AH-5 0-1'							X	X											X			
167						1-1.5'																			X			
168						2-2.5'																			X			
169						3-3.5'																			X			
170						AH-6 0-1'							X	X											X			
171						1-1.5'																			X			
172						2-2.5'																			X			
173						AH-7 0-1'							X	X											X			
174						1-1.5'																			X			

RELINQUISHED BY: (Signature) Date: 3/30/12 Time: 3:40PM

RECEIVED BY: (Signature) Date: 3/30/12 Time: 15:40

SAMPLED BY: (Print & Initial) TF Date: 3-27-12 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: Xenco

ADDRESS:

CITY: Midland STATE: TX ZIP:

CONTACT: PHONE: DATE: TIME:

RECEIVED BY: (Signature)

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 9° intact

REMARKS:

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

1204203

Analysis Request of Chain of Custody Record

PAGE: 3 OF: 3

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.: 114-6401349

PROJECT NAME: SRO 4" water transfer line

LAB I.D. NUMBER	DATE 2012	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
175	3/27		S		X	AH-7 2-2.5'	1				X	
176						AH-8 0-1'						
177						1-1.5'						
178						AH-9 0-1'						
179						1-1.5'						
180						AH-10 0-1'						
181	↓		↓		↓	1-1.5'	↓				↓	

ANALYSIS REQUEST (Circle or Specify Method No.)

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. 8081/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
X	X	8270	10									Y				
X	X											Y				
												Y				
X	X											Y				
												Y				
X	X											Y				
												X				

RELINQUISHED BY: (Signature) Date: 3/30/12 Time: 4:40 p.m.

RECEIVED BY: (Signature) Date: 3/30/12 Time: 15:40

SAMPLED BY: (Print & Initial) TT Date: 3-27-12 Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

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

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: Traverse

ADDRESS:

CITY: Midland STATE: TX ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: TIME:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: X 0

REMARKS:

Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

Summary Report

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

Report Date: July 3, 2012

Work Order: 12062721

Project Location: Eddy Co., NM
Project Name: COG/SRO 4 in. Water Transfer Line
Project Number: 114-6401349

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
302087	Background Surface	soil	2012-06-19	00:00	2012-06-27
302088	Background 2'	soil	2012-06-19	00:00	2012-06-27
302089	Background 4'	soil	2012-06-19	00:00	2012-06-27
302090	Background 6'	soil	2012-06-19	00:00	2012-06-27
302091	Background 8'	soil	2012-06-19	00:00	2012-06-27
302092	Background 10'	soil	2012-06-19	00:00	2012-06-27
302093	Background 12'	soil	2012-06-19	00:00	2012-06-27
302094	Background 14'	soil	2012-06-19	00:00	2012-06-27
302097	Trench-1 7' Bottom Hole (AH-8)	soil	2012-06-18	00:00	2012-06-27
302098	Trench-1 9' (AH-8)	soil	2012-06-18	00:00	2012-06-27
302099	Trench-2 3' (AH-5)	soil	2012-06-18	00:00	2012-06-27
302100	Trench-2 5' Bottom Hole (AH-5)	soil	2012-06-18	00:00	2012-06-27
302101	Trench-2 7' (AH-5)	soil	2012-06-18	00:00	2012-06-27
302102	Trench-2 9' (AH-5)	soil	2012-06-18	00:00	2012-06-27
302103	Trench-3 4' Bottom Hole (AH-2)	soil	2012-06-20	00:00	2012-06-27
302104	Trench-3 6' (AH-2)	soil	2012-06-20	00:00	2012-06-27
302105	Trench-3 8' (AH-2)	soil	2012-06-20	00:00	2012-06-27
302106	Trench-3 10' (AH-2)	soil	2012-06-20	00:00	2012-06-27
302107	Trench-4 4' (AH-3)	soil	2012-06-21	00:00	2012-06-27
302108	Trench-4 6' (AH-3)	soil	2012-06-21	00:00	2012-06-27
302109	Trench-4 8' (AH-3)	soil	2012-06-21	00:00	2012-06-27
302110	Trench-4 10' (AH-3)	soil	2012-06-21	00:00	2012-06-27
302111	Trench-5 2' (AH-4)	soil	2012-06-21	00:00	2012-06-27
302112	Trench-5 4' (AH-4)	soil	2012-06-21	00:00	2012-06-27
302113	Trench-5 6' (AH-4)	soil	2012-06-21	00:00	2012-06-27
302114	Trench-5 8' (AH-4)	soil	2012-06-21	00:00	2012-06-27
302115	Trench-5 10' (AH-4)	soil	2012-06-21	00:00	2012-06-27

Sample: 302087 - Background Surface

Param	Flag	Result	Units	RL
Chloride		**24.6**	mg/Kg	4

Sample: 302088 - Background 2'

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

Sample: 302089 - Background 4'

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

Sample: 302090 - Background 6'

Param	Flag	Result	Units	RL
Chloride		**266**	mg/Kg	4

Sample: 302091 - Background 8'

Param	Flag	Result	Units	RL
Chloride		**421**	mg/Kg	4

Sample: 302092 - Background 10'

Param	Flag	Result	Units	RL
Chloride		**601**	mg/Kg	4

Sample: 302093 - Background 12'

Param	Flag	Result	Units	RL
Chloride		**501**	mg/Kg	4

Sample: 302094 - Background 14'

Param	Flag	Result	Units	RL
Chloride		**606**	mg/Kg	4

Sample: 302097 - Trench-1 7' Bottom Hole (AH-8)

Param	Flag	Result	Units	RL
Chloride		**802**	mg/Kg	4

Sample: 302098 - Trench-1 9' (AH-8)

Param	Flag	Result	Units	RL
Chloride		**817**	mg/Kg	4

Sample: 302099 - Trench-2 3' (AH-5)

Param	Flag	Result	Units	RL
Chloride		**1380**	mg/Kg	4

Sample: 302100 - Trench-2 5' Bottom Hole (AH-5)

Param	Flag	Result	Units	RL
Chloride		**416**	mg/Kg	4

Sample: 302101 - Trench-2 7' (AH-5)

Param	Flag	Result	Units	RL
Chloride		**436**	mg/Kg	4

Sample: 302102 - Trench-2 9' (AH-5)

Param	Flag	Result	Units	RL
Chloride		**516**	mg/Kg	4

Sample: 302103 - Trench-3 4' Bottom Hole (AH-2)

Param	Flag	Result	Units	RL
Chloride		**226**	mg/Kg	4

Sample: 302104 - Trench-3 6' (AH-2)

Param	Flag	Result	Units	RL
Chloride		**280**	mg/Kg	4

Sample: 302105 - Trench-3 8' (AH-2)

Param	Flag	Result	Units	RL
Chloride		**368**	mg/Kg	4

Sample: 302106 - Trench-3 10' (AH-2)

Param	Flag	Result	Units	RL
Chloride		**643**	mg/Kg	4

Sample: 302107 - Trench-4 4' (AH-3)

Param	Flag	Result	Units	RL
Chloride		**221**	mg/Kg	4

Sample: 302108 - Trench-4 6' (AH-3)

Param	Flag	Result	Units	RL
Chloride		**378**	mg/Kg	4

Sample: 302109 - Trench-4 8' (AH-3)

Param	Flag	Result	Units	RL
Chloride		**472**	mg/Kg	4

Sample: 302110 - Trench-4 10' (AH-3)

Param	Flag	Result	Units	RL
Chloride		**506**	mg/Kg	4

Sample: 302111 - Trench-5 2' (AH-4)

Param	Flag	Result	Units	RL
Chloride		**5920**	mg/Kg	4

Sample: 302112 - Trench-5 4' (AH-4)

Param	Flag	Result	Units	RL
Chloride		**519**	mg/Kg	4

Sample: 302113 - Trench-5 6' (AH-4)

Param	Flag	Result	Units	RL
Chloride		**569**	mg/Kg	4

Sample: 302114 - Trench-5 8' (AH-4)

Param	Flag	Result	Units	RL
Chloride		**653**	mg/Kg	4

Sample: 302115 - Trench-5 10' (AH-4)

Param	Flag	Result	Units	RL
Chloride		**697**	mg/Kg	4

TRACEANALYSIS, INC.

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Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: July 3, 2012

Work Order: 12062721

Project Location: Eddy Co., NM
Project Name: COG/SRO 4 in. Water Transfer Line
Project Number: 114-6401349

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
302087	Background Surface	soil	2012-06-19	00:00	2012-06-27
302088	Background 2'	soil	2012-06-19	00:00	2012-06-27
302089	Background 4'	soil	2012-06-19	00:00	2012-06-27
302090	Background 6'	soil	2012-06-19	00:00	2012-06-27
302091	Background 8'	soil	2012-06-19	00:00	2012-06-27
302092	Background 10'	soil	2012-06-19	00:00	2012-06-27
302093	Background 12'	soil	2012-06-19	00:00	2012-06-27
302094	Background 14'	soil	2012-06-19	00:00	2012-06-27
302097	Trench-1 7' Bottom Hole (AH-8)	soil	2012-06-18	00:00	2012-06-27
302098	Trench-1 9' (AH-8)	soil	2012-06-18	00:00	2012-06-27
302099	Trench-2 3' (AH-5)	soil	2012-06-18	00:00	2012-06-27
302100	Trench-2 5' Bottom Hole (AH-5)	soil	2012-06-18	00:00	2012-06-27
302101	Trench-2 7' (AH-5)	soil	2012-06-18	00:00	2012-06-27
302102	Trench-2 9' (AH-5)	soil	2012-06-18	00:00	2012-06-27
302103	Trench-3 4' Bottom Hole (AH-2)	soil	2012-06-20	00:00	2012-06-27
302104	Trench-3 6' (AH-2)	soil	2012-06-20	00:00	2012-06-27
302105	Trench-3 8' (AH-2)	soil	2012-06-20	00:00	2012-06-27
302106	Trench-3 10' (AH-2)	soil	2012-06-20	00:00	2012-06-27

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
302107	Trench-4 4' (AH-3)	soil	2012-06-21	00:00	2012-06-27
302108	Trench-4 6' (AH-3)	soil	2012-06-21	00:00	2012-06-27
302109	Trench-4 8' (AH-3)	soil	2012-06-21	00:00	2012-06-27
302110	Trench-4 10' (AH-3)	soil	2012-06-21	00:00	2012-06-27
302111	Trench-5 2' (AH-4)	soil	2012-06-21	00:00	2012-06-27
302112	Trench-5 4' (AH-4)	soil	2012-06-21	00:00	2012-06-27
302113	Trench-5 6' (AH-4)	soil	2012-06-21	00:00	2012-06-27
302114	Trench-5 8' (AH-4)	soil	2012-06-21	00:00	2012-06-27
302115	Trench-5 10' (AH-4)	soil	2012-06-21	00:00	2012-06-27

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

Report Contents

Case Narrative

Samples for project COG/SRO 4 in. Water Transfer Line were received by TraceAnalysis, Inc. on 2012-06-27 and assigned to work order 12062721. Samples for work order 12062721 were received intact at a temperature of 4.5 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	78517	2012-06-28 at 10:33	92673	2012-06-29 at 11:37
Chloride (Titration)	SM 4500-Cl B	78517	2012-06-28 at 10:33	92674	2012-06-29 at 11:40
Chloride (Titration)	SM 4500-Cl B	78517	2012-06-28 at 10:33	92715	2012-07-03 at 14:03
Chloride (Titration)	SM 4500-Cl B	78517	2012-06-28 at 10:33	92716	2012-07-03 at 14:04

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 12062721 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: 302087 - Background Surface

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92673	Date Analyzed:	2012-06-29	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**24.6**	mg/Kg	5	4.00

Sample: 302088 - Background 2'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92673	Date Analyzed:	2012-06-29	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

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

Sample: 302089 - Background 4'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92673	Date Analyzed:	2012-06-29	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

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

Sample: 302090 - Background 6'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92674	Date Analyzed:	2012-06-29	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**266**	mg/Kg	5	4.00

Sample: 302091 - Background 8'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92674	Date Analyzed:	2012-06-29	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**421**	mg/Kg	5	4.00

Sample: 302092 - Background 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92674	Date Analyzed:	2012-06-29	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

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

Sample: 302093 - Background 12'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92674	Date Analyzed:	2012-06-29	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**501**	mg/Kg	5	4.00

Sample: 302094 - Background 14'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92674	Date Analyzed:	2012-06-29	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**606**	mg/Kg	5	4.00

Sample: 302097 - Trench-1 7' Bottom Hole (AH-8)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92674	Date Analyzed:	2012-06-29	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**802**	mg/Kg	5	4.00

Sample: 302098 - Trench-1 9' (AH-8)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92674	Date Analyzed:	2012-06-29	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**817**	mg/Kg	5	4.00

Sample: 302099 - Trench-2 3' (AH-5)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92674	Date Analyzed:	2012-06-29	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**1380**	mg/Kg	10	4.00

Sample: 302100 - Trench-2 5' Bottom Hole (AH-5)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92674	Date Analyzed:	2012-06-29	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**416**	mg/Kg	5	4.00

Sample: 302101 - Trench-2 7' (AH-5)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92674	Date Analyzed:	2012-06-29	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**436**	mg/Kg	5	4.00

Sample: 302102 - Trench-2 9' (AH-5)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92715	Date Analyzed:	2012-07-03	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**516**	mg/Kg	5	4.00

Sample: 302103 - Trench-3 4' Bottom Hole (AH-2)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92715	Date Analyzed:	2012-07-03	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**226**	mg/Kg	5	4.00

Sample: 302104 - Trench-3 6' (AH-2)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92715	Date Analyzed:	2012-07-03	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**280**	mg/Kg	5	4.00

Sample: 302105 - Trench-3 8' (AH-2)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92715	Date Analyzed:	2012-07-03	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**368**	mg/Kg	5	4.00

Sample: 302106 - Trench-3 10' (AH-2)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92715	Date Analyzed:	2012-07-03	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**643**	mg/Kg	5	4.00

Sample: 302107 - Trench-4 4' (AH-3)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92715	Date Analyzed:	2012-07-03	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**221**	mg/Kg	5	4.00

Sample: 302108 - Trench-4 6' (AH-3)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92715	Date Analyzed:	2012-07-03	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**378**	mg/Kg	5	4.00

Sample: 302109 - Trench-4 8' (AH-3)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92715	Date Analyzed:	2012-07-03	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**472**	mg/Kg	5	4.00

Sample: 302110 - Trench-4 10' (AH-3)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92715	Date Analyzed:	2012-07-03	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**506**	mg/Kg	5	4.00

Sample: 302111 - Trench-5 2' (AH-4)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92715	Date Analyzed:	2012-07-03	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**5920**	mg/Kg	10	4.00

Sample: 302112 - Trench-5 4' (AH-4)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92716	Date Analyzed:	2012-07-03	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**519**	mg/Kg	5	4.00

Sample: 302113 - Trench-5 6' (AH-4)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92716	Date Analyzed:	2012-07-03	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**569**	mg/Kg	5	4.00

Sample: 302114 - Trench-5 8' (AH-4)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92716	Date Analyzed:	2012-07-03	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**653**	mg/Kg	5	4.00

Sample: 302115 - Trench-5 10' (AH-4)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92716	Date Analyzed:	2012-07-03	Analyzed By:	AR
Prep Batch:	78517	Sample Preparation:	2012-06-28	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**697**	mg/Kg	5	4.00

Method Blanks

Method Blank (1) QC Batch: 92673

QC Batch: 92673 | Date Analyzed: 2012-06-29 | Analyzed By: AR
Prep Batch: 78517 | QC Preparation: 2012-06-28 | Prepared By: AR

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

Method Blank (1) QC Batch: 92674

QC Batch: 92674 | Date Analyzed: 2012-06-29 | Analyzed By: AR
Prep Batch: 78517 | QC Preparation: 2012-06-28 | Prepared By: AR

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

Method Blank (1) QC Batch: 92715

QC Batch: 92715 | Date Analyzed: 2012-07-03 | Analyzed By: AR
Prep Batch: 78517 | QC Preparation: 2012-06-28 | Prepared By: AR

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

Method Blank (1) QC Batch: 92716

QC Batch: 92716 | Date Analyzed: 2012-07-03 | Analyzed By: AR
Prep Batch: 78517 | QC Preparation: 2012-06-28 | Prepared By: AR

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

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 92673 | Date Analyzed: 2012-06-29 | Analyzed By: AR
Prep Batch: 78517 | QC Preparation: 2012-06-28 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2520	mg/Kg	1	2500	<3.85	101	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2630	mg/Kg	1	2500	<3.85	105	85 - 115	4	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 92674 | Date Analyzed: 2012-06-29 | Analyzed By: AR
Prep Batch: 78517 | QC Preparation: 2012-06-28 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2670	mg/Kg	1	2500	<3.85	107	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2750	mg/Kg	1	2500	<3.85	110	85 - 115	3	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: 92715 | Date Analyzed: 2012-07-03 | Analyzed By: AR
Prep Batch: 78517 | QC Preparation: 2012-06-28 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2560	mg/Kg	1	2500	<3.85	102	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2680	mg/Kg	1	2500	<3.85	107	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: 92716 | Date Analyzed: 2012-07-03 | Analyzed By: AR
Prep Batch: 78517 | QC Preparation: 2012-06-28 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2620	mg/Kg	1	2500	<3.85	105	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2500	mg/Kg	1	2500	<3.85	100	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: 302089

QC Batch: 92673 | Date Analyzed: 2012-06-29 | Analyzed By: AR
Prep Batch: 78517 | QC Preparation: 2012-06-28 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2670	mg/Kg	5	2500	19.7	106	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2770	mg/Kg	5	2500	19.7	110	79.4 - 120.6	4	20

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

Matrix Spike (MS-1) Spiked Sample: 302101

QC Batch: 92674 | Date Analyzed: 2012-06-29 | Analyzed By: AR
Prep Batch: 78517 | QC Preparation: 2012-06-28 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			3200	mg/Kg	5	2500	436	110	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			3410	mg/Kg	5	2500	436	119	79.4 - 120.6	6	20

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

Matrix Spike (MS-1) Spiked Sample: 302111

QC Batch: 92715 | Date Analyzed: 2012-07-03 | Analyzed By: AR
Prep Batch: 78517 | QC Preparation: 2012-06-28 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			8020	mg/Kg	10	2500	5920	84	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			8240	mg/Kg	10	2500	5920	93	79.4 - 120.6	3	20

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

Matrix Spike (MS-1) Spiked Sample: 302115

QC Batch: 92716 | Date Analyzed: 2012-07-03 | Analyzed By: AR
Prep Batch: 78517 | QC Preparation: 2012-06-28 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			3410	mg/Kg	5	2500	697	108	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			3500	mg/Kg	5	2500	697	112	79.4 - 120.6	3	20

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

Calibration Standards

Standard (CCV-1)

QC Batch: 92673 | Date Analyzed: 2012-06-29 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-06-29

Standard (CCV-2)

QC Batch: 92673 | Date Analyzed: 2012-06-29 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.8	100	85 - 115	2012-06-29

Standard (CCV-1)

QC Batch: 92674 | Date Analyzed: 2012-06-29 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2012-06-29

Standard (CCV-2)

QC Batch: 92674 | Date Analyzed: 2012-06-29 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	98.6	99	85 - 115	2012-06-29

Standard (CCV-1)

QC Batch: 92715 | Date Analyzed: 2012-07-03 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.8	100	85 - 115	2012-07-03

Standard (CCV-2)

QC Batch: 92715 | Date Analyzed: 2012-07-03 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-07-03

Standard (CCV-1)

QC Batch: 92716 | Date Analyzed: 2012-07-03 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2012-07-03

Standard (CCV-2)

QC Batch: 92716 | Date Analyzed: 2012-07-03 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.1	99	85 - 115	2012-07-03

Appendix

Report Definitions

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

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis

Standard Flags

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

Attachments

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

12062721

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6401349

PROJECT NAME: COG/SRO 4" Water Transfer Line Eddy Cty, NM

LAB I.D. NUMBER	DATE 2012	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	Chlorides	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
302087	6/14		S		X	Background Surface	1				X														X				
088						Background 2'																			X				
089						Background 4'																			X				
090						Background 6'																			X				
091						Background 8'																			X				
092						Background 10'																			X				
093						Background 12'																			X				
094	↓					Background 14'																			X				
095	6/18					Trench 1 3' (AH-8)														Hold									
096	6/18		↓		↓	Trench 1 5' (AH-8)	↓				↓									Hold									

RELINQUISHED BY: (Signature) Ike Tavarez	Date: 6/27/12 Time: 1645	RECEIVED BY: (Signature) Jeane Fitch	Date: 06-27-12 Time: 1340
RELINQUISHED BY: (Signature) Jeane Fitch	Date: 06-27-12 Time: 1418	RECEIVED BY: (Signature)	Date: 6/27/12 Time: 1418
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RECEIVING LABORATORY: Trace		RECEIVED BY: (Signature)	
ADDRESS:			
CITY: Midland STATE: TX ZIP:			
CONTACT: Acado PHONE:		DATE: TIME:	

SAMPLED BY: (Print & initial) Robert Gibbs Tc — Date: 6/15/12 Time: 1420

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

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: T.S intact

REMARKS:

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

1206272]

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.: 114-6401349

PROJECT NAME: COG / SRO 4" Water Transfer Line Eddy Co, NM

LAB I.D. NUMBER	DATE 2012	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
097	6/14		S		X	Trench-1 7' Bottom Hole (AH-8)	1				X													X				
098	"		"		"	Trench-1 9' (AH-8)	1				"													X				
099						Trench-2 3' (AH-5)																		X				
100						Trench-2 5' Bottom Hole (AH-5)																		X				
101						Trench-2 7' (AH-5)																		X				
102	↓					Trench-2 9' (AH-5)																		X				
103	6/20					Trench-3 4' bottom (AH-2)																		X				
104						Trench-3 6' (AH-2)																		X				
105						Trench-3 8' (AH-2)																		X				
106	↓		↓		↓	Trench-3 10' (AH-2)	↓				↓													X				

RELINQUISHED BY: (Signature) Robert Moss — Date: 6/22/12 Time: 1645

RECEIVED BY: (Signature) Jaime Fitch — Date: 06-27-12 Time: 1340

SAMPLED BY: (Print & Initial) T. Beck Gribbs Jr. — Date: 6/15/12 Time: 1425

RELINQUISHED BY: (Signature) Jaime Fitch — Date: 06-27-12 Time: 1418

RECEIVED BY: (Signature) — Date: 6/27/12 Time: 1418

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

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

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

RECEIVING LABORATORY: Test

ADDRESS:

CITY: Midland STATE: TX ZIP:

CONTACT: Monte PHONE:

RECEIVED BY: (Signature)

DATE: TIME:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 15° Intact

REMARKS:

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

1206721

Analysis Request of Chain of Custody Record

PAGE: 2 of 3

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.: 114-640-1349

PROJECT NAME: COG / SRC 4" Water Transfer Line Eddy Co, NM

LAB I.D. NUMBER	DATE 2012	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION			NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
107	6/21		S		X	Trench-4	4'	(AH-3)	1				X	
108						Trench-4	6'	(AH-3)						
109						Trench-4	8'	(AH-3)						
110						Trench-4	10'	(AH-3)						
111						Trench-5	2'	(AH-4)						
112						Trench-5	4'	(AH-4)						
113						Trench-5	6'	(AH-4)						
114						Trench-5	8'	(AH-4)						
115						Trench-5	10	(AH-4)						

ANALYSIS REQUEST (Circle or Specify Method No.)

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
												X				
												X				
												X				
												X				
												X				
												X				
												X				
												X				
												X				

RELINQUISHED BY: (Signature) — Date: 6/21/12 Time: 1645
RECEIVED BY: (Signature) — Date: 06/27-12 Time: 1340
SAMPLED BY: (Print & Initial) Robert Gibbs IC — Date: 6/19/12 Time: 1430

RELINQUISHED BY: (Signature) Jeanne Frith — Date: 0627-12 Time: 1418
RECEIVED BY: (Signature) — Date: 6/27/12 Time: 1418
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: Xenco
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: Monica PHONE: DATE: TIME:
RECEIVED BY: (Signature)

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 4°C intact

REMARKS:

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