SITE INFORMATION

2RP-610

Report Type: CLOSURE REPORT

General Site Information:		
Site:	Electra Federal #5 Tank Battery	
Company:	COG Operating LLC	
Section, Township and Range	Unit D - Section 15 - Township 17S - Range 30E	
Lease Number:	30-015-34211	
County:	Eddy County	
GPS:	32.83989° N	103.96511° W
Surface Owner:	Federal	
Mineral Owner:		
Directions:	From the intersection of Hwy 82 and CR-217 in Loco Hills, travel north on CR-217 1.7 mi, turn right and travel 1.0 mi, turn right and travel 0.2 mi to location on left.	

Release Data:	
Date Released:	2/9/2011
Type Release:	Produced Water
Source of Contamination:	Flowline failure
Fluid Released:	8 bbls
Fluids Recovered:	6 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	
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	0
Total Ranking Score:	**0**	

Acceptable Soil RRAL (mg/kg)		
Benzene	***Total BTEX***	***TPH***
10	50	5,000

RECEIVED
NOV 10 2011
NMOCD ARTESIA

TETRA TECH

October 12, 2011

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

Re: Closure Request for the COG Operating LLC., Electra Federal #5 Tank Battery, Unit D, Section 15, Township 17 South, Range 30 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 Electra Federal #5 Tank Battery, Unit D, Section 15, Township 17 South, Range 30 East, Eddy County, New Mexico. (Site). The spill site coordinates are N 32.83989°, W 103.96511°. 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 9, 2011, and released approximately eight (8) barrels of produced water due to freezing temperatures splitting a flow line. To alleviate the problem, COG personnel replaced the damaged flow line. Six (6) barrels of standing fluids were recovered. The spill initiated from a flow line in the pasture area south of the tank battery and migrated north approximately 150'. The spill affected an area approximately 10 x 150'. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 15. According to the NMOCD Eddy County groundwater map, the average depth to groundwater in this area is greater than 300' 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 5,000 mg/kg.

Soil Assessment and Analytical Results

On March 4, 2011, Tetra Tech personnel inspected and sampled the spill area. A total of four (4) auger holes (AH-1 through AH-4) were installed using a stainless steel hand auger to assess the impacted soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all of the submitted samples were below the RRAL for TPH and BTEX, with the exception of AH-2. Auger hole (AH-2) showed a TPH of 8,140 mg/kg and a total BTEX of 217.18 mg/kg at 0-1' and declined below the RRAL at 1-1.5' below surface.

A shallow chloride impact was detected in the auger holes. In the areas of AH-1, AH-2 and AH-3, the chloride concentrations declined below the reporting limit at 4.0', 5.0' and 1.0', respectively. Auger hole (AH-4) showed a chloride concentrations of 2,450 mg/kg at 0-1' and declined to <200 at 1-1.5', but the deeper sample showed an increasing chloride concentration of 1,000 mg/kg at 3-3.5' below surface.

Closure Activities

Based on the approved work plan, Tetra Tech personnel supervised the excavation of the site. The final excavation depths of the soil remediation were met or exceeded as stated in the approved work plan. A total of 180

cubic yards of soil were excavated and hauled to proper disposal. The excavation depths are highlighted in Table 1 and shown on Figure 4. The excavations were backfilled with clean soil to grade.

As requested by the BLM, confirmation samples were collected from the excavation bottom holes and sidewalls. The confirmation samples results are shown in Table 1. Referring to Table 1, the chloride concentrations detected in the areas of CS-1 (west wall) and CS-4 (north wall) showed an elevated chloride concentration of 3,630 mg/kg and 2,400 mg/kg, respectively. However, these areas were not excavated due to the facility lines near the sidewalls. The BLM inspected these areas and approved the chloride concentrations.

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 me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Ike Tavarez , PG
Sr. Project Manager

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

Figures

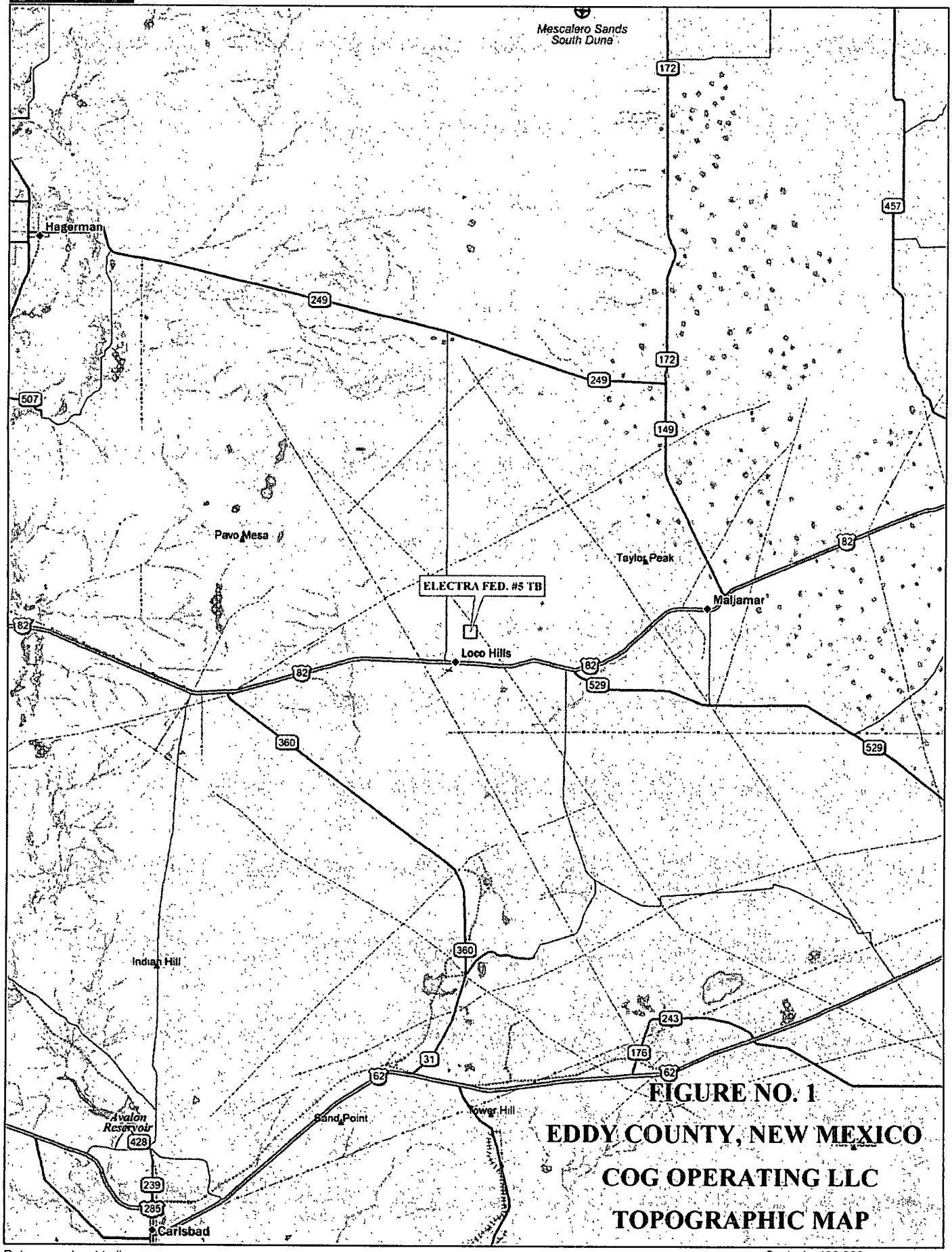


FIGURE NO. 1

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

TOPOGRAPHIC MAP

TN

MN (7.8°E)

Scale 1 : 400,000

1" = 6.31 mi

Data Zoom 9-0

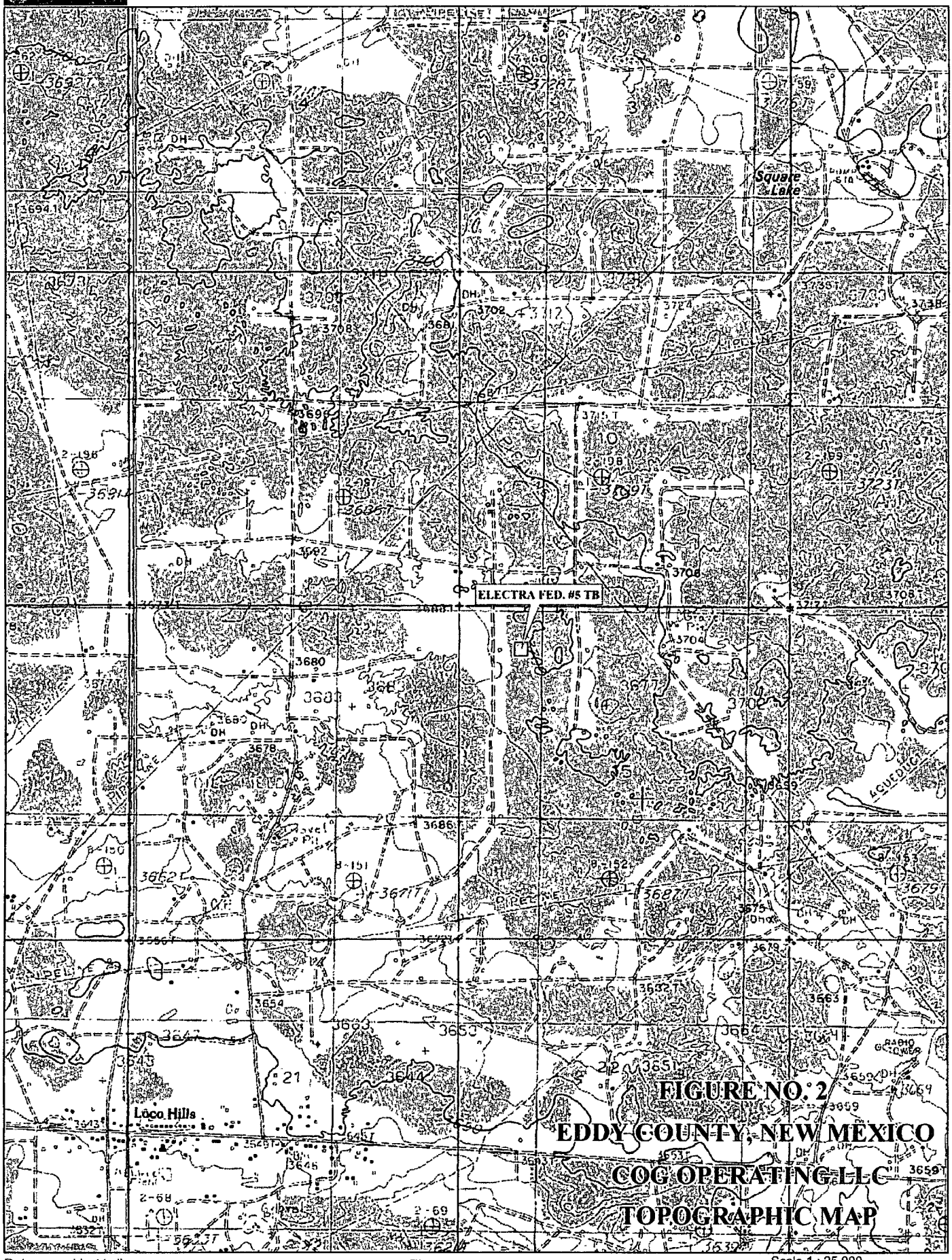


FIGURE NO. 2

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

TOPOGRAPHIC MAP

TN

MN (7.8°E)

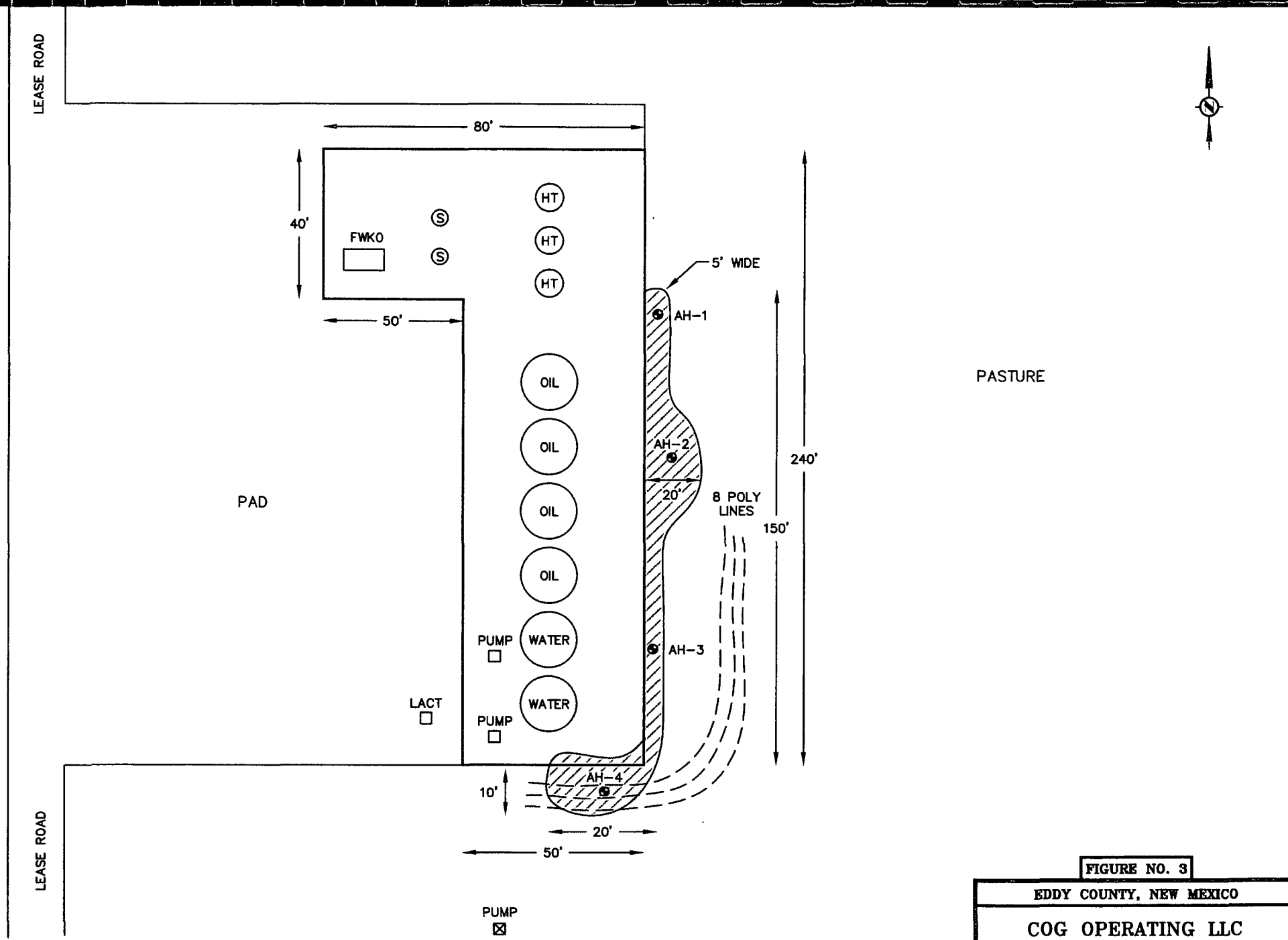
Scale 1 : 25,000

0 600 1200 1800 2400 3000 ft

0 200 400 600 800 1000 m

1" = 2,083.3 ft

Data Zoom 13-0



SPILL AREA
AUGER HOLE SAMPLE LOCATIONS

NOT TO SCALE

FIGURE NO. 3

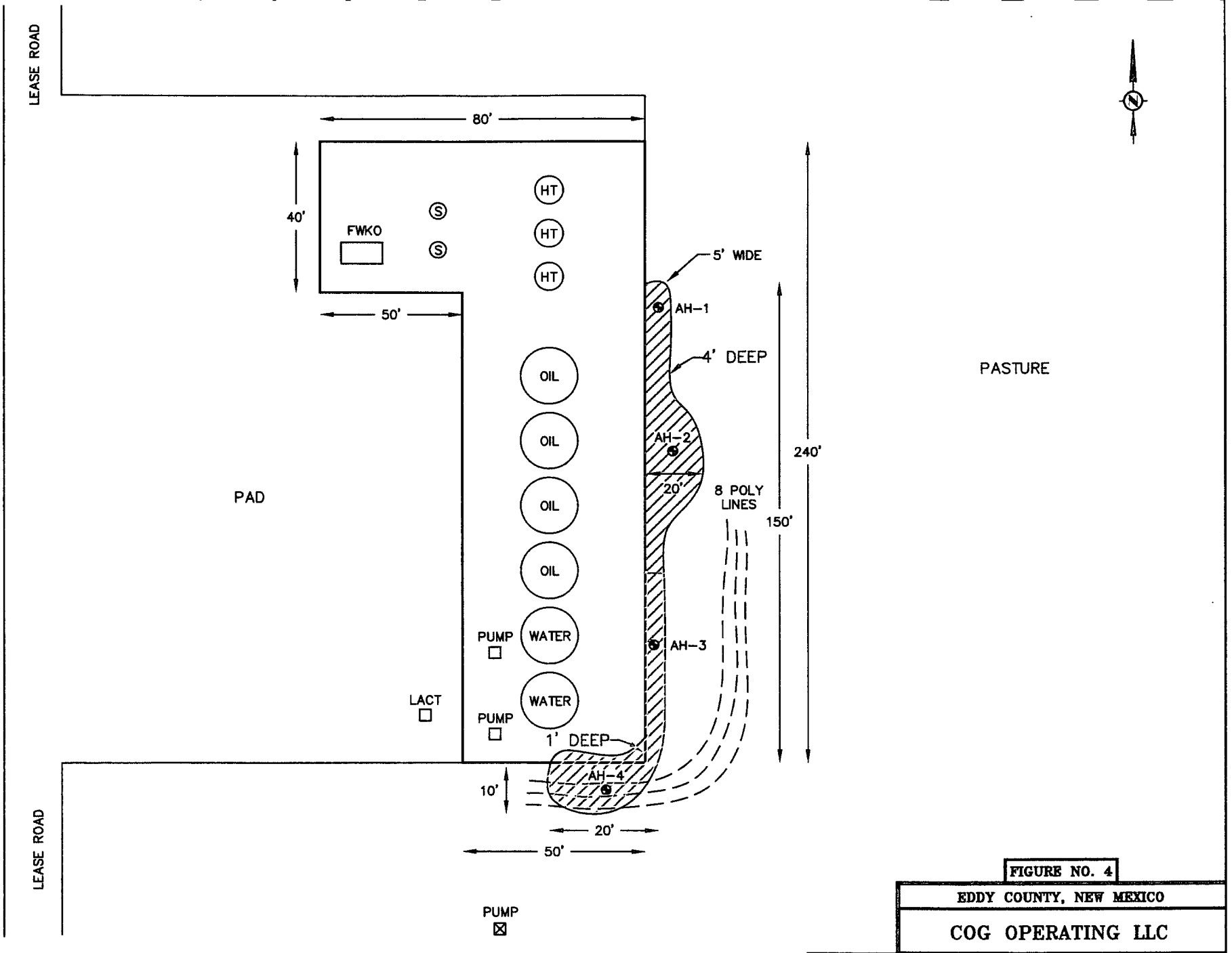
EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

ELECTRA FED #5 TB

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 7/28/2011
DWN. BY: IM
FILE: H:\COG\8400625 ELECTRA FED #5 TB


LEASE ROAD
80'
40'
FWKO
S
S
HT
HT
HT
5' WIDE
AH-1
4' DEEP
50'
OIL
OIL
OIL
OIL
PAD
AH-2
20'
8 POLY LINES
240'
150'
PASTURE
PUMP
WATER
AH-3
LACT
PUMP
WATER
1' DEEP
AH-4
10'
20'
50'
LEASE ROAD
PUMP
EXCAVATED AREA & DEPTHS
AUGER HOLE SAMPLE LOCATIONS
NOT TO SCALE
DATE: 7/28/2011
DWN. BY: IM
FILE: H:\COG\6400825 ELECTRA FED #5 TB
FIGURE NO. 4
EDDY COUNTY, NEW MEXICO
COG OPERATING LLC
ELECTRA FED #5 TB
TETRA TECH, INC.
MIDLAND, TEXAS

Tables

Table 1
COG Operating LLC.
ELECTRA FEDERAL #5
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)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total					
AH-1	3/4/2011	0-1'		X	53.0	163	216.0	0.136	0.186	0.178	0.492	6,020
	"	1-1.5'		X	-	-	-	-	-	-	-	4,770
	"	2-2.5'		X	-	-	-	-	-	-	-	1,710
	"	3-3.5'		X	-	-	-	-	-	-	-	1,710
	"	4-4.5'	X		-	-	-	-	-	-	-	<200
	"	5-5.5'	X		-	-	-	-	-	-	-	214
CS-1	9/22/2011	4' botton hole	X		-	-	-	-	-	-	-	713
	"	North wall	X		-	-	-	-	-	-	-	<200
	"	East wall	X		-	-	-	-	-	-	-	249
	"	West wall	X		-	-	-	-	-	-	-	3,630
AH-2	3/4/2011	0-1'		X	3,260	4,880	8,140	5.38	63.0	59.6	89.2	8,740
	"	1-1.5'		X	<2.00	<50.0	<50.0	<0.0200	0.161	<0.0200	<0.0200	3,030
	"	2-2.5'		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	2,820
	"	3-3.5'		X	-	-	-	-	-	-	-	291
	"	4-4.5'		X	-	-	-	-	-	-	-	2,520
	"	5-5.5'	X		-	-	-	-	-	-	-	<200
	"	6-6.5'	X		-	-	-	-	-	-	-	<200
CS-2	9/22/2011	4' bottom hole	X		-	-	-	-	-	-	-	<200
	"	East wall	X		-	-	-	-	-	-	-	<200
	"	West wall	X		-	-	-	-	-	-	-	948

Table 1
COG Operating LLC.
ELECTRA FEDERAL #5
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)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total					
AH-3	3/4/2011	0-1'		X	478	180	658	<0.0200	4.35	8.52	12.8	2,490
	"	1-1.5'	X		-	-	-	-	-	-	-	<200
	"	2-2.5'	X		-	-	-	-	-	-	-	461
CS-3	9/22/2011	**1' bottom hole**	X		-	-	-	-	-	-	-	<200
	"	East wall	X		-	-	-	-	-	-	-	<200
	"	West wall	X		-	-	-	-	-	-	-	390
AH-4	3/4/2011	0-1'		X	54.2	245	299.2	<0.0200	0.152	0.228	0.548	2,450
	"	1-1.5'	X		-	-	-	-	-	-	-	<200
	"	2-2.5'	X		-	-	-	-	-	-	-	<200
	"	3-3.5'	X		-	-	-	-	-	-	-	1,000
CS-4	9/22/2011	**1' bottom hole**	X		-	-	-	-	-	-	-	<200
	"	North Wall	X		-	-	-	-	-	-	-	2,400
	"	East Wall	X		-	-	-	-	-	-	-	<200
	"	West Wall	X		-	-	-	-	-	-	-	<200
	"	South Wall	X		-	-	-	-	-	-	-	<200
T1	9/26/2011	3'	X		-	-	-	-	-	-	-	<200
	"	5'	X		-	-	-	-	-	-	-	<200

(--) Not Analyzed

[ ] Excavation Depth

T1 Trench Backhoe

CS Confirmaton Samples

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

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	Electra Federal #5	Facility Type	Flowline

Surface Owner Federal	Mineral Owner	Lease No. (API#) 30-015-34211

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	15	17S	30E					Eddy

Latitude 32 50.373 **Longitude** 103 57.919

NATURE OF RELEASE

Type of Release Produced water	Volume of Release 8bbls	Volume Recovered 6bbls
Source of Release Flowline	Date and Hour of Occurrence 02/09/2011	Date and Hour of Discovery 02/09/2011 10:00 a.m.
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

Due to freezing temperatures the flowline split and released fluid. We replaced the split joint of pipe and returned the line into service.

Describe Area Affected and Cleanup Action Taken.*

Initially 8bbls was released from the flowline and we were able to recover 6bbls with a vacuum truck. The release occurred just outside the berm wall of the facility on the south side between the water pumps and booster pump, and traveled approximately 4' x 30' on the location and into the pasture area. 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 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: 02/21/2011 Phone: 432-212-2399		

* Attach Additional Sheets If Necessary

Water Well Data
Average Depth to Groundwater (ft)
COG - Electra Federal #5
Eddy County, New Mexico

16 South 29 East

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

16 South 30 East

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

16 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12 **288**
18	17	16	15	14	13 **113**
19	20	21	22	23	24
30	29	28	27	26	25
31 **290**	32	33	34	35	36

17 South 29 East

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

17 South 30 East

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

17 South 31 East

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

18 South 29 East

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

18 South 30 East

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

18 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12 **400**
18	17	16	15	14 **317**	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35 **261**	36

- New Mexico State Engineers Well Reports
- USGS Well Reports
- Geology and Groundwater Conditions in Southern Eddy, County, NM
- NMOCD - Groundwater Data
- Site Location - Electra Federal #5 Site

Appendix C

Summary Report

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

Report Date: March 17, 2011

Work Order: 11030725

Project Location: Eddy County, NM
Project Name: COG/Electra Federal #5
Project Number: 114-6400825

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
259766	AH-1 0-1'	soil	2011-03-04	00:00	2011-03-04
259767	AH-1 1-1.5'	soil	2011-03-04	00:00	2011-03-04
259768	AH-1 2-2.5'	soil	2011-03-04	00:00	2011-03-04
259769	AH-1 3-3.5'	soil	2011-03-04	00:00	2011-03-04
259770	AH-1 4-4.5'	soil	2011-03-04	00:00	2011-03-04
259771	AH-1 5-5.5'	soil	2011-03-04	00:00	2011-03-04
259772	AH-2 0-1'	soil	2011-03-04	00:00	2011-03-04
259773	AH-2 1-1.5'	soil	2011-03-04	00:00	2011-03-04
259774	AH-2 2-2.5'	soil	2011-03-04	00:00	2011-03-04
259775	AH-2 3-3.5'	soil	2011-03-04	00:00	2011-03-04
259776	AH-2 4-4.5'	soil	2011-03-04	00:00	2011-03-04
259777	AH-2 5-5.5'	soil	2011-03-04	00:00	2011-03-04
259778	AH-2 6-6.5'	soil	2011-03-04	00:00	2011-03-04
259779	AH-3 0-1'	soil	2011-03-04	00:00	2011-03-04
259780	AH-3 1-1.5'	soil	2011-03-04	00:00	2011-03-04
259781	AH-3 2-2.5'	soil	2011-03-04	00:00	2011-03-04
259782	AH-4 0-1'	soil	2011-03-04	00:00	2011-03-04
259783	AH-4 1-1.5'	soil	2011-03-04	00:00	2011-03-04
259784	AH-4 2-2.5'	soil	2011-03-04	00:00	2011-03-04
259785	AH-4 3-3.5'	soil	2011-03-04	00:00	2011-03-04

	BTEX				TPH DRO - NEW	TPH GRO
Sample - Field Code	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
259766 - AH-1 0-1'	**0.136**	**0.186**	**0.178**	**0.492**	**163**	**53.0**
259772 - AH-2 0-1'	**5.38**	**63.0**	**59.6**	**89.2**	**4880**	**3260**
259773 - AH-2 1-1.5'	<0.0200	**0.161**	<0.0200	<0.0200	<50.0	<2.00
259774 - AH-2 2-2.5'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
259779 - AH-3 0-1'	<0.0200	**4.35**	**8.52**	**12.8**	**180**	**478**

continued ...

... continued

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)
259782 - AH-4 0-1'	<0.0200	**0.152**	**0.228**	**0.548**	**245**	**54.2**

Sample: 259766 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**6020**	mg/Kg	4.00

Sample: 259767 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**4770**	mg/Kg	4.00

Sample: 259768 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**1710**	mg/Kg	4.00

Sample: 259769 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**1710**	mg/Kg	4.00

Sample: 259770 - AH-1 4-4.5'

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

Sample: 259771 - AH-1 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**214**	mg/Kg	4.00

Sample: 259772 - AH-2 0-1'

continued ...

sample 259772 continued ...

Param	Flag	Result	Units	RL

Param	Flag	Result	Units	RL
Chloride		**8740**	mg/Kg	4.00

Sample: 259773 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**3030**	mg/Kg	4.00

Sample: 259774 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**2820**	mg/Kg	4.00

Sample: 259775 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**291**	mg/Kg	4.00

Sample: 259776 - AH-2 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**2520**	mg/Kg	4.00

Sample: 259777 - AH-2 5-5.5'

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

Sample: 259778 - AH-2 6-6.5'

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

Sample: 259779 - AH-3 0-1'

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

Sample: 259780 - AH-3 1-1.5'

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

Sample: 259781 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**461**	mg/Kg	4.00

Sample: 259782 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**2450**	mg/Kg	4.00

Sample: 259783 - AH-4 1-1.5'

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

Sample: 259784 - AH-4 2-2.5'

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

Sample: 259785 - AH-4 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**1000**	mg/Kg	4.00

* WO # 11030725

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.: 114-6400825

PROJECT NAME: Electra Federal #5

Eddy Co NM

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TX1005 (Ext. to C35)	8015 MOD. (GRO)	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
259766	3/4		S		X	AH-1 0-1'	1				X		X	X	X										1	X				
767						AH-1 1-1.5'																			1					
768						AH-1 2-2.5'																			1					
769						AH-1 3-3.5'																			1					
770						AH-1 4-4.5'																			1					
771						AH-1 5-5.5'																			1					
772						AH-2 0-1'								X	X										1					
773						AH-2 1-1.5'																			1					
774						AH-2 2-2.5'																			1					
775						AH-2 3-3.5'																			1					

RELINQUISHED BY: (Signature) Date: 3-4-11 Time: 1615

RECEIVED BY: (Signature) Date: 3/4/11 Time: 1615

SAMPLED BY: (Print & Initial) TF Date: 3-4-11 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:

RECEIVING LABORATORY: Trace

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: 4.0°C intact

REMARKS: If total TPH exceeds 5,000 mg/kg run deeper samples

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

* WO # 1103072S

Analysis Request of Chain of Custody Record

PAGE: 2 OF: 2

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.: 114-6400825

PROJECT NAME: Electra Federal #5 Eddy Co NM

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 80218	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
259776	3/4		S		X	AH-2 1-1.5'	1				X													X				
777						AH-2 5-5.5'																						
778						AH-2 6-6.5'																						
779						AH-3 0-1'								X														
780						AH-3 1-1.5'																						
781						AH-3 2-2.5'																						
782						AH-4 0-1'								X														
783						AH-4 1-1.5'																						
784						AH-4 2-2.5'																						
785						AH-4 3-3.5'																						

RELINQUISHED BY: (Signature) Date: 3-4-11 Time: 16:15

RECEIVED BY: (Signature) Date: 3/4/11 Time: 16:15

SAMPLED BY: (Print & Initial) TF Date: 3-4-11 Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

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

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: Trace

ADDRESS:

CITY: Midland STATE: TX ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: TIME:

SAMPLE CONDITION WHEN RECEIVED: 4.0 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.

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway, Suite 110 Ft Worth, Texas 76132 817•201•5260
E-Mail lab@traceanalysis.com

Certifications

WBENC: 237019 **HUB:** 1752439743100-86536 **DBE:** VN 20657
NCTRCA WFWB38444Y0909

NELAP Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317 **El Paso:** T104704221-08-TX LELAP-02002 **Midland:** T104704392-08-TX

Analytical and Quality Control Report

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

Report Date: March 17, 2011

Work Order: 11030725

Project Location: Eddy County, NM
Project Name: COG/Electra Federal #5
Project Number: 114-6400825

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
259766	AH-1 0-1'	soil	2011-03-04	00:00	2011-03-04
259767	AH-1 1-1.5'	soil	2011-03-04	00:00	2011-03-04
259768	AH-1 2-2.5'	soil	2011-03-04	00:00	2011-03-04
259769	AH-1 3-3.5'	soil	2011-03-04	00:00	2011-03-04
259770	AH-1 4-4.5'	soil	2011-03-04	00:00	2011-03-04
259771	AH-1 5-5.5'	soil	2011-03-04	00:00	2011-03-04
259772	AH-2 0-1'	soil	2011-03-04	00:00	2011-03-04
259773	AH-2 1-1.5'	soil	2011-03-04	00:00	2011-03-04
259774	AH-2 2-2.5'	soil	2011-03-04	00:00	2011-03-04
259775	AH-2 3-3.5'	soil	2011-03-04	00:00	2011-03-04

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
259776	AH-2 4-4.5'	soil	2011-03-04	00:00	2011-03-04
259777	AH-2 5-5.5'	soil	2011-03-04	00:00	2011-03-04
259778	AH-2 6-6.5'	soil	2011-03-04	00:00	2011-03-04
259779	AH-3 0-1'	soil	2011-03-04	00:00	2011-03-04
259780	AH-3 1-1.5'	soil	2011-03-04	00:00	2011-03-04
259781	AH-3 2-2.5'	soil	2011-03-04	00:00	2011-03-04
259782	AH-4 0-1'	soil	2011-03-04	00:00	2011-03-04
259783	AH-4 1-1.5'	soil	2011-03-04	00:00	2011-03-04
259784	AH-4 2-2.5'	soil	2011-03-04	00:00	2011-03-04
259785	AH-4 3-3.5'	soil	2011-03-04	00:00	2011-03-04

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

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

Standard Flags

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

Case Narrative

Samples for project COG/Electra Federal #5 were received by TraceAnalysis, Inc. on 2011-03-04 and assigned to work order 11030725. Samples for work order 11030725 were received intact at a temperature of 4.0 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	67108	2011-03-09 at 13:56	79090	2011-03-09 at 23:39
BTEX	S 8021B	67162	2011-03-10 at 11:27	79174	2011-03-10 at 11:27
BTEX	S 8021B	67358	2011-03-15 at 10:58	79388	2011-03-15 at 10:38
Chloride (Titration)	SM 4500-Cl B	67261	2011-03-09 at 09:27	79405	2011-03-09 at 09:35
Chloride (Titration)	SM 4500-Cl B	67261	2011-03-09 at 09:27	79406	2011-03-09 at 09:36
Chloride (Titration)	SM 4500-Cl B	67261	2011-03-09 at 09:27	79408	2011-03-09 at 09:37
TPH DRO - NEW	S 8015 D	67239	2011-03-08 at 09:57	79253	2011-03-08 at 09:57
TPH DRO - NEW	S 8015 D	67363	2011-03-15 at 10:57	79402	2011-03-15 at 10:57
TPH GRO	S 8015 D	67108	2011-03-09 at 13:56	79091	2011-03-09 at 23:39
TPH GRO	S 8015 D	67162	2011-03-10 at 11:27	79175	2011-03-10 at 11:27
TPH GRO	S 8015 D	67358	2011-03-15 at 10:58	79389	2011-03-15 at 10:58

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 11030725 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: 259766 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	79090	Date Analyzed:	2011-03-09	Analyzed By:	ME
Prep Batch:	67108	Sample Preparation:	2011-03-09	Prepared By:	ME

Parameter	Flag	Result	RL Units	Dilution	RL
Benzene		**0.136**	mg/Kg	1	0.0200
Toluene		**0.186**	mg/Kg	1	0.0200
Ethylbenzene		**0.178**	mg/Kg	1	0.0200
Xylene		**0.492**	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.52	mg/Kg	1	2.00	126	52.8 - 137
4-Bromofluorobenzene (4-BFB)		2.25	mg/Kg	1	2.00	112	38.4 - 157

Sample: 259766 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79405	Date Analyzed:	2011-03-09	Analyzed By:	AR
Prep Batch:	67261	Sample Preparation:	2011-03-09	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**6020**	mg/Kg	100	4.00

Sample: 259766 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	79253	Date Analyzed:	2011-03-08	Analyzed By:	kg
Prep Batch:	67239	Sample Preparation:	2011-03-08	Prepared By:	kg

Parameter	Flag	Result	RL Units	Dilution	RL
DRO		**163**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		105	mg/Kg	1	100	105	70 - 130

Sample: 259766 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	79091	Date Analyzed:	2011-03-09	Analyzed By:	ME
Prep Batch:	67108	Sample Preparation:	2011-03-09	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**53.0**	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.48	mg/Kg	1	2.00	124	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.44	mg/Kg	1	2.00	122	42 - 159

Sample: 259767 - AH-1 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79405	Date Analyzed:	2011-03-09	Analyzed By:	AR
Prep Batch:	67261	Sample Preparation:	2011-03-09	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**4770**	mg/Kg	100	4.00

Sample: 259768 - AH-1 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79405	Date Analyzed:	2011-03-09	Analyzed By:	AR
Prep Batch:	67261	Sample Preparation:	2011-03-09	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1710**	mg/Kg	100	4.00

Sample: 259769 - AH-1 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79405	Date Analyzed:	2011-03-09	Analyzed By:	AR
Prep Batch:	67261	Sample Preparation:	2011-03-09	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1710**	mg/Kg	100	4.00

Sample: 259770 - AH-1 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79405	Date Analyzed:	2011-03-09	Analyzed By:	AR
Prep Batch:	67261	Sample Preparation:	2011-03-09	Prepared By:	AR

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

Sample: 259771 - AH-1 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79405	Date Analyzed:	2011-03-09	Analyzed By:	AR
Prep Batch:	67261	Sample Preparation:	2011-03-09	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**214**	mg/Kg	50	4.00

Sample: 259772 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	79090	Date Analyzed:	2011-03-09	Analyzed By:	ME
Prep Batch:	67108	Sample Preparation:	2011-03-09	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**5.38**	mg/Kg	20	0.0200
Toluene		**63.0**	mg/Kg	20	0.0200

continued ...

sample 259772 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Ethylbenzene		**59.6**	mg/Kg	20	0.0200
Xylene		**89.2**	mg/Kg	20	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		23.0	mg/Kg	20	20.0	115	52.8 - 137
4-Bromofluorobenzene (4-BFB)	[1]	39.4	mg/Kg	20	20.0	197	38.4 - 157

Sample: 259772 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79406	Date Analyzed:	2011-03-09	Analyzed By:	AR
Prep Batch:	67261	Sample Preparation:	2011-03-09	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**8740**	mg/Kg	100	4.00

Sample: 259772 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	79253	Date Analyzed:	2011-03-08	Analyzed By:	kg
Prep Batch:	67239	Sample Preparation:	2011-03-08	Prepared By:	kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**4880**	mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	[2]	466	mg/Kg	5	100	466	70 - 130

Sample: 259772 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	79091	Date Analyzed:	2011-03-09	Analyzed By:	ME
Prep Batch:	67108	Sample Preparation:	2011-03-09	Prepared By:	ME

[1]High surrogate recovery due to peak interference.
[2]High surrogate recovery due to peak interference.

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**3260**	mg/Kg	20	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		23.1	mg/Kg	20	20.0	116	48.5 - 152
4-Bromofluorobenzene (4-BFB)	[3]	43.9	mg/Kg	20	20.0	220	42 - 159

Sample: 259773 - AH-2 1-1.5'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	79388	Date Analyzed:	2011-03-15	Analyzed By:	ME
Prep Batch:	67358	Sample Preparation:	2011-03-15	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0200	mg/Kg	1	0.0200
Toluene		**0.161**	mg/Kg	1	0.0200
Ethylbenzene		<0.0200	mg/Kg	1	0.0200
Xylene		<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.67	mg/Kg	1	2.00	134	52.8 - 137
4-Bromofluorobenzene (4-BFB)		2.58	mg/Kg	1	2.00	129	38.4 - 157

Sample: 259773 - AH-2 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79406	Date Analyzed:	2011-03-09	Analyzed By:	AR
Prep Batch:	67261	Sample Preparation:	2011-03-09	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**3030**	mg/Kg	100	4.00

Sample: 259773 - AH-2 1-1.5'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	79402	Date Analyzed:	2011-03-15	Analyzed By:	kg
Prep Batch:	67363	Sample Preparation:	2011-03-15	Prepared By:	kg

[3]High surrogate recovery due to peak interference.

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		102	mg/Kg	1	100	102	70 - 130

Sample: 259773 - AH-2 1-1.5'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	79389	Date Analyzed:	2011-03-15	Analyzed By:	ME
Prep Batch:	67358	Sample Preparation:	2011-03-15	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.75	mg/Kg	1	2.00	138	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.44	mg/Kg	1	2.00	122	42 - 159

Sample: 259774 - AH-2 2-2.5'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	79388	Date Analyzed:	2011-03-15	Analyzed By:	ME
Prep Batch:	67358	Sample Preparation:	2011-03-15	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.22	mg/Kg	1	2.00	111	52.8 - 137
4-Bromofluorobenzene (4-BFB)		2.17	mg/Kg	1	2.00	108	38.4 - 157

Sample: 259774 - AH-2 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79406	Date Analyzed:	2011-03-09	Analyzed By:	AR
Prep Batch:	67261	Sample Preparation:	2011-03-09	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**2820**		mg/Kg	100	4.00

Sample: 259774 - AH-2 2-2.5'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	79402	Date Analyzed:	2011-03-15	Analyzed By:	kg
Prep Batch:	67363	Sample Preparation:	2011-03-15	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		107	mg/Kg	1	100	107	70 - 130

Sample: 259774 - AH-2 2-2.5'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	79389	Date Analyzed:	2011-03-15	Analyzed By:	ME
Prep Batch:	67358	Sample Preparation:	2011-03-15	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.29	mg/Kg	1	2.00	114	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.06	mg/Kg	1	2.00	103	42 - 159

Sample: 259775 - AH-2 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79406	Date Analyzed:	2011-03-09	Analyzed By:	AR
Prep Batch:	67261	Sample Preparation:	2011-03-09	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**291**	mg/Kg	50	4.00

Sample: 259776 - AH-2 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79406	Date Analyzed:	2011-03-09	Analyzed By:	AR
Prep Batch:	67261	Sample Preparation:	2011-03-09	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**2520**	mg/Kg	100	4.00

Sample: 259777 - AH-2 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79406	Date Analyzed:	2011-03-09	Analyzed By:	AR
Prep Batch:	67261	Sample Preparation:	2011-03-09	Prepared By:	AR

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

Sample: 259778 - AH-2 6-6.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79406	Date Analyzed:	2011-03-09	Analyzed By:	AR
Prep Batch:	67261	Sample Preparation:	2011-03-09	Prepared By:	AR

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

Sample: 259779 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	79174	Date Analyzed:	2011-03-10	Analyzed By:	ME
Prep Batch:	67162	Sample Preparation:	2011-03-10	Prepared By:	ME

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		<0.0200		mg/Kg	1	0.0200
Toluene		**4.35**		mg/Kg	1	0.0200
Ethylbenzene		**8.52**		mg/Kg	1	0.0200
Xylene		**12.8**		mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.66	mg/Kg	1	2.00	133	52.8 - 137
4-Bromofluorobenzene (4-BFB)	[4]	5.78	mg/Kg	1	2.00	289	38.4 - 157

Sample: 259779 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79406	Date Analyzed:	2011-03-09	Analyzed By:	AR
Prep Batch:	67261	Sample Preparation:	2011-03-09	Prepared By:	AR

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

Sample: 259779 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	79253	Date Analyzed:	2011-03-08	Analyzed By:	kg
Prep Batch:	67239	Sample Preparation:	2011-03-08	Prepared By:	kg

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		**180**		mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		109	mg/Kg	1	100	109	70 - 130

[4]High surrogate recovery due to peak interference.

Sample: 259779 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	79175	Date Analyzed:	2011-03-10	Analyzed By:	ME
Prep Batch:	67162	Sample Preparation:	2011-03-10	Prepared By:	ME

Parameter	Flag	Result	RL	Units	Dilution	RL
GRO		**478**		mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.63	mg/Kg	1	2.00	132	48.5 - 152
4-Bromofluorobenzene (4-BFB)	[5]	15.7	mg/Kg	1	2.00	785	42 - 159

Sample: 259780 - AH-3 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79406	Date Analyzed:	2011-03-09	Analyzed By:	AR
Prep Batch:	67261	Sample Preparation:	2011-03-09	Prepared By:	AR

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

Sample: 259781 - AH-3 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79406	Date Analyzed:	2011-03-09	Analyzed By:	AR
Prep Batch:	67261	Sample Preparation:	2011-03-09	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**461**		mg/Kg	50	4.00

Sample: 259782 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	79174	Date Analyzed:	2011-03-10	Analyzed By:	ME
Prep Batch:	67162	Sample Preparation:	2011-03-10	Prepared By:	ME

[5]High surrogate recovery due to peak interference.

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0200	mg/Kg	1	0.0200
Toluene		**0.152**	mg/Kg	1	0.0200
Ethylbenzene		**0.228**	mg/Kg	1	0.0200
Xylene		**0.548**	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.53	mg/Kg	1	2.00	126	52.8 - 137
4-Bromofluorobenzene (4-BFB)		2.65	mg/Kg	1	2.00	132	38.4 - 157

Sample: 259782 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79408	Date Analyzed:	2011-03-09	Analyzed By:	AR
Prep Batch:	67261	Sample Preparation:	2011-03-09	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**2450**	mg/Kg	100	4.00

Sample: 259782 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	79253	Date Analyzed:	2011-03-08	Analyzed By:	kg
Prep Batch:	67239	Sample Preparation:	2011-03-08	Prepared By:	kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**245**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		116	mg/Kg	1	100	116	70 - 130

Sample: 259782 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	79175	Date Analyzed:	2011-03-10	Analyzed By:	ME
Prep Batch:	67162	Sample Preparation:	2011-03-10	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**54.2**	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.50	mg/Kg	1	2.00	125	48.5 - 152
4-Bromofluorobenzene (4-BFB)		3.02	mg/Kg	1	2.00	151	42 - 159

Sample: 259783 - AH-4 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79408	Date Analyzed:	2011-03-09	Analyzed By:	AR
Prep Batch:	67261	Sample Preparation:	2011-03-09	Prepared By:	AR

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

Sample: 259784 - AH-4 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79408	Date Analyzed:	2011-03-09	Analyzed By:	AR
Prep Batch:	67261	Sample Preparation:	2011-03-09	Prepared By:	AR

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

Sample: 259785 - AH-4 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79408	Date Analyzed:	2011-03-09	Analyzed By:	AR
Prep Batch:	67261	Sample Preparation:	2011-03-09	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1000**	mg/Kg	100	4.00

Method Blank (1) QC Batch: 79090

QC Batch:	79090	Date Analyzed:	2011-03-09	Analyzed By:	ME
Prep Batch:	67108	QC Preparation:	2011-03-09	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.76	mg/Kg	1	2.00	88	66.6 - 122
4-Bromofluorobenzene (4-BFB)		1.50	mg/Kg	1	2.00	75	55.4 - 124

Method Blank (1) QC Batch: 79091

QC Batch:	79091	Date Analyzed:	2011-03-09	Analyzed By:	ME
Prep Batch:	67108	QC Preparation:	2011-03-09	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.78	mg/Kg	1	2.00	89	67.6 - 150
4-Bromofluorobenzene (4-BFB)		1.38	mg/Kg	1	2.00	69	52.4 - 130

Method Blank (1) QC Batch: 79174

QC Batch:	79174	Date Analyzed:	2011-03-10	Analyzed By:	ME
Prep Batch:	67162	QC Preparation:	2011-03-10	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.97	mg/Kg	1	2.00	98	66.6 - 122
4-Bromofluorobenzene (4-BFB)		1.91	mg/Kg	1	2.00	96	55.4 - 124

Method Blank (1) QC Batch: 79175

QC Batch: 79175 | Date Analyzed: 2011-03-10 | Analyzed By: ME
Prep Batch: 67162 | QC Preparation: 2011-03-10 | Prepared By: ME

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

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

Method Blank (1) QC Batch: 79253

QC Batch: 79253 | Date Analyzed: 2011-03-08 | Analyzed By: kg
Prep Batch: 67239 | QC Preparation: 2011-03-08 | Prepared By: kg

Parameter	Flag	MDL Result	Units	RL
DRO		<15.7	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		99.3	mg/Kg	1	100	99	70 - 130

Method Blank (1) QC Batch: 79388

QC Batch: 79388 | Date Analyzed: 2011-03-15 | Analyzed By: ME
Prep Batch: 67358 | QC Preparation: 2011-03-15 | Prepared By: ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.88	mg/Kg	1	2.00	94	66.6 - 122
4-Bromofluorobenzene (4-BFB)		1.72	mg/Kg	1	2.00	86	55.4 - 124

Method Blank (1) QC Batch: 79389

QC Batch: 79389 | Date Analyzed: 2011-03-15 | Analyzed By: ME
Prep Batch: 67358 | QC Preparation: 2011-03-15 | Prepared By: ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.96	mg/Kg	1	2.00	98	67.6 - 150
4-Bromofluorobenzene (4-BFB)		1.65	mg/Kg	1	2.00	82	52.4 - 130

Method Blank (1) QC Batch: 79402

QC Batch: 79402 | Date Analyzed: 2011-03-15 | Analyzed By: kg
Prep Batch: 67363 | QC Preparation: 2011-03-15 | Prepared By: kg

Parameter	Flag	MDL Result	Units	RL
DRO		<15.7	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		97.9	mg/Kg	1	100	98	70 - 130

Method Blank (1) QC Batch: 79405

QC Batch: 79405 | Date Analyzed: 2011-03-09 | Analyzed By: AR
Prep Batch: 67261 | QC Preparation: 2011-03-09 | Prepared By: AR

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

Method Blank (1) QC Batch: 79406

QC Batch: 79406 | Date Analyzed: 2011-03-09 | Analyzed By: AR
Prep Batch: 67261 | QC Preparation: 2011-03-09 | Prepared By: AR

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

Method Blank (1) QC Batch: 79408

QC Batch: 79408 | Date Analyzed: 2011-03-09 | Analyzed By: AR
Prep Batch: 67261 | QC Preparation: 2011-03-09 | Prepared By: AR

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

Laboratory Control Spike (LCS-1)

QC Batch: 79090 | Date Analyzed: 2011-03-09 | Analyzed By: ME
Prep Batch: 67108 | QC Preparation: 2011-03-09 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.92	mg/Kg	1	2.00	<0.0118	96	81.9 - 108
Toluene	1.88	mg/Kg	1	2.00	<0.00600	94	81.9 - 107
Ethylbenzene	1.84	mg/Kg	1	2.00	<0.00850	92	78.4 - 107
Xylene	5.47	mg/Kg	1	6.00	<0.00613	91	79.1 - 107

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.90	mg/Kg	1	2.00	<0.0118	95	81.9 - 108	1	20
Toluene	1.88	mg/Kg	1	2.00	<0.00600	94	81.9 - 107	0	20
Ethylbenzene	1.81	mg/Kg	1	2.00	<0.00850	90	78.4 - 107	2	20
Xylene	5.44	mg/Kg	1	6.00	<0.00613	91	79.1 - 107	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)	1.82	1.80	mg/Kg	1	2.00	91	90	70.2 - 114
4-Bromofluorobenzene (4-BFB)	1.71	1.65	mg/Kg	1	2.00	86	82	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 79091 | Date Analyzed: 2011-03-09 | Analyzed By: ME
Prep Batch: 67108 | QC Preparation: 2011-03-09 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	15.1	mg/Kg	1	20.0	<0.753	76	60.9 - 95.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	15.8	mg/Kg	1	20.0	<0.753	79	60.9 - 95.4	4	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.01	2.14	mg/Kg	1	2.00	100	107	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.91	2.02	mg/Kg	1	2.00	96	101	68.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 79174 | Date Analyzed: 2011-03-10 | Analyzed By: ME
Prep Batch: 67162 | QC Preparation: 2011-03-10 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.03	mg/Kg	1	2.00	<0.0118	102	81.9 - 108
Toluene	2.02	mg/Kg	1	2.00	<0.00600	101	81.9 - 107
Ethylbenzene	1.98	mg/Kg	1	2.00	<0.00850	99	78.4 - 107
Xylene	5.95	mg/Kg	1	6.00	<0.00613	99	79.1 - 107

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.08	mg/Kg	1	2.00	<0.0118	104	81.9 - 108	2	20
Toluene	2.08	mg/Kg	1	2.00	<0.00600	104	81.9 - 107	3	20
Ethylbenzene	2.02	mg/Kg	1	2.00	<0.00850	101	78.4 - 107	2	20
Xylene	6.09	mg/Kg	1	6.00	<0.00613	102	79.1 - 107	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)	1.98	1.96	mg/Kg	1	2.00	99	98	70.2 - 114
4-Bromofluorobenzene (4-BFB)	2.05	2.06	mg/Kg	1	2.00	102	103	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 79175 | Date Analyzed: 2011-03-10 | Analyzed By: ME
Prep Batch: 67162 | QC Preparation: 2011-03-10 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	13.8	mg/Kg	1	20.0	<0.753	69	60.9 - 95.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	13.5	mg/Kg	1	20.0	<0.753	68	60.9 - 95.4	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	1.95	mg/Kg	1	2.00	96	98	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.83	1.86	mg/Kg	1	2.00	92	93	68.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 79253 | Date Analyzed: 2011-03-08 | Analyzed By: kg
Prep Batch: 67239 | QC Preparation: 2011-03-08 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	231	mg/Kg	1	250	<15.7	92	47.5 - 144.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	237	mg/Kg	1	250	<15.7	95	47.5 - 144.1	3	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	114	123	mg/Kg	1	100	114	123	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 79388 | Date Analyzed: 2011-03-15 | Analyzed By: ME
Prep Batch: 67358 | QC Preparation: 2011-03-15 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.86	mg/Kg	1	2.00	<0.0118	93	81.9 - 108
Toluene	1.88	mg/Kg	1	2.00	<0.00600	94	81.9 - 107
Ethylbenzene	1.85	mg/Kg	1	2.00	<0.00850	92	78.4 - 107
Xylene	5.55	mg/Kg	1	6.00	<0.00613	92	79.1 - 107

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.92	mg/Kg	1	2.00	<0.0118	96	81.9 - 108	3	20
Toluene	1.94	mg/Kg	1	2.00	<0.00600	97	81.9 - 107	3	20
Ethylbenzene	1.91	mg/Kg	1	2.00	<0.00850	96	78.4 - 107	3	20
Xylene	5.79	mg/Kg	1	6.00	<0.00613	96	79.1 - 107	4	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.76	1.90	mg/Kg	1	2.00	88	95	70.2 - 114
4-Bromofluorobenzene (4-BFB)	1.76	1.93	mg/Kg	1	2.00	88	96	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 79389 | Date Analyzed: 2011-03-15 | Analyzed By: ME
Prep Batch: 67358 | QC Preparation: 2011-03-15 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	14.2	mg/Kg	1	20.0	<0.753	71	60.9 - 95.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	13.8	mg/Kg	1	20.0	<0.753	69	60.9 - 95.4	3	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)	1.99	1.97	mg/Kg	1	2.00	100	98	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.82	1.82	mg/Kg	1	2.00	91	91	68.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 79402 | Date Analyzed: 2011-03-15 | Analyzed By: kg
Prep Batch: 67363 | QC Preparation: 2011-03-15 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	242	mg/Kg	1	250	<15.7	97	47.5 - 144.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	259	mg/Kg	1	250	<15.7	104	47.5 - 144.1	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	99.0	99.6	mg/Kg	1	100	99	100	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 79405 | Date Analyzed: 2011-03-09 | Analyzed By: AR
Prep Batch: 67261 | QC Preparation: 2011-03-09 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.9	mg/Kg	1	100	<3.85	98	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	106	mg/Kg	1	100	<3.85	106	85 - 115	8	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 79406 | Date Analyzed: 2011-03-09 | Analyzed By: AR
Prep Batch: 67261 | QC Preparation: 2011-03-09 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.5	mg/Kg	1	100	<3.85	98	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	103	mg/Kg	1	100	<3.85	103	85 - 115	6	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 79408 | Date Analyzed: 2011-03-09 | Analyzed By: AR
Prep Batch: 67261 | QC Preparation: 2011-03-09 | Prepared By: AR

Param	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	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	104	mg/Kg	1	100	<3.85	104	85 - 115	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: 259766

QC Batch: 79090 | Date Analyzed: 2011-03-09 | Analyzed By: ME
Prep Batch: 67108 | QC Preparation: 2011-03-09 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.89	mg/Kg	1	2.00	<0.0118	94	80.5 - 112
Toluene	1.93	mg/Kg	1	2.00	<0.00600	96	82.4 - 113
Ethylbenzene	2.00	mg/Kg	1	2.00	<0.00850	100	83.9 - 114
Xylene	5.97	mg/Kg	1	6.00	<0.00613	100	84 - 114

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.81	mg/Kg	1	2.00	<0.0118	90	80.5 - 112	4	20
Toluene	1.83	mg/Kg	1	2.00	<0.00600	92	82.4 - 113	5	20
Ethylbenzene	1.91	mg/Kg	1	2.00	<0.00850	96	83.9 - 114	5	20
Xylene	5.70	mg/Kg	1	6.00	<0.00613	95	84 - 114	5	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT) [6] [7]	2.44	2.45	mg/Kg	1	2	122	122	41.3 - 117
4-Bromofluorobenzene (4-BFB)	2.14	2.00	mg/Kg	1	2	107	100	35.5 - 129

[6]High surrogate recovery due to peak interference.
[7]High surrogate recovery due to peak interference.

Matrix Spike (MS-1) Spiked Sample: 259740

QC Batch: 79091 | Date Analyzed: 2011-03-09 | Analyzed By: ME
Prep Batch: 67108 | QC Preparation: 2011-03-09 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	12.5	mg/Kg	1	20.0	<0.753	62	61.8 - 114

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	13.5	mg/Kg	1	20.0	<0.753	68	61.8 - 114	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)	2.36	2.52	mg/Kg	1	2	118	126	50 - 162
4-Bromofluorobenzene (4-BFB)	2.00	2.11	mg/Kg	1	2	100	106	50 - 162

Matrix Spike (MS-1) Spiked Sample: 259861

QC Batch: 79174 | Date Analyzed: 2011-03-10 | Analyzed By: ME
Prep Batch: 67162 | QC Preparation: 2011-03-10 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.86	mg/Kg	1	2.00	<0.0118	93	80.5 - 112
Toluene	1.88	mg/Kg	1	2.00	<0.00600	94	82.4 - 113
Ethylbenzene	1.96	mg/Kg	1	2.00	<0.00850	98	83.9 - 114
Xylene	5.91	mg/Kg	1	6.00	<0.00613	98	84 - 114

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.08	mg/Kg	1	2.00	<0.0118	104	80.5 - 112	11	20
Toluene	2.14	mg/Kg	1	2.00	<0.00600	107	82.4 - 113	13	20
Ethylbenzene	2.24	mg/Kg	1	2.00	<0.00850	112	83.9 - 114	13	20
Xylene	6.77	mg/Kg	1	6.00	<0.00613	113	84 - 114	14	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

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	[8]	2.26	2.37	mg/Kg	1	2	113	118	41.3 - 117
4-Bromofluorobenzene (4-BFB)		2.44	2.54	mg/Kg	1	2	122	127	35.5 - 129

Matrix Spike (MS-1) Spiked Sample: 259888

QC Batch: 79175 | Date Analyzed: 2011-03-10 | Analyzed By: ME
Prep Batch: 67162 | QC Preparation: 2011-03-10 | Prepared By: ME

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	[9]	19.2	mg/Kg	1	20.0	11.3277	39	61.8 - 114

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

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	[10]	13.1	mg/Kg	1	20.0	11.3277	9	61.8 - 114	38	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.21	2.08	mg/Kg	1	2	110	104	50 - 162
4-Bromofluorobenzene (4-BFB)	2.36	2.03	mg/Kg	1	2	118	102	50 - 162

Matrix Spike (MS-1) Spiked Sample: 259825

QC Batch: 79253 | Date Analyzed: 2011-03-08 | Analyzed By: kg
Prep Batch: 67239 | QC Preparation: 2011-03-08 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	213	mg/Kg	1	250	17.7	78	11.7 - 152.3

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

continued ...

[8]High surrogate recovery due to peak interference.
[9]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[10]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

matrix spikes continued ...

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	217	mg/Kg	1	250	17.7	80	11.7 - 152.3	2	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	100	96.0	mg/Kg	1	100	100	96	70 - 130

Matrix Spike (MS-1) Spiked Sample: 259974

QC Batch: 79388 | Date Analyzed: 2011-03-15 | Analyzed By: ME
Prep Batch: 67358 | QC Preparation: 2011-03-15 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.92	mg/Kg	1	2.00	<0.0118	96	80.5 - 112
Toluene	2.00	mg/Kg	1	2.00	<0.00600	100	82.4 - 113
Ethylbenzene	2.09	mg/Kg	1	2.00	<0.00850	104	83.9 - 114
Xylene	6.30	mg/Kg	1	6.00	0.3919	98	84 - 114

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.90	mg/Kg	1	2.00	<0.0118	95	80.5 - 112	1	20
Toluene	2.01	mg/Kg	1	2.00	<0.00600	100	82.4 - 113	0	20
Ethylbenzene	2.09	mg/Kg	1	2.00	<0.00850	104	83.9 - 114	0	20
Xylene	6.30	mg/Kg	1	6.00	0.3919	98	84 - 114	0	20

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

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	[11] [12]	2.44	2.42	mg/Kg	1	2	122	121	41.3 - 117
4-Bromofluorobenzene (4-BFB)		2.48	2.46	mg/Kg	1	2	124	123	35.5 - 129

Matrix Spike (MS-1) Spiked Sample: 259889

QC Batch: 79389 | Date Analyzed: 2011-03-15 | Analyzed By: ME
Prep Batch: 67358 | QC Preparation: 2011-03-15 | Prepared By: ME

[11]High surrogate recovery due to peak interference.
[12]High surrogate recovery due to peak interference.

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	14.4	mg/Kg	1	20.0	<0.753	72	61.8 - 114

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	15.1	mg/Kg	1	20.0	<0.753	76	61.8 - 114	5	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.56	2.54	mg/Kg	1	2	128	127	50 - 162
4-Bromofluorobenzene (4-BFB)	2.43	2.39	mg/Kg	1	2	122	120	50 - 162

Matrix Spike (MS-1) Spiked Sample: 259756

QC Batch: 79402 | Date Analyzed: 2011-03-15 | Analyzed By: kg
Prep Batch: 67363 | QC Preparation: 2011-03-15 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	388	mg/Kg	1	250	186	81	11.7 - 152.3

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO [13]	766	mg/Kg	1	250	186	232	11.7 - 152.3	66	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 [14]	116	239	mg/Kg	1	100	116	239	70 - 130

Matrix Spike (MS-1) Spiked Sample: 259771

QC Batch: 79405 | Date Analyzed: 2011-03-09 | Analyzed By: AR
Prep Batch: 67261 | QC Preparation: 2011-03-09 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10100	mg/Kg	100	10000	<385	99	80 - 120

[13]Matrix spike recovery out of control limits due to peak interference Use LCS/LCSD to demonstrate analysis is under control.
[14]High surrogate recovery due to peak interference.

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10600	mg/Kg	100	10000	<385	104	80 - 120	5	20

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

Matrix Spike (MS-1) Spiked Sample: 259781

QC Batch: 79406 | Date Analyzed: 2011-03-09 | Analyzed By: AR
Prep Batch: 67261 | QC Preparation: 2011-03-09 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10800	mg/Kg	100	10000	461	103	80 - 120

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	11600	mg/Kg	100	10000	461	111	80 - 120	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: 259791

QC Batch: 79408 | Date Analyzed: 2011-03-09 | Analyzed By: AR
Prep Batch: 67261 | QC Preparation: 2011-03-09 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10800	mg/Kg	100	10000	612	102	80 - 120

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	11300	mg/Kg	100	10000	612	107	80 - 120	4	20

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

Standard (CCV-1)

QC Batch: 79090 | Date Analyzed: 2011-03-09 | Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.101	101	80 - 120	2011-03-09
Toluene		mg/Kg	0.100	0.0998	100	80 - 120	2011-03-09
Ethylbenzene		mg/Kg	0.100	0.0966	97	80 - 120	2011-03-09
Xylene		mg/Kg	0.300	0.287	96	80 - 120	2011-03-09

Standard (CCV-2)

QC Batch: 79090 Date Analyzed: 2011-03-09 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0956	96	80 - 120	2011-03-09
Toluene		mg/Kg	0.100	0.0947	95	80 - 120	2011-03-09
Ethylbenzene		mg/Kg	0.100	0.0919	92	80 - 120	2011-03-09
Xylene		mg/Kg	0.300	0.277	92	80 - 120	2011-03-09

Standard (CCV-1)

QC Batch: 79091 Date Analyzed: 2011-03-09 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.928	93	80 - 120	2011-03-09

Standard (CCV-2)

QC Batch: 79091 Date Analyzed: 2011-03-09 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.08	108	80 - 120	2011-03-09

Standard (CCV-1)

QC Batch: 79174 Date Analyzed: 2011-03-10 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0999	100	80 - 120	2011-03-10
Toluene		mg/Kg	0.100	0.0996	100	80 - 120	2011-03-10
Ethylbenzene		mg/Kg	0.100	0.0969	97	80 - 120	2011-03-10
Xylene		mg/Kg	0.300	0.292	97	80 - 120	2011-03-10

Standard (CCV-2)

QC Batch: 79174 Date Analyzed: 2011-03-10 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0964	96	80 - 120	2011-03-10
Toluene		mg/Kg	0.100	0.0959	96	80 - 120	2011-03-10
Ethylbenzene		mg/Kg	0.100	0.0943	94	80 - 120	2011-03-10
Xylene		mg/Kg	0.300	0.286	95	80 - 120	2011-03-10

Standard (CCV-1)

QC Batch: 79175 Date Analyzed: 2011-03-10 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.926	93	80 - 120	2011-03-10

Standard (CCV-2)

QC Batch: 79175 Date Analyzed: 2011-03-10 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.832	83	80 - 120	2011-03-10

Standard (CCV-2)

QC Batch: 79253 Date Analyzed: 2011-03-08 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	211	84	80 - 120	2011-03-08

Standard (CCV-3)

QC Batch: 79253 Date Analyzed: 2011-03-08 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	236	94	80 - 120	2011-03-08

Standard (CCV-1)

QC Batch: 79388 Date Analyzed: 2011-03-15 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0931	93	80 - 120	2011-03-15
Toluene		mg/Kg	0.100	0.0942	94	80 - 120	2011-03-15
Ethylbenzene		mg/Kg	0.100	0.0930	93	80 - 120	2011-03-15
Xylene		mg/Kg	0.300	0.278	93	80 - 120	2011-03-15

Standard (CCV-2)

QC Batch: 79388 Date Analyzed: 2011-03-15 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0979	98	80 - 120	2011-03-15
Toluene		mg/Kg	0.100	0.102	102	80 - 120	2011-03-15
Ethylbenzene		mg/Kg	0.100	0.102	102	80 - 120	2011-03-15
Xylene		mg/Kg	0.300	0.304	101	80 - 120	2011-03-15

Standard (CCV-1)

QC Batch: 79389 Date Analyzed: 2011-03-15 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.925	92	80 - 120	2011-03-15

Standard (CCV-2)

QC Batch: 79389 Date Analyzed: 2011-03-15 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.19	119	80 - 120	2011-03-15

Standard (CCV-1)

QC Batch: 79402 Date Analyzed: 2011-03-15 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	264	106	80 - 120	2011-03-15

Standard (CCV-2)

QC Batch: 79402 Date Analyzed: 2011-03-15 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	237	95	80 - 120	2011-03-15

Standard (ICV-1)

QC Batch: 79405 Date Analyzed: 2011-03-09 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.9	100	85 - 115	2011-03-09

Standard (CCV-1)

QC Batch: 79405 Date Analyzed: 2011-03-09 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2011-03-09

Standard (ICV-1)

QC Batch: 79406 Date Analyzed: 2011-03-09 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.0	99	85 - 115	2011-03-09

Standard (CCV-1)

QC Batch: 79406 Date Analyzed: 2011-03-09 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2011-03-09

Standard (ICV-1)

QC Batch: 79408 Date Analyzed: 2011-03-09 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	102	102	85 - 115	2011-03-09

Standard (CCV-1)

QC Batch: 79408 Date Analyzed: 2011-03-09 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.5	98	85 - 115	2011-03-09

Summary Report

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

Report Date: October 10, 2011

Work Order: 11100302

Project Location: Eddy County, NM
Project Name: COG/Electra Federal #5
Project Number: 114-6400825

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
278822	CS #1 Bottom Hole 4' @ AH-1	soil	2011-09-22	00:00	2011-09-30
278823	CS #1 North Side Wall @ AH-1	soil	2011-09-22	00:00	2011-09-30
278824	CS #1 East Side Wall @ AH-1	soil	2011-09-22	00:00	2011-09-30
278825	CS #1 West Side Wall @ AH-1	soil	2011-09-22	00:00	2011-09-30
278826	CS #2 Bottom Hole 4' @ AH-2	soil	2011-09-22	00:00	2011-09-30
278827	CS #2 East Side Wall @ AH-2	soil	2011-09-22	00:00	2011-09-30
278828	CS #2 West Side Wall @ AH-2	soil	2011-09-22	00:00	2011-09-30
278829	CS #3 Bottom Hole 1' @ AH-3	soil	2011-09-22	00:00	2011-09-30
278830	CS #3 East Side Wall @ AH-3	soil	2011-09-22	00:00	2011-09-30
278831	CS #3 West Side Wall @ AH-3	soil	2011-09-22	00:00	2011-09-30
278832	CS #4 Bottom Hole 1' @ AH-4	soil	2011-09-22	00:00	2011-09-30
278833	CS #4 North Side Wall @ AH-4	soil	2011-09-22	00:00	2011-09-30
278834	CS #4 East Side Wall @ AH-4	soil	2011-09-22	00:00	2011-09-30
278835	CS #4 West Side Wall @ AH-4	soil	2011-09-22	00:00	2011-09-30
278836	CS #4 South Side Wall @ AH-4	soil	2011-09-22	00:00	2011-09-30
278837	TI-3' Trench @ AH-4	soil	2011-09-26	00:00	2011-09-30
278838	TI-5' Trench @ AH-4	soil	2011-09-26	00:00	2011-09-30

Sample: 278822 - CS #1 Bottom Hole 4' @ AH-1

Param	Flag	Result	Units	RL
Chloride		**713**	mg/Kg	4

Sample: 278823 - CS #1 North Side Wall @ AH-1

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

Sample: 278824 - CS #1 East Side Wall @ AH-1

Param	Flag	Result	Units	RL
Chloride		**249**	mg/Kg	4

Sample: 278825 - CS #1 West Side Wall @ AH-1

Param	Flag	Result	Units	RL
Chloride		**3630**	mg/Kg	4

Sample: 278826 - CS #2 Bottom Hole 4' @ AH-2

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

Sample: 278827 - CS #2 East Side Wall @ AH-2

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

Sample: 278828 - CS #2 West Side Wall @ AH-2

Param	Flag	Result	Units	RL
Chloride		**948**	mg/Kg	4

Sample: 278829 - CS #3 Bottom Hole 1' @ AH-3

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

Sample: 278830 - CS #3 East Side Wall @ AH-3

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

Sample: 278831 - CS #3 West Side Wall @ AH-3

Param	Flag	Result	Units	RL
Chloride		**390**	mg/Kg	4

Sample: 278832 - CS #4 Bottom Hole 1' @ AH-4

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

Sample: 278833 - CS #4 North Side Wall @ AH-4

Param	Flag	Result	Units	RL
Chloride		**2400**	mg/Kg	4

Sample: 278834 - CS #4 East Side Wall @ AH-4

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

Sample: 278835 - CS #4 West Side Wall @ AH-4

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

Sample: 278836 - CS #4 South Side Wall @ AH-4

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

Sample: 278837 - TI-3' Trench @ AH-4

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

Sample: 278838 - TI-5' Trench @ AH-4

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 888•588•3443 915•585•3443 FAX 915•585•4944
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6015 Harris Parkway, Suite 110 Ft Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: October 10, 2011

Work Order: 11100302

Project Location: Eddy County, NM
Project Name: COG/Electra Federal #5
Project Number: 114-6400825

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
278822	CS #1 Bottom Hole 4' @ AH-1	soil	2011-09-22	00:00	2011-09-30
278823	CS #1 North Side Wall @ AH-1	soil	2011-09-22	00:00	2011-09-30
278824	CS #1 East Side Wall @ AH-1	soil	2011-09-22	00:00	2011-09-30
278825	CS #1 West Side Wall @ AH-1	soil	2011-09-22	00:00	2011-09-30
278826	CS #2 Bottom Hole 4' @ AH-2	soil	2011-09-22	00:00	2011-09-30
278827	CS #2 East Side Wall @ AH-2	soil	2011-09-22	00:00	2011-09-30
278828	CS #2 West Side Wall @ AH-2	soil	2011-09-22	00:00	2011-09-30
278829	CS #3 Bottom Hole 1' @ AH-3	soil	2011-09-22	00:00	2011-09-30
278830	CS #3 East Side Wall @ AH-3	soil	2011-09-22	00:00	2011-09-30
278831	CS #3 West Side Wall @ AH-3	soil	2011-09-22	00:00	2011-09-30
278832	CS #4 Bottom Hole 1' @ AH-4	soil	2011-09-22	00:00	2011-09-30
278833	CS #4 North Side Wall @ AH-4	soil	2011-09-22	00:00	2011-09-30
278834	CS #4 East Side Wall @ AH-4	soil	2011-09-22	00:00	2011-09-30
278835	CS #4 West Side Wall @ AH-4	soil	2011-09-22	00:00	2011-09-30
278836	CS #4 South Side Wall @ AH-4	soil	2011-09-22	00:00	2011-09-30
278837	TI-3' Trench @ AH-4	soil	2011-09-26	00:00	2011-09-30
278838	TI-5' Trench @ AH-4	soil	2011-09-26	00:00	2011-09-30

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.

This report consists of a total of 14 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

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

Report Contents

Case Narrative

Samples for project COG/Electra Federal #5 were received by TraceAnalysis, Inc. on 2011-09-30 and assigned to work order 11100302. Samples for work order 11100302 were received intact at a temperature of 11.3 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	72450	2011-10-06 at 10:23	85367	2011-10-07 at 13:20
Chloride (Titration)	SM 4500-Cl B	72450	2011-10-06 at 10:23	85368	2011-10-07 at 13:22

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 11100302 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: 278822 - CS #1 Bottom Hole 4' @ AH-1

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	85367	Date Analyzed:	2011-10-07	Analyzed By:	AR
Prep Batch:	72450	Sample Preparation:	2011-10-06	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**713**	mg/Kg	50	4.00

Sample: 278823 - CS #1 North Side Wall @ AH-1

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	85367	Date Analyzed:	2011-10-07	Analyzed By:	AR
Prep Batch:	72450	Sample Preparation:	2011-10-06	Prepared By:	AR

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

Sample: 278824 - CS #1 East Side Wall @ AH-1

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	85367	Date Analyzed:	2011-10-07	Analyzed By:	AR
Prep Batch:	72450	Sample Preparation:	2011-10-06	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**249**	mg/Kg	50	4.00

Sample: 278825 - CS #1 West Side Wall @ AH-1

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	85367	Date Analyzed:	2011-10-07	Analyzed By:	AR
Prep Batch:	72450	Sample Preparation:	2011-10-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**3630**	mg/Kg	100	4.00

Sample: 278826 - CS #2 Bottom Hole 4' @ AH-2

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	85367	Date Analyzed:	2011-10-07	Analyzed By:	AR
Prep Batch:	72450	Sample Preparation:	2011-10-06	Prepared By:	AR

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

Sample: 278827 - CS #2 East Side Wall @ AH-2

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	85367	Date Analyzed:	2011-10-07	Analyzed By:	AR
Prep Batch:	72450	Sample Preparation:	2011-10-06	Prepared By:	AR

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

Sample: 278828 - CS #2 West Side Wall @ AH-2

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	85367	Date Analyzed:	2011-10-07	Analyzed By:	AR
Prep Batch:	72450	Sample Preparation:	2011-10-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**948**	mg/Kg	50	4.00

Sample: 278829 - CS #3 Bottom Hole 1' @ AH-3

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	85368	Date Analyzed:	2011-10-07	Analyzed By:	AR
Prep Batch:	72450	Sample Preparation:	2011-10-06	Prepared By:	AR

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

Sample: 278830 - CS #3 East Side Wall @ AH-3

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	85368	Date Analyzed:	2011-10-07	Analyzed By:	AR
Prep Batch:	72450	Sample Preparation:	2011-10-06	Prepared By:	AR

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

Sample: 278831 - CS #3 West Side Wall @ AH-3

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	85368	Date Analyzed:	2011-10-07	Analyzed By:	AR
Prep Batch:	72450	Sample Preparation:	2011-10-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**390**	mg/Kg	50	4.00

Sample: 278832 - CS #4 Bottom Hole 1' @ AH-4

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	85368	Date Analyzed:	2011-10-07	Analyzed By:	AR
Prep Batch:	72450	Sample Preparation:	2011-10-06	Prepared By:	AR

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

Sample: 278833 - CS #4 North Side Wall @ AH-4

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	85368	Date Analyzed:	2011-10-07	Analyzed By:	AR
Prep Batch:	72450	Sample Preparation:	2011-10-06	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**2400**	mg/Kg	100	4.00

Sample: 278834 - CS #4 East Side Wall @ AH-4

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	85368	Date Analyzed:	2011-10-07	Analyzed By:	AR
Prep Batch:	72450	Sample Preparation:	2011-10-06	Prepared By:	AR

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

Sample: 278835 - CS #4 West Side Wall @ AH-4

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	85368	Date Analyzed:	2011-10-07	Analyzed By:	AR
Prep Batch:	72450	Sample Preparation:	2011-10-06	Prepared By:	AR

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

Sample: 278836 - CS #4 South Side Wall @ AH-4

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	85368	Date Analyzed:	2011-10-07	Analyzed By:	AR
Prep Batch:	72450	Sample Preparation:	2011-10-06	Prepared By:	AR

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

Sample: 278837 - TI-3' Trench @ AH-4

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	85368	Date Analyzed:	2011-10-07	Analyzed By:	AR
Prep Batch:	72450	Sample Preparation:	2011-10-06	Prepared By:	AR

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

Sample: 278838 - TI-5' Trench @ AH-4

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	85368	Date Analyzed:	2011-10-07	Analyzed By:	AR
Prep Batch.	72450	Sample Preparation:	2011-10-06	Prepared By:	AR

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

Method Blanks

Method Blank (1) QC Batch: 85367

QC Batch:	85367	Date Analyzed:	2011-10-07	Analyzed By:	AR
Prep Batch:	72450	QC Preparation:	2011-10-06	Prepared By:	AR

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

Method Blank (1) QC Batch: 85368

QC Batch:	85368	Date Analyzed:	2011-10-07	Analyzed By:	AR
Prep Batch:	72450	QC Preparation:	2011-10-06	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: 85367 | Date Analyzed: 2011-10-07 | Analyzed By: AR
Prep Batch: 72450 | QC Preparation: 2011-10-06 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			95.1	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			104	mg/Kg	1	100	<3.85	104	85 - 115	9	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: 85368 | Date Analyzed: 2011-10-07 | Analyzed By: AR
Prep Batch: 72450 | QC Preparation: 2011-10-06 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			96.7	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			105	mg/Kg	1	100	<3.85	105	85 - 115	8	20

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

Matrix Spike (MS-1) Spiked Sample: 278828

QC Batch: 85367 | Date Analyzed: 2011-10-07 | Analyzed By: AR
Prep Batch: 72450 | QC Preparation: 2011-10-06 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10900	mg/Kg	100	10000	948	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			11600	mg/Kg	100	10000	948	106	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: 278838

QC Batch: 85368 | Date Analyzed: 2011-10-07 | Analyzed By: AR
Prep Batch: 72450 | QC Preparation: 2011-10-06 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10300	mg/Kg	100	10000	<385	101	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			10800	mg/Kg	100	10000	<385	106	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 (ICV-1)

QC Batch: 85367 | Date Analyzed: 2011-10-07 | Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2011-10-07

Standard (CCV-1)

QC Batch: 85367 | Date Analyzed: 2011-10-07 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.9	100	85 - 115	2011-10-07

Standard (ICV-1)

QC Batch: 85368 | Date Analyzed: 2011-10-07 | 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	101	101	85 - 115	2011-10-07

Standard (CCV-1)

QC Batch: 85368 | Date Analyzed: 2011-10-07 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.5	100	85 - 115	2011-10-07

Appendix

Laboratory Certifications

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

Standard Flags

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

Attachments

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

WO#: 11100502

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: COG

SITE MANAGER: IKE TAVAREZ

PROJECT NO.: 114-6400825

PROJECT NAME: ELECTRA FEDERAL #5 TANK BATTERY

LAB I.D. NUMBER	DATE	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
278822	9/22/11		S		X	CS#1 Bottom Hole 4' @ AH-1	1				X													X				
823	9/22/11		S		X	CS#1 North Side Wall @ AH-1	1				X																	
824	9/22/11		S		X	CS#1 East Side Wall @ AH-1	1				X																	
825	9/22/11		S		X	CS#1 West Side Wall @ AH-1	1				X																	
826	9/22/11		S		X	CS#2 Bottom Hole 4' @ AH-2	1				X																	
827	9/22/11		S		X	CS#2 East Side Wall @ AH-2	1				X																	
828	9/22/11		S		X	CS#2 West Side Wall @ AH-2	1				X																	
829	9/22/11		S		X	CS#3 Bottom Hole 1' @ AH-3	1				X																	
830	9/22/11		S		X	CS#3 East Side Wall @ AH-3	1				X																	
831	9/22/11		S		X	CS#3 West Side Wall @ AH-3	1				X																	

RELINQUISHED BY: (Signature) Date: 9/30/11 Time: 1620

RECEIVED BY: (Signature) Date: 9/30/11 Time: 16:20

SAMPLED BY: (Print & Initial) Date: 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:

Results by:

RECEIVING LABORATORY:

ADDRESS:

CITY: STATE: ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: TIME:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 11.3°c intact

REMARKS: All tests Midland

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XWO #: 1110302

Analysis Request of Chain of Custody Record

PAGE: 2 OF: 2

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

CLIENT NAME: COG

SITE MANAGER: JOE TAVAREZ

PROJECT NO.: 114-6400825

PROJECT NAME: ELECTRA FEDERAL #5 TANK BATTERY

LAB I.D. NUMBER	DATE	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
28832	9/22/11		S		X	CS#4 Bottom Hole 1' @ AH-4	1				X													X				
833	9/22/11		S		X	CS#4 North Side Wall @ AH-4	1				X																		
834	9/22/11		S		X	CS#4 East Side Wall @ AH-4	1				X																		
835	9/22/11		S		X	CS#4 West Side Wall @ AH-4	1				X																		
836	9/22/11		S		X	CS#4 South Side Wall @ AH-4	1				X																		
837	9/26/11		S		X	T1-3' Trench @ AH-4	1				X														X				
838	9/26/11		S		X	T1-5' Trench @ AH-4	1				X														X				

RELINQUISHED BY: (Signature) Date: 9/30/11 Time: 16:26

RECEIVED BY: (Signature) Date: 9/30/11 Time: 16:26

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY:

ADDRESS:

CITY: STATE: ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: TIME:

SAMPLED BY: (Print & Initial) Date: Time:

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

AIRBILL #:

OTHER:

TETRA TECH CONTACT PERSON:

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 11.3°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.