

SITE INFORMATION

2 RP-528

Report Type: Closure Report

General Site Information:

Site:	Big George 8" SWD Line		
Company:	COG Operating LLC		
Section, Township and Range	Unit N Sec 8 T17S R29E		
Lease Number:	API 30-015-28759		
County:	Eddy County		
GPS:	32 50.544° N	104 05.886° W	
Surface Owner:	State		
Mineral Owner:			
Directions:	Hwy 82 and CR-211 (Old Loco Road), north on 211 for 2 miles to location		

Release Data:

Date Released:	6/10/2010
Type Release:	Produced fluid
Source of Contamination:	8" SWD line
Fluid Released:	80 bbls
Fluids Recovered:	20 bbls

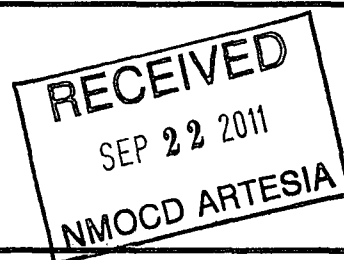
Official Communication:

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

Ranking Criteria

Depth to Groundwater:	Ranking Score	Site Data
<50 ft	20	
50-99 ft	10	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:		10

Acceptable Soil RRAL (mg/kg)		
Benzene	Total BTEX	TPH
10	50	1,000





TETRA TECH

August 18, 2011

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

**Re: Closure Report for the COG Operating LLC., Big George 8" Line,
Unit N, Section 8, Township 17 South, Range 29 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 Big George 8" Line, Unit N, Section 8, Township 17 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.84204°, W 104.09789°. 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 June 10, 2010, and released approximately eighty (80) barrels of produced water due to a plugged 8" SWD line rupturing. To alleviate the problem, COG personnel repaired the line and returned the line to service. Twenty (20) barrels of standing fluids were recovered from the spill area. The spill initiated from the SWD line impacting an area approximately 50' x 350' along a lease road. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 8. According to the NMOCD groundwater map, the average depth to groundwater in this area is approximately 80' below surface. The water report data is shown in

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559

Fax 432.682.3946

www.tetrattech.com



Appendix B.

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 1,000 mg/kg.

Soil Assessment and Analytical Results

Prior to sampling, the impacted area had been scraped by COG and the soil hauled to proper disposal. On June 22, 2010, Tetra Tech personnel inspected and sampled the spill area. A total of six (6) auger holes (AH-1 through AH-6) were installed using a stainless steel hand auger to assess the impacted soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all of the submitted samples were below the RRAL for TPH and BTEX. Elevated chloride concentrations were detected for all auger holes (AH-1 through AH-6), with chloride concentrations ranging from <200 mg/kg to 18,400 mg/kg. Auger holes (AH-1, AH-4 and AH-6) were vertically defined and AH-2, AH-3 and AH-5 bottom hole samples at 5-5.5' showed chloride concentrations of 892 mg/kg, 982 mg/kg, and 812 mg/kg, respectively.

Remedial Work and Closure Request

Prior to excavating the area, a New Mexico One Call (NMOC) was placed to clear the area for the remediation activities. Several additional pipelines were within the designated spill and proposed excavation footprint. Due to safety concerns and/or pipeline safety requirements, the proposed excavation areas were limited between the lines. The locations of these pipelines are shown on Figure 4.



TETRA TECH

From March 21 through 23, 2011, Tetra Tech personnel supervised the excavation of the site. The remediation was performed as stated in the approved work plan. Approximately 1,820 yards³ of soil were removed and transported to CRI Inc. for proper disposal. The excavation depths are highlighted in Table 1 and shown on Figure 4.

Once excavated to the appropriate depths, the areas of AH-2, AH-3, and AH-5 were trenched to collect confirmation samples and to define the chloride vertical extents, as recommended in the work plan. The sampling results are summarized in Table 1.

Referring to Table 1, AH-3 (CS-1) did show a declining chloride concentration with depth and AH-2 (CS-2) showed a chloride spike at 8.0' of 2,350 mg/kg and declined with depth to 291 mg/kg at 10'. The chloride spike appears to be cross contaminated from the upper soils. The area of AH-5 (CS-3) also showed chloride concentrations of 7,760 mg/kg at 6', 2,350 mg/kg at 8' and 2,950 mg/kg at 10', but declined to <200 mg/kg at 12'. This deeper impact was not excavated due to the limited area and safety concerns on the surrounding pipelines, which caused the loose sand to slough into the excavation. The excavations were backfilled with clean soil to grade.

Based on the remedial activities performed at this site, COG request closure of this site. If you require any additional information or have any questions or comments concerning this report, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Ike Tavarez
Project Manager

cc: Pat Ellis – COG

FIGURES

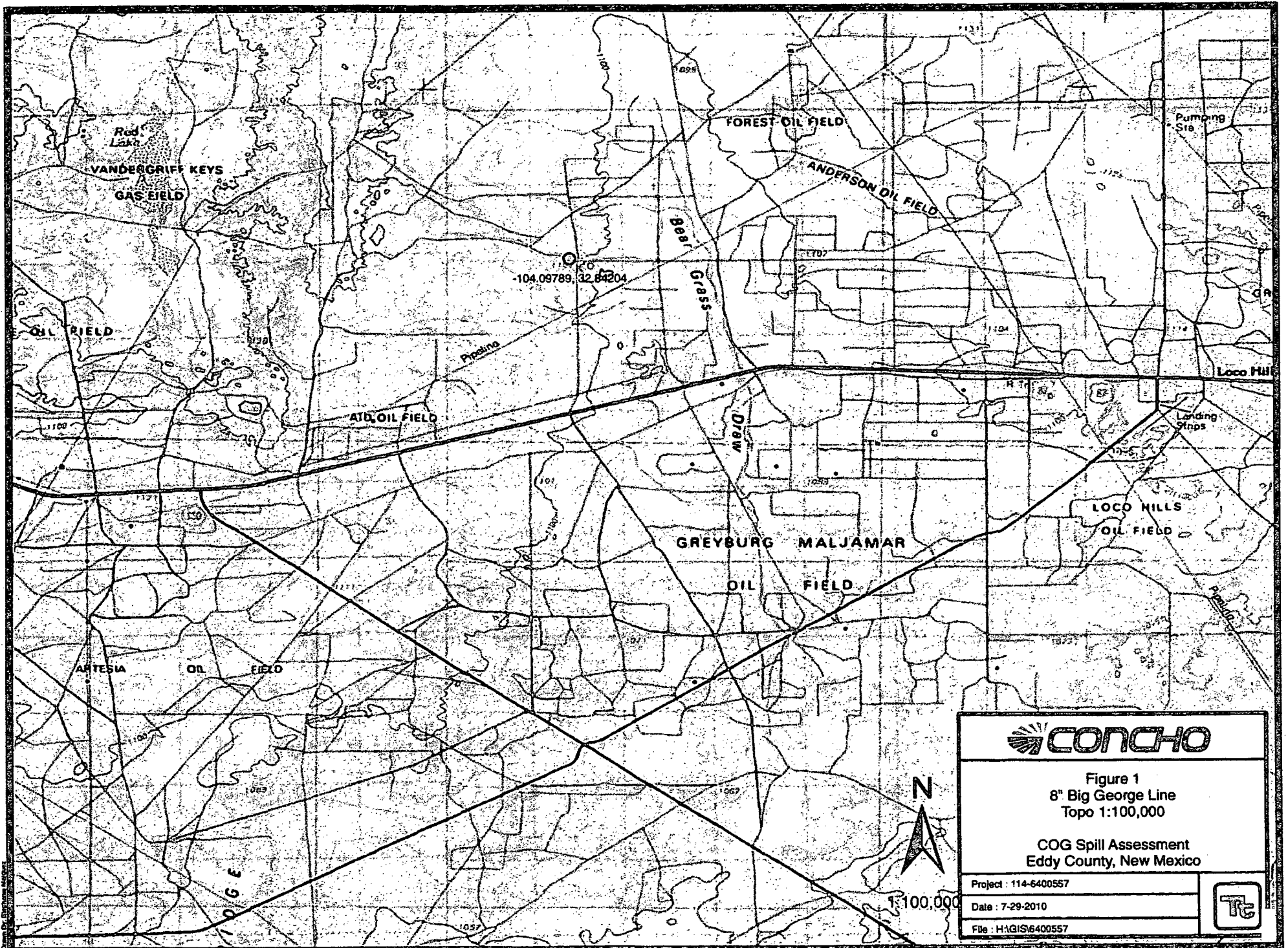


Figure 1
8" Big George Line
Topo 1:100,000

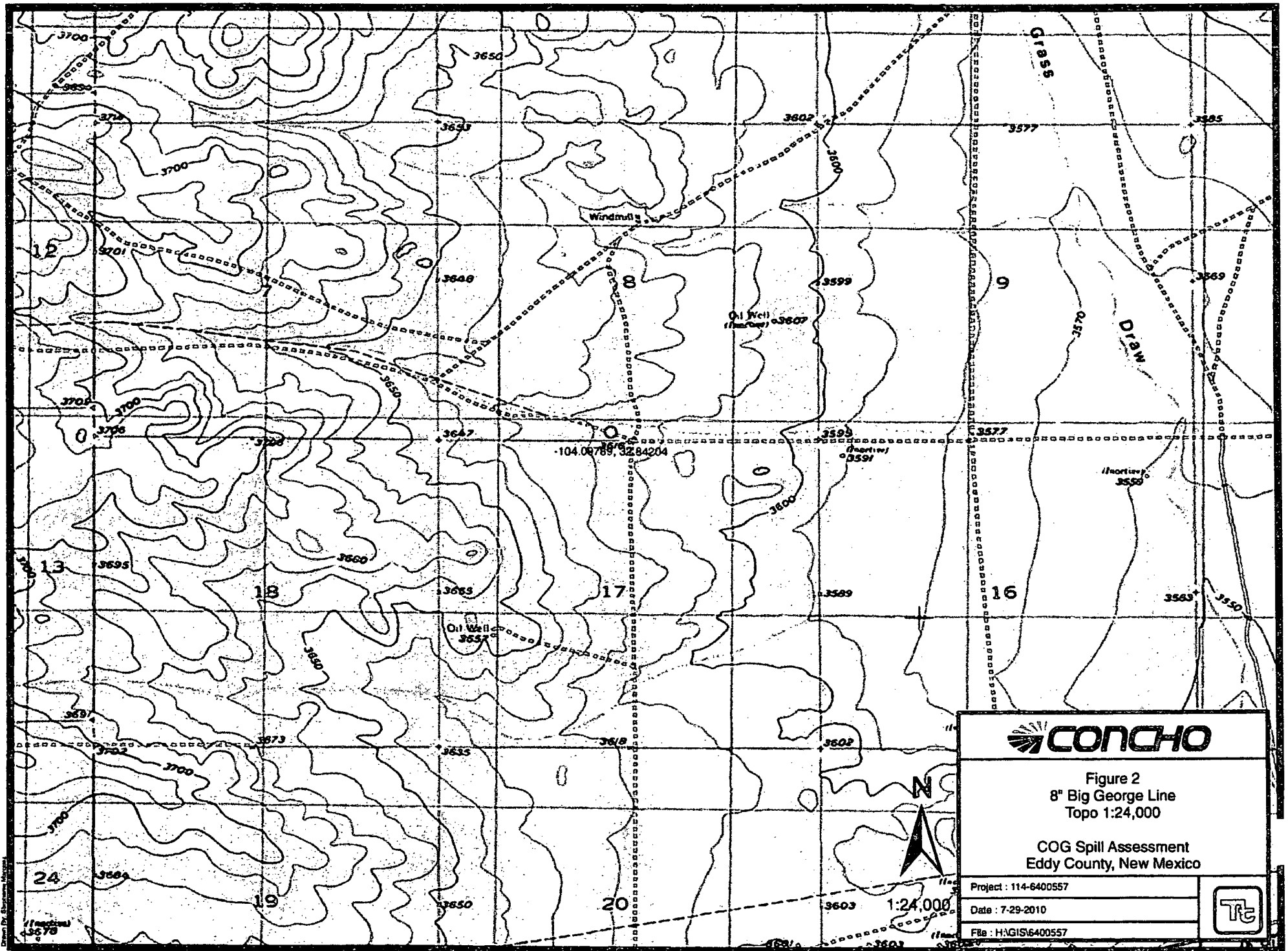
COG Spill Assessment
Eddy County, New Mexico

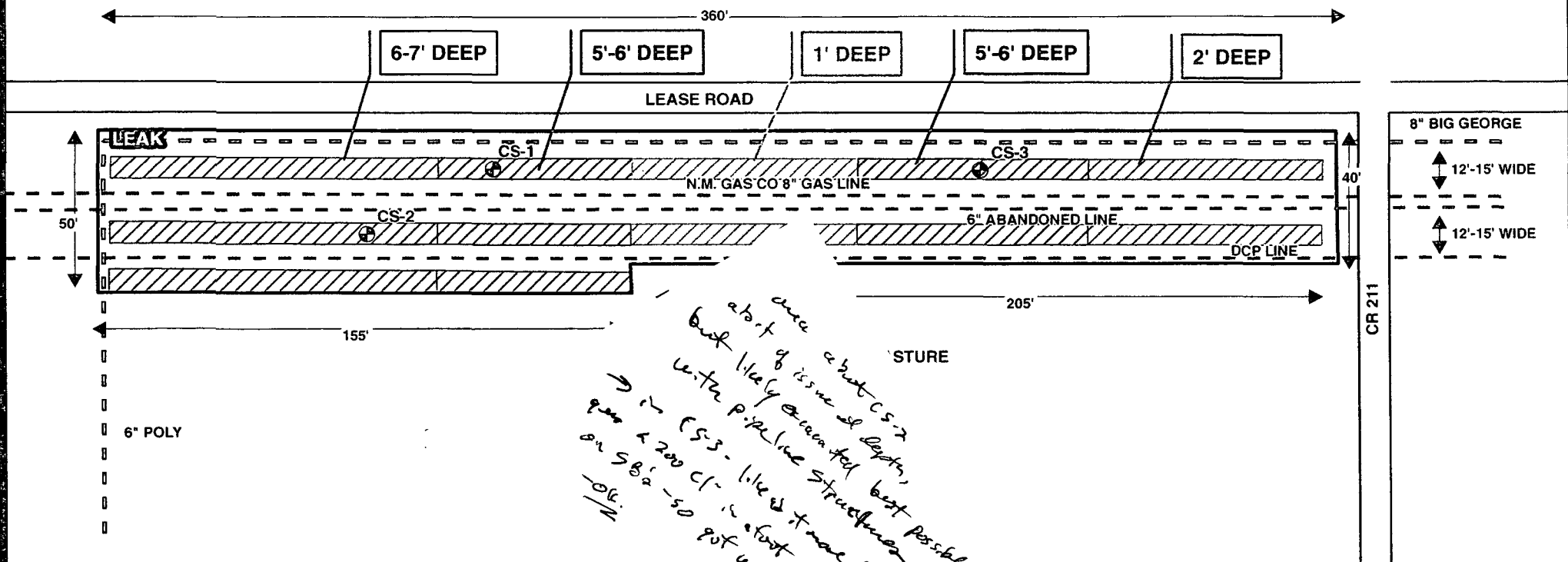
Project : 114-6400557

Date : 7-29-2010

File : H:\GIS\6400557







Handwritten notes:
 due about CS-2
 but likely excavated best possible
 with pipeline structure
 CS-3 - line is not on two based
 on 200 cl - is not on two based
 on 582 - so not what they would
 -OK-
 2

8" BIG GEORGE
 12'-15' WIDE
 12'-15' WIDE

Explanation

- Confirmation Sample
- - 6" & 8" Poly Flowline
- ▨ Excavated Area



NOT TO SCALE





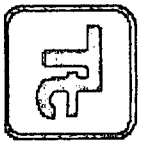
Figure 4
 8" Big George Line
 Excavation Depths & Confirmation Samples

COG Spill Assessment
 Eddy County, New Mexico

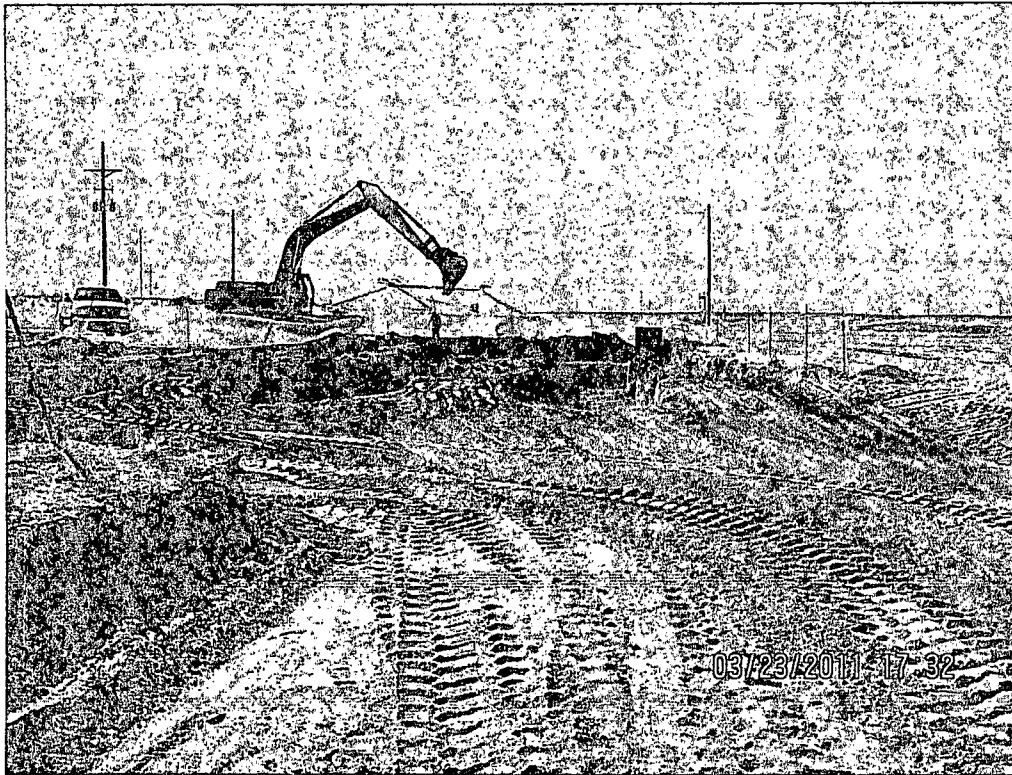
Project : 114-6400557	
Date : 8/18/2011	
File : H:\GIS\6400557	

PHOTOGRAPHS

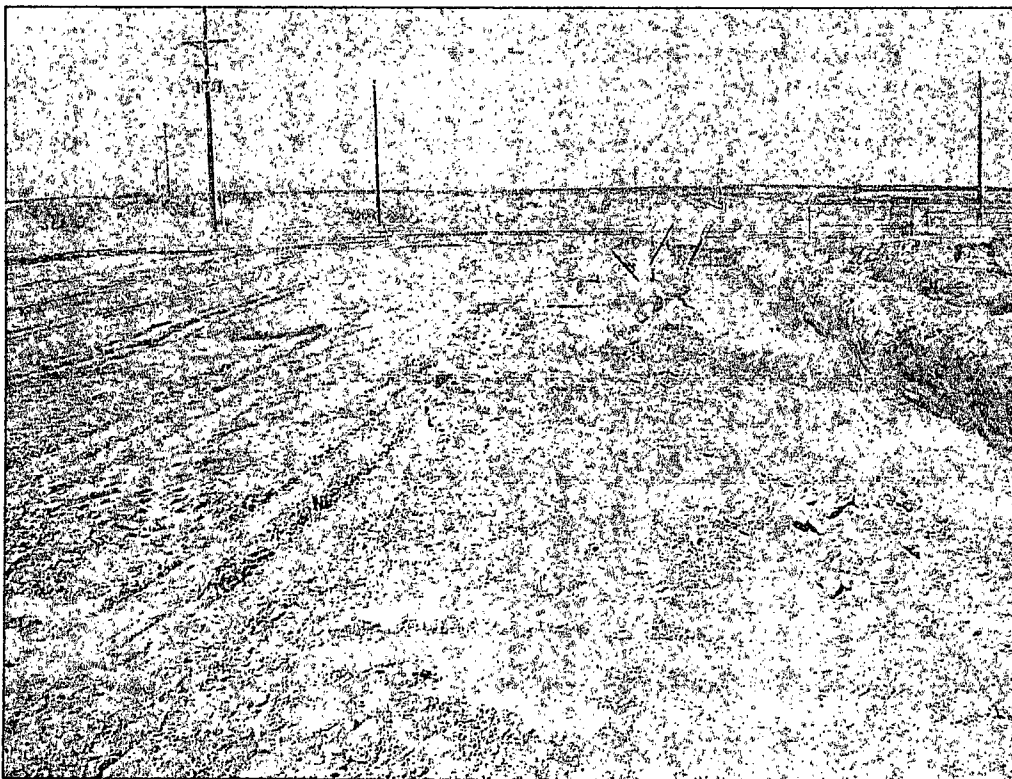
COG Operating LLC
Big George 8" Line
Eddy County, New Mexico



TETRA TECH

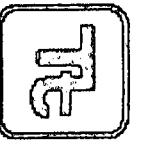


View west – Shallow excavation area toward deeper impact

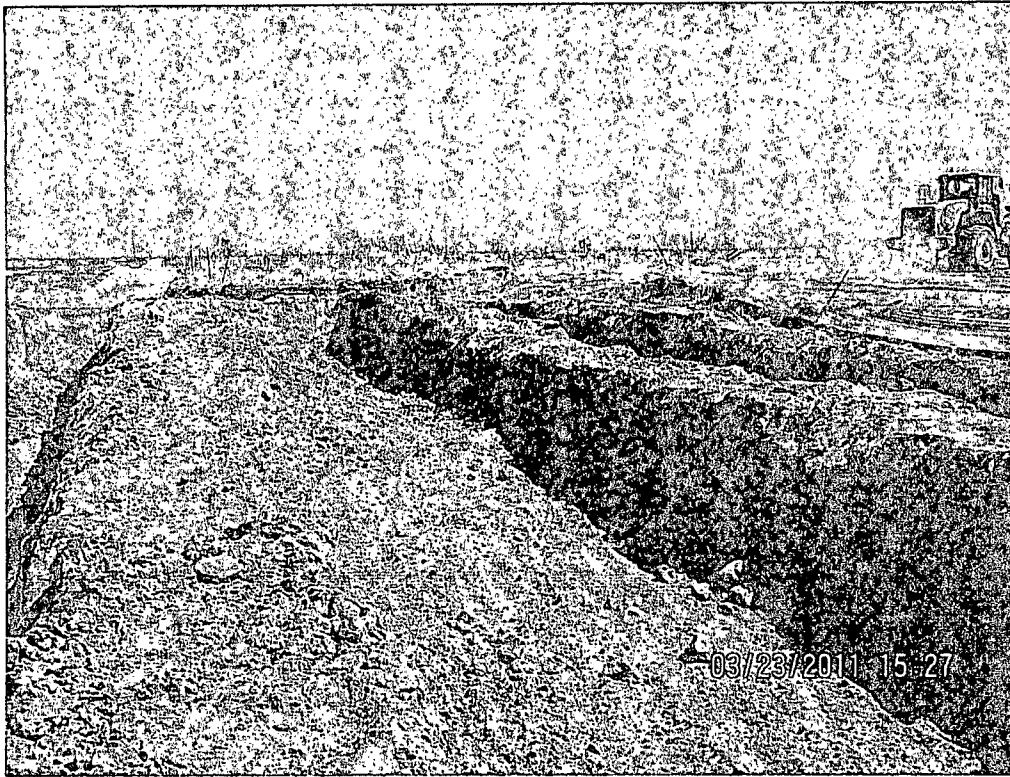


View east – Post excavation and area backfilled

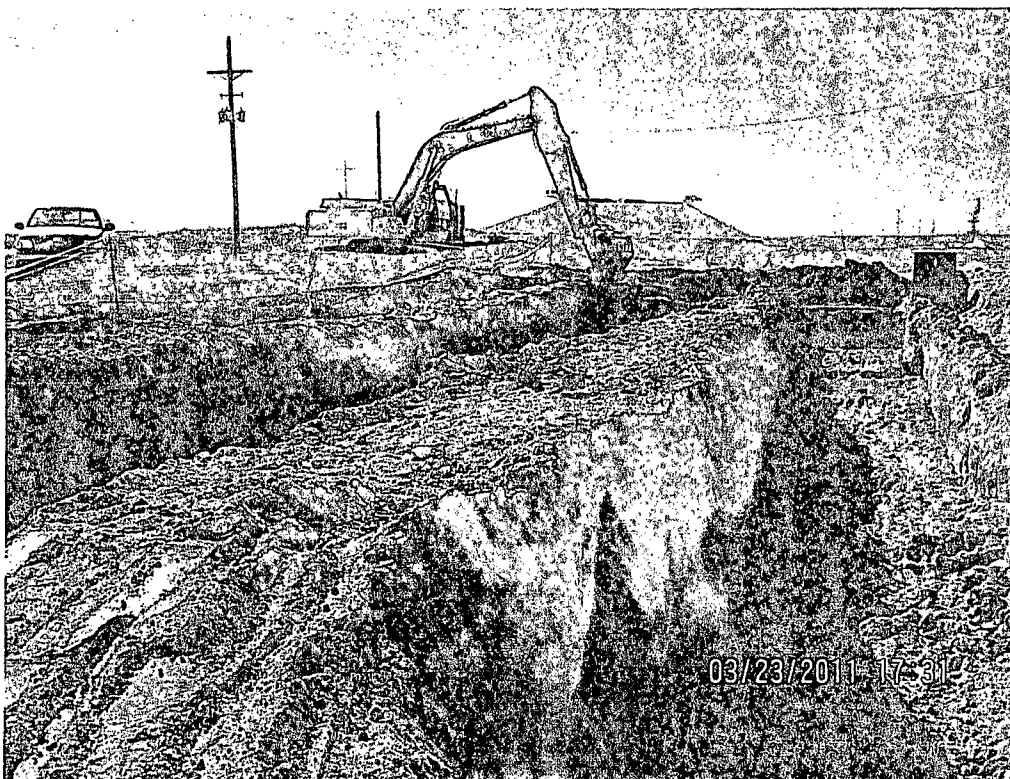
COG Operating LLC
Big George 8" Line
Eddy County, New Mexico



TETRA TECH

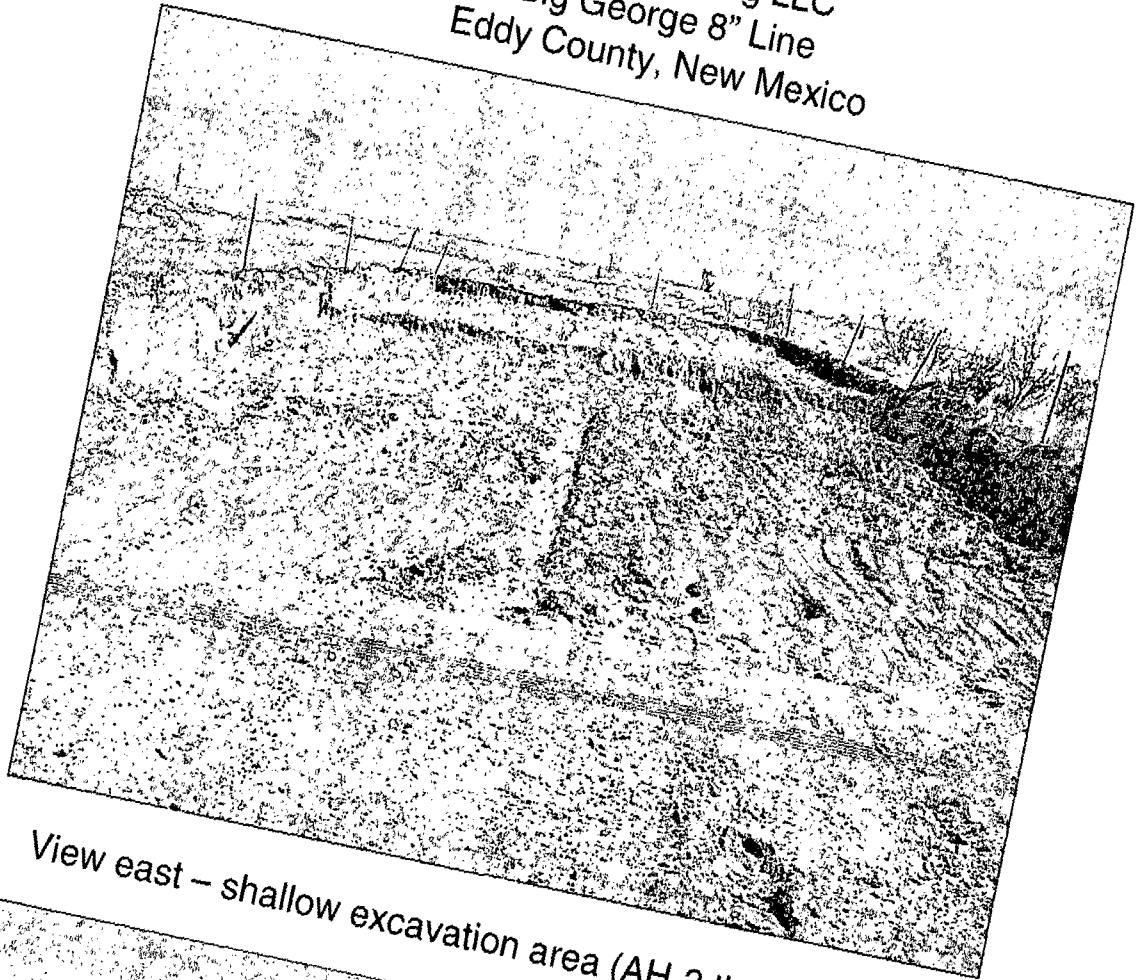


View west – Buried lines left in place

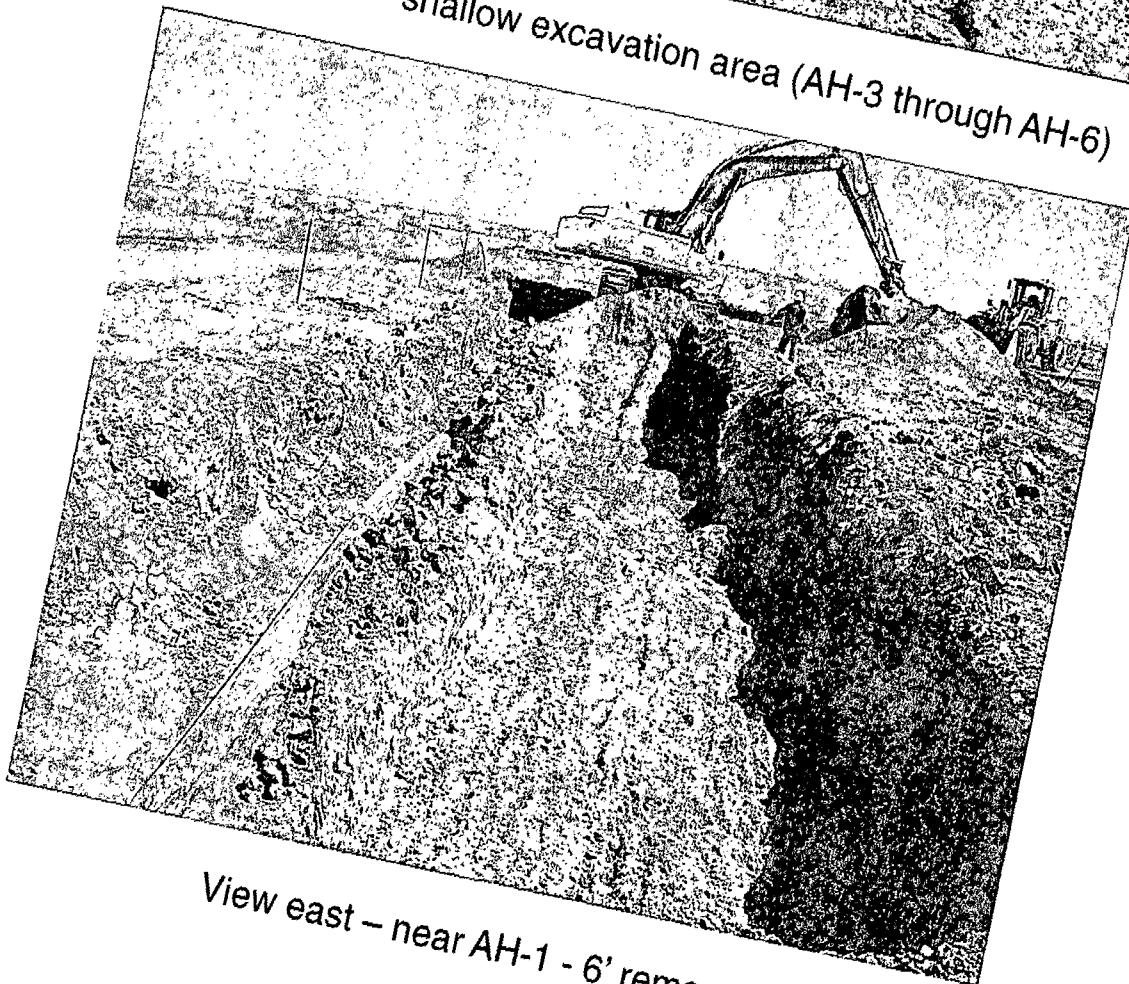


View east – NM Gas company line

COG Operating LLC
Big George 8" Line
Eddy County, New Mexico



View east – shallow excavation area (AH-3 through AH-6)



View east – near AH-1 - 6' removed

Table 1
COG Operating LLC.
Big George Line Leak
Eddy COUNTY, NEW MEXICO

[illegible]

Table 1
COG Operating LLC.
Big George Line Leak
Eddy COUNTY, NEW MEXICO

[illegible]

Table 1
COG Operating LLC.
Big George Line Leak
Eddy COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	BTEX Total	Chloride (mg/kg)
				In-Situ	Removed	DRO	GRO	Total						
AH-5	6/22/10	0-1'	2'		X	<50.0	<2.00	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.02	13,100
	"	1-1.5'	2'		X	-	-	-	-	-	-	-	-	13,200
	"	2-2.5'	2'		X	-	-	-	-	-	-	-	-	13,300
	"	3-3.5'	2'		X	-	-	-	-	-	-	-	-	7,790
	"	4-4.5'	2'		X	-	-	-	-	-	-	-	-	495
	"	5-5.5'	2'		X	-	-	-	-	-	-	-	-	812
CS-3	3/23/11	6' bottom		X		-	-	-	-	-	-	-	-	7,760
		8'		X		-	-	-	-	-	-	-	-	2,350
		10'		X		-	-	-	-	-	-	-	-	2,950
		12'		X		-	-	-	-	-	-	-	-	<200
AH-6	6/22/10	0-1'	2'		X	<50.0	<2.00	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.02	12,500
	"	1-1.5'	2'		X	-	-	-	-	-	-	-	-	5,940
	"	2-2.5'	2'	X		-	-	-	-	-	-	-	-	792
	"	3-3.5'	2'	X		-	-	-	-	-	-	-	-	401

BEB Below Excavation Bottom

(--) Not Analyzed

☐ Excavation depths

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 1300 Midland, Texas 79701	Telephone No.	432-230-0077
Facility Name	Big George	Facility Type	SWD

Surface Owner: State	Mineral Owner	Lease No. API 30-015-28759
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N	8	17S	29E					Eddy

Latitude N 32 50.544° Longitude W 104 05.886°

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release 80 bbls	Volume Recovered 20 bbls
Source of Release: 8" line	Date and Hour of Occurrence 6/10/10	Date and Hour of Discovery 6/10/10 10:00 p.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher - OCD	
By Whom? Josh Russo	Date and Hour 6/11/10 9:22 a.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

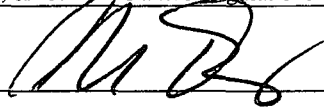
Describe Cause of Problem and Remedial Action Taken.*

The 8 inch Big George SWD line was plugged, causing it to rupture. The line was immediately repaired and put back into service.

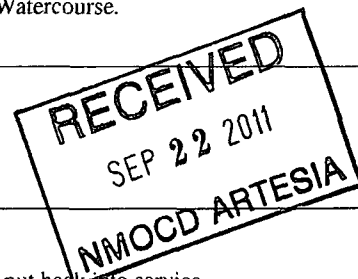
Describe Area Affected and Cleanup Action Taken.*

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

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

Signature: 	<u>OIL CONSERVATION DIVISION</u>		
Printed Name: Ike Tavarez <i>Agent for COG</i>	Approved by District Supervisor:		
Title: Project Manager	Approval Date:	Expiration Date:	
E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 8-18-11	Phone: (432) 682-4559		

* Attach Additional Sheets If Necessary



District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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State of New Mexico
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Oil Conservation Division
1220 South St. Francis Dr.
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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	BIG GEORGE	Facility Type	SWD
Surface Owner	State	Mineral Owner	Lease No. API# 30-015-28759

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
N	8	17S	29E					Eddy

Latitude 32 50.544 Longitude 104 05.886

NATURE OF RELEASE

Type of Release	Produced Water	Volume of Release	80bbls	Volume Recovered	20bbls
Source of Release	8 inch line	Date and Hour of Occurrence	06/10/2010	Date and Hour of Discovery	06/10/2010 10:00 a.m.
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Mike Bratcher—OCD		
By Whom?	Josh Russo	Date and Hour	06/11/2010	9:22 a.m.	
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted. Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

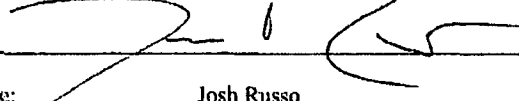
The 8 inch Big George SWD line was plugged, causing it to rupture. The line was immediately repaired and put back into service.

Describe Area Affected and Cleanup Action Taken.*

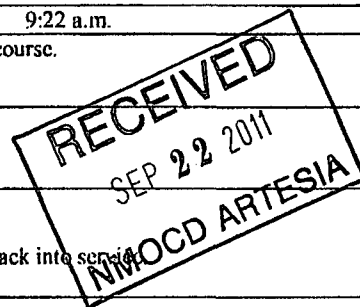
Initially 80bbls of produced water was release from the 8 inch Big George line. We were able to recover 20bbls with a vacuum truck. The dimensions of the release are 25' x 90'. (The closest well location to the release is the Hatfield State #1, Unit N, Sec. 8-T17S-R29E, 530 FSL 1650 FWL, Eddy County, NM, API# 30-015-37378, GPS 32.84337 - 104.10024) Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation work.

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

OIL CONSERVATION DIVISION

Signature:			
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 <input type="checkbox"/>
Date:	06/17/2010	Phone:	432-212-2399

* Attach Additional Sheets If Necessary



APPENDIX B

Water Well Data
Average Depth to Groundwater (ft)
COG - Big George
Eddy County, New Mexico

16 South 28 East

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

16 South 29 East

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

16 South 30 East

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

17 South 28 East

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

17 South 29 East

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

17 South 30 East

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

18 South 28 East



6	5	4	3	2	1
7	8	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	65	36

18 South 29 East

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

18 South 30 East

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

-  New Mexico State Engineers Well Reports
 USGS Well Reports

APPENDIX C

Summary Report

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

Report Date: July 2, 2010

Work Order: 10062809



Project Location: Eddy County, NM
Project Name: COG/Big George Line Leaf
Project Number: 114-6400557

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
235970	AH-1 0-1'	soil	2010-06-22	00:00	2010-06-25
235971	AH-1 1-1.5'	soil	2010-06-22	00:00	2010-06-25
235972	AH-1 2-2.5'	soil	2010-06-22	00:00	2010-06-25
235973	AH-1 3-3.5'	soil	2010-06-22	00:00	2010-06-25
235974	AH-1 4-4.5'	soil	2010-06-22	00:00	2010-06-25
235975	AH-1 5-5.5'	soil	2010-06-22	00:00	2010-06-25
235976	AH-1 6-6.5'	soil	2010-06-22	00:00	2010-06-25
235977	AH-1 7-7.5'	soil	2010-06-22	00:00	2010-06-25
235978	AH-1 8-8.5'	soil	2010-06-22	00:00	2010-06-25
235979	AH-1 9-9.5'	soil	2010-06-22	00:00	2010-06-25
235980	AH-2 0-1'	soil	2010-06-22	00:00	2010-06-25
235981	AH-2 1-1.5'	soil	2010-06-22	00:00	2010-06-25
235982	AH-2 2-2.5'	soil	2010-06-22	00:00	2010-06-25
235983	AH-2 3-3.5'	soil	2010-06-22	00:00	2010-06-25
235984	AH-2 4-4.5'	soil	2010-06-22	00:00	2010-06-25
235985	AH-2 5-5.5'	soil	2010-06-22	00:00	2010-06-25
235986	AH-3 0-1'	soil	2010-06-22	00:00	2010-06-25
235987	AH-3 1-1.5'	soil	2010-06-22	00:00	2010-06-25
235988	AH-3 2-2.5'	soil	2010-06-22	00:00	2010-06-25
235989	AH-3 3-3.5'	soil	2010-06-22	00:00	2010-06-25
235990	AH-3 4-4.5'	soil	2010-06-22	00:00	2010-06-25
235991	AH-3 5-5.5'	soil	2010-06-22	00:00	2010-06-25
235992	AH-4 0-1'	soil	2010-06-22	00:00	2010-06-25
235993	AH-4 1-1.5'	soil	2010-06-22	00:00	2010-06-25
235994	AH-4 2-2.5'	soil	2010-06-22	00:00	2010-06-25
235995	AH-4 3-3.5'	soil	2010-06-22	00:00	2010-06-25
235996	AH-4 4-4.5'	soil	2010-06-22	00:00	2010-06-25
235997	AH-4 5-5.5'	soil	2010-06-22	00:00	2010-06-25
235998	AH-4 6-6.5'	soil	2010-06-22	00:00	2010-06-25
235999	AH-4 7-7.5'	soil	2010-06-22	00:00	2010-06-25

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
236000	AH-5 0-1'	soil	2010-06-22	00:00	2010-06-25
236001	AH-5 1-1.5'	soil	2010-06-22	00:00	2010-06-25
236002	AH-5 2-2.5'	soil	2010-06-22	00:00	2010-06-25
236003	AH-5 3-3.5'	soil	2010-06-22	00:00	2010-06-25
236004	AH-5 4-4.5'	soil	2010-06-22	00:00	2010-06-25
236005	AH-5 5-5.5'	soil	2010-06-22	00:00	2010-06-25
236006	AH-6 0-1'	soil	2010-06-22	00:00	2010-06-25
236007	AH-6 1-1.5'	soil	2010-06-22	00:00	2010-06-25
236008	AH-6 2-2.5'	soil	2010-06-22	00:00	2010-06-25
236009	AH-6 3-3.5'	soil	2010-06-22	00:00	2010-06-25

Sample - Field Code	BTEX				TPH DRO - NEW	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
235970 - AH-1 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
235980 - AH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
235986 - AH-3 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
235992 - AH-4 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
236000 - AH-5 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
236006 - AH-6 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00

Sample: 235970 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		11800	mg/Kg	4.00

Sample: 235971 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		14500	mg/Kg	4.00

Sample: 235972 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		18400	mg/Kg	4.00

Sample: 235973 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		17900	mg/Kg	4.00

Sample: 235974 - AH-1 4-4.5'

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This is only a summary. Please, refer to the complete report package for quality control data.

Param	Flag	Result	Units	RL
Chloride		15000	mg/Kg	4.00

Sample: 235975 - AH-1 5-5.5'

Param	Flag	Result	Units	RL
Chloride		14200	mg/Kg	4.00

Sample: 235976 - AH-1 6-6.5'

Param	Flag	Result	Units	RL
Chloride		13200	mg/Kg	4.00

Sample: 235977 - AH-1 7-7.5'

Param	Flag	Result	Units	RL
Chloride		914	mg/Kg	4.00

Sample: 235978 - AH-1 8-8.5'

Param	Flag	Result	Units	RL
Chloride		485	mg/Kg	4.00

Sample: 235979 - AH-1 9-9.5'

Param	Flag	Result	Units	RL
Chloride		257	mg/Kg	4.00

Sample: 235980 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		17100	mg/Kg	4.00

Sample: 235981 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		16200	mg/Kg	4.00

Sample: 235982 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		13300	mg/Kg	4.00

Sample: 235983 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		10100	mg/Kg	4.00

Sample: 235984 - AH-2 4-4.5'

Param	Flag	Result	Units	RL
Chloride		6470	mg/Kg	4.00

Sample: 235985 - AH-2 5-5.5'

Param	Flag	Result	Units	RL
Chloride		892	mg/Kg	4.00

Sample: 235986 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		5480	mg/Kg	4.00

Sample: 235987 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		1290	mg/Kg	4.00

Sample: 235988 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		1780	mg/Kg	4.00

Sample: 235989 - AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		<400	mg/Kg	4.00

Sample: 235990 - AH-3 4-4.5'

Param	Flag	Result	Units	RL
Chloride		<400	mg/Kg	4.00

Sample: 235991 - AH-3 5-5.5'

Param	Flag	Result	Units	RL
Chloride		982	mg/Kg	4.00

Sample: 235992 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		3970	mg/Kg	4.00

Sample: 235993 - AH-4 1-1.5'

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

Sample: 235994 - AH-4 2-2.5'

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

Sample: 235995 - AH-4 3-3.5'

Param	Flag	Result	Units	RL
Chloride		213	mg/Kg	4.00

Sample: 235996 - AH-4 4-4.5'

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

Sample: 235997 - AH-4 5-5.5'

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

Sample: 235998 - AH-4 6-6.5'

Param	Flag	Result	Units	RL
Chloride		594	mg/Kg	4.00

Sample: 235999 - AH-4 7-7.5'

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

Sample: 236000 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		13100	mg/Kg	4.00

Sample: 236001 - AH-5 1-1.5'

Param	Flag	Result	Units	RL
Chloride		13200	mg/Kg	4.00

Sample: 236002 - AH-5 2-2.5'

Param	Flag	Result	Units	RL
Chloride		13300	mg/Kg	4.00

Sample: 236003 - AH-5 3-3.5'

Param	Flag	Result	Units	RL
Chloride		7790	mg/Kg	4.00

Sample: 236004 - AH-5 4-4.5'

Param	Flag	Result	Units	RL
Chloride		495	mg/Kg	4.00

Sample: 236005 - AH-5 5-5.5'

Param	Flag	Result	Units	RL
Chloride		812	mg/Kg	4.00

Sample: 236006 - AH-6 0-1'

Param	Flag	Result	Units	RL
Chloride		12500	mg/Kg	4.00

Sample: 236007 - AH-6 1-1.5'

Param	Flag	Result	Units	RL
Chloride		5940	mg/Kg	4.00

Sample: 236008 - AH-6 2-2.5'

Param	Flag	Result	Units	RL
Chloride		792	mg/Kg	4.00

Sample: 236009 - AH-6 3-3.5'

Param	Flag	Result	Units	RL
Chloride		401	mg/Kg	4.00



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Certifications

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

NELAP Certifications

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

Analytical and Quality Control Report

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

Report Date: July 2, 2010

Work Order: 10062809



Project Location: Eddy County, NM
Project Name: COG/Big George Line Leaf
Project Number: 114-6400557

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
235970	AH-1 0-1'	soil	2010-06-22	00:00	2010-06-25
235971	AH-1 1-1.5'	soil	2010-06-22	00:00	2010-06-25
235972	AH-1 2-2.5'	soil	2010-06-22	00:00	2010-06-25
235973	AH-1 3-3.5'	soil	2010-06-22	00:00	2010-06-25
235974	AH-1 4-4.5'	soil	2010-06-22	00:00	2010-06-25
235975	AH-1 5-5.5'	soil	2010-06-22	00:00	2010-06-25
235976	AH-1 6-6.5'	soil	2010-06-22	00:00	2010-06-25
235977	AH-1 7-7.5'	soil	2010-06-22	00:00	2010-06-25
235978	AH-1 8-8.5'	soil	2010-06-22	00:00	2010-06-25
235979	AH-1 9-9.5'	soil	2010-06-22	00:00	2010-06-25

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
235980	AH-2 0-1'	soil	2010-06-22	00:00	2010-06-25
235981	AH-2 1-1.5'	soil	2010-06-22	00:00	2010-06-25
235982	AH-2 2-2.5'	soil	2010-06-22	00:00	2010-06-25
235983	AH-2 3-3.5'	soil	2010-06-22	00:00	2010-06-25
235984	AH-2 4-4.5'	soil	2010-06-22	00:00	2010-06-25
235985	AH-2 5-5.5'	soil	2010-06-22	00:00	2010-06-25
235986	AH-3 0-1'	soil	2010-06-22	00:00	2010-06-25
235987	AH-3 1-1.5'	soil	2010-06-22	00:00	2010-06-25
235988	AH-3 2-2.5'	soil	2010-06-22	00:00	2010-06-25
235989	AH-3 3-3.5'	soil	2010-06-22	00:00	2010-06-25
235990	AH-3 4-4.5'	soil	2010-06-22	00:00	2010-06-25
235991	AH-3 5-5.5'	soil	2010-06-22	00:00	2010-06-25
235992	AH-4 0-1'	soil	2010-06-22	00:00	2010-06-25
235993	AH-4 1-1.5'	soil	2010-06-22	00:00	2010-06-25
235994	AH-4 2-2.5'	soil	2010-06-22	00:00	2010-06-25
235995	AH-4 3-3.5'	soil	2010-06-22	00:00	2010-06-25
235996	AH-4 4-4.5'	soil	2010-06-22	00:00	2010-06-25
235997	AH-4 5-5.5'	soil	2010-06-22	00:00	2010-06-25
235998	AH-4 6-6.5'	soil	2010-06-22	00:00	2010-06-25
235999	AH-4 7-7.5'	soil	2010-06-22	00:00	2010-06-25
236000	AH-5 0-1'	soil	2010-06-22	00:00	2010-06-25
236001	AH-5 1-1.5'	soil	2010-06-22	00:00	2010-06-25
236002	AH-5 2-2.5'	soil	2010-06-22	00:00	2010-06-25
236003	AH-5 3-3.5'	soil	2010-06-22	00:00	2010-06-25
236004	AH-5 4-4.5'	soil	2010-06-22	00:00	2010-06-25
236005	AH-5 5-5.5'	soil	2010-06-22	00:00	2010-06-25
236006	AH-6 0-1'	soil	2010-06-22	00:00	2010-06-25
236007	AH-6 1-1.5'	soil	2010-06-22	00:00	2010-06-25
236008	AH-6 2-2.5'	soil	2010-06-22	00:00	2010-06-25
236009	AH-6 3-3.5'	soil	2010-06-22	00:00	2010-06-25

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



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

Standard Flags

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

Case Narrative

Samples for project COG/Big George Line Leaf were received by TraceAnalysis, Inc. on 2010-06-25 and assigned to work order 10062809. Samples for work order 10062809 were received intact at a temperature of 3.4 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	61074	2010-06-29 at 08:30	71320	2010-06-29 at 10:05
BTEX	S 8021B	61074	2010-06-29 at 08:30	71322	2010-06-30 at 04:04
Chloride (Titration)	SM 4500-Cl B	61118	2010-06-30 at 14:36	71396	2010-07-01 at 16:05
Chloride (Titration)	SM 4500-Cl B	61119	2010-06-30 at 14:36	71397	2010-07-01 at 16:06
Chloride (Titration)	SM 4500-Cl B	61120	2010-06-30 at 14:37	71423	2010-07-02 at 15:10
Chloride (Titration)	SM 4500-Cl B	61121	2010-06-30 at 14:37	71424	2010-07-02 at 15:11
Chloride (Titration)	SM 4500-Cl B	61122	2010-06-30 at 14:38	71425	2010-07-02 at 15:12
TPH DRO - NEW	S 8015 D	61097	2010-06-29 at 16:03	71314	2010-06-29 at 16:03
TPH GRO	S 8015 D	61074	2010-06-29 at 08:30	71321	2010-06-29 at 10:33
TPH GRO	S 8015 D	61074	2010-06-29 at 08:30	71323	2010-06-30 at 04:32

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 10062809 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Report Date: July 2, 2010
114-6400557

Work Order: 10062809
COG/Big George Line Leaf

Page Number: 4 of 37
Eddy County, NM

Analytical Report

Sample: 235970 - AH-1 0-1'

Laboratory: Midland

Analysis: BTEX

QC Batch: 71320

Prep Batch: 61074

Analytical Method: S 8021B

Date Analyzed: 2010-06-29

Sample Preparation: 2010-06-29

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.21	mg/Kg	1	2.00	110	52.8 - 137
4-Bromofluorobenzene (4-BFB)		2.01	mg/Kg	1	2.00	100	38.4 - 157

Sample: 235970 - AH-1 0-1'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 71396

Prep Batch: 61118

Analytical Method: SM 4500-Cl B

Date Analyzed: 2010-07-01

Sample Preparation: 2010-06-30

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		11800	mg/Kg	100	4.00

Sample: 235970 - AH-1 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 71314

Prep Batch: 61097

Analytical Method: S 8015 D

Date Analyzed: 2010-06-29

Sample Preparation: 2010-06-29

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

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

Report Date: July 2, 2010
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Eddy County, NM

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		92.6	mg/Kg	1	100	93	70 - 130

Sample: 235970 - AH-1 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 71321
Prep Batch: 61074

Analytical Method: S 8015 D
Date Analyzed: 2010-06-29
Sample Preparation: 2010-06-29

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.57	mg/Kg	1	2.00	128	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.17	mg/Kg	1	2.00	108	42 - 159

Sample: 235971 - AH-1 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 71396
Prep Batch: 61118

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-07-01
Sample Preparation: 2010-06-30

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		14500	mg/Kg	100	4.00

Sample: 235972 - AH-1 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 71396
Prep Batch: 61118

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-07-01
Sample Preparation: 2010-06-30

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		18400	mg/Kg	100	4.00

Report Date: July 2, 2010
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COG/Big George Line Leaf

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Eddy County, NM

Sample: 235973 - AH-1 3-3.5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	71396	Date Analyzed:	2010-07-01
Prep Batch:	61118	Sample Preparation:	2010-06-30
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		17900	mg/Kg	100	4.00

Sample: 235974 - AH-1 4-4.5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	71396	Date Analyzed:	2010-07-01
Prep Batch:	61118	Sample Preparation:	2010-06-30
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		15000	mg/Kg	100	4.00

Sample: 235975 - AH-1 5-5.5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	71396	Date Analyzed:	2010-07-01
Prep Batch:	61118	Sample Preparation:	2010-06-30
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		14200	mg/Kg	100	4.00

Sample: 235976 - AH-1 6-6.5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	71396	Date Analyzed:	2010-07-01
Prep Batch:	61118	Sample Preparation:	2010-06-30
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

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

Report Date: July 2, 2010
114-6400557

Work Order: 10062809
COG/Big George Line Leaf

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Eddy County, NM

Sample: 235977 - AH-1 7-7.5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	71396	Date Analyzed:	2010-07-01
Prep Batch:	61118	Sample Preparation:	2010-06-30
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		914	mg/Kg	100	4.00

Sample: 235978 - AH-1 8-8.5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	71397	Date Analyzed:	2010-07-01
Prep Batch:	61119	Sample Preparation:	2010-06-30
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		485	mg/Kg	100	4.00

Sample: 235979 - AH-1 9-9.5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	71397	Date Analyzed:	2010-07-01
Prep Batch:	61119	Sample Preparation:	2010-06-30
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		257	mg/Kg	50	4.00

Sample: 235980 - AH-2 0-1'

Laboratory:	Midland		
Analysis:	BTEX	Analytical Method:	S 8021B
QC Batch:	71320	Date Analyzed:	2010-06-29
Prep Batch:	61074	Sample Preparation:	2010-06-29
		Prep Method:	S 5035
		Analyzed By:	AG
		Prepared By:	AG

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

continued ...

Report Date: July 2, 2010
114-6400557

Work Order: 10062809
COG/Big George Line Leaf

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sample 235980 continued ...

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.06	mg/Kg	1	2.00	103	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.85	mg/Kg	1	2.00	92	38.4 - 157

Sample: 235980 - AH-2 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 71397 Date Analyzed: 2010-07-01 Analyzed By: AR
Prep Batch: 61119 Sample Preparation: 2010-06-30 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		17100	mg/Kg	100	4.00

Sample: 235980 - AH-2 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 71314 Date Analyzed: 2010-06-29 Analyzed By: kg
Prep Batch: 61097 Sample Preparation: 2010-06-29 Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		113	mg/Kg	1	100	113	70 - 130

Sample: 235980 - AH-2 0-1'

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 71321 Date Analyzed: 2010-06-29 Analyzed By: AG
Prep Batch: 61074 Sample Preparation: 2010-06-29 Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.38	mg/Kg	1	2.00	119	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.02	mg/Kg	1	2.00	101	42 - 159

Sample: 235981 - AH-2 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 71397 Date Analyzed: 2010-07-01 Analyzed By: AR
Prep Batch: 61119 Sample Preparation: 2010-06-30 Prepared By: AR

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

Sample: 235982 - AH-2 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 71397 Date Analyzed: 2010-07-01 Analyzed By: AR
Prep Batch: 61119 Sample Preparation: 2010-06-30 Prepared By: AR

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

Sample: 235983 - AH-2 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 71397 Date Analyzed: 2010-07-01 Analyzed By: AR
Prep Batch: 61119 Sample Preparation: 2010-06-30 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		10100	mg/Kg	100	4.00

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Sample: 235984 - AH-2 4-4.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 71397 Date Analyzed: 2010-07-01 Analyzed By: AR
Prep Batch: 61119 Sample Preparation: 2010-06-30 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		6470	mg/Kg	100	4.00

Sample: 235985 - AH-2 5-5.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 71397 Date Analyzed: 2010-07-01 Analyzed By: AR
Prep Batch: 61119 Sample Preparation: 2010-06-30 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		892	mg/Kg	100	4.00

Sample: 235986 - AH-3 0-1'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 71320 Date Analyzed: 2010-06-29 Analyzed By: AG
Prep Batch: 61074 Sample Preparation: 2010-06-29 Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.25	mg/Kg	1	2.00	62	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.11	mg/Kg	1	2.00	56	38.4 - 157

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Sample: 235986 - AH-3 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-07-01	Analyzed By:	AR
QC Batch:	71397	Sample Preparation:	2010-06-30	Prepared By:	AR
Prep Batch:	61119				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		5480	mg/Kg	100	4.00

Sample: 235986 - AH-3 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2010-06-29	Analyzed By:	kg
QC Batch:	71314	Sample Preparation:	2010-06-29	Prepared By:	kg
Prep Batch:	61097				

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		112	mg/Kg	1	100	112	70 - 130

Sample: 235986 - AH-3 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2010-06-29	Analyzed By:	AG
QC Batch:	71321	Sample Preparation:	2010-06-29	Prepared By:	AG
Prep Batch:	61074				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.46	mg/Kg	1	2.00	73	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.22	mg/Kg	1	2.00	61	42 - 159

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Sample: 235987 - AH-3 1-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-07-01	Analyzed By:	AR
QC Batch:	71397	Sample Preparation:	2010-06-30	Prepared By:	AR
Prep Batch:	61119				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1290	mg/Kg	100	4.00

Sample: 235988 - AH-3 2-2.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-07-02	Analyzed By:	AR
QC Batch:	71423	Sample Preparation:	2010-06-30	Prepared By:	AR
Prep Batch:	61120				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1780	mg/Kg	100	4.00

Sample: 235989 - AH-3 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-07-02	Analyzed By:	AR
QC Batch:	71423	Sample Preparation:	2010-06-30	Prepared By:	AR
Prep Batch:	61120				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<400	mg/Kg	100	4.00

Sample: 235990 - AH-3 4-4.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-07-02	Analyzed By:	AR
QC Batch:	71423	Sample Preparation:	2010-06-30	Prepared By:	AR
Prep Batch:	61120				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<400	mg/Kg	100	4.00

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Sample: 235991 - AH-3 5-5.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-07-02	Analyzed By:	AR
QC Batch:	71423	Sample Preparation:	2010-06-30	Prepared By:	AR
Prep Batch:	61120				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		982	mg/Kg	100	4.00

Sample: 235992 - AH-4 0-1'

Laboratory:	Midland	Analytical Method:	S 8021B	Prep Method:	S 5035
Analysis:	BTEX	Date Analyzed:	2010-06-29	Analyzed By:	AG
QC Batch:	71320	Sample Preparation:	2010-06-29	Prepared By:	AG
Prep Batch:	61074				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.84	mg/Kg	1	2.00	92	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.65	mg/Kg	1	2.00	82	38.4 - 157

Sample: 235992 - AH-4 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-07-02	Analyzed By:	AR
QC Batch:	71423	Sample Preparation:	2010-06-30	Prepared By:	AR
Prep Batch:	61120				

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

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Sample: 235992 - AH-4 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 71314
Prep Batch: 61097

Analytical Method: S 8015 D
Date Analyzed: 2010-06-29
Sample Preparation: 2010-06-29

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

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

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

Sample: 235992 - AH-4 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 71321
Prep Batch: 61074

Analytical Method: S 8015 D
Date Analyzed: 2010-06-29
Sample Preparation: 2010-06-29

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.14	mg/Kg	1	2.00	107	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.79	mg/Kg	1	2.00	90	42 - 159

Sample: 235993 - AH-4 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 71423
Prep Batch: 61120

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-07-02
Sample Preparation: 2010-06-30

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

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

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Sample: 235994 - AH-4 2-2.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-07-02	Analyzed By:	AR
QC Batch:	71423	Sample Preparation:	2010-06-30	Prepared By:	AR
Prep Batch:	61120				

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

Sample: 235995 - AH-4 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-07-02	Analyzed By:	AR
QC Batch:	71423	Sample Preparation:	2010-06-30	Prepared By:	AR
Prep Batch:	61120				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		213	mg/Kg	50	4.00

Sample: 235996 - AH-4 4-4.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-07-02	Analyzed By:	AR
QC Batch:	71423	Sample Preparation:	2010-06-30	Prepared By:	AR
Prep Batch:	61120				

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

Sample: 235997 - AH-4 5-5.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-07-02	Analyzed By:	AR
QC Batch:	71423	Sample Preparation:	2010-06-30	Prepared By:	AR
Prep Batch:	61120				

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

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Sample: 235998 - AH-4 6-6.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 71424 Date Analyzed: 2010-07-02 Analyzed By: AR
Prep Batch: 61121 Sample Preparation: 2010-06-30 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		594	mg/Kg	50	4.00

Sample: 235999 - AH-4 7-7.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 71424 Date Analyzed: 2010-07-02 Analyzed By: AR
Prep Batch: 61121 Sample Preparation: 2010-06-30 Prepared By: AR

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

Sample: 236000 - AH-5 0-1'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 71322 Date Analyzed: 2010-06-30 Analyzed By: AG
Prep Batch: 61074 Sample Preparation: 2010-06-29 Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.42	mg/Kg	1	2.00	71	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.27	mg/Kg	1	2.00	64	38.4 - 157

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Sample: 236000 - AH-5 0-1'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 71424

Prep Batch: 61121

Analytical Method: SM 4500-Cl B

Date Analyzed: 2010-07-02

Sample Preparation: 2010-06-30

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		13100	mg/Kg	100	4.00

Sample: 236000 - AH-5 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 71314

Prep Batch: 61097

Analytical Method: S 8015 D

Date Analyzed: 2010-06-29

Sample Preparation: 2010-06-29

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		106	mg/Kg	1	100	106	70 - 130

Sample: 236000 - AH-5 0-1'

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 71323

Prep Batch: 61074

Analytical Method: S 8015 D

Date Analyzed: 2010-06-30

Sample Preparation: 2010-06-29

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.67	mg/Kg	1	2.00	84	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.40	mg/Kg	1	2.00	70	42 - 159

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Sample: 236001 - AH-5 1-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-07-02	Analyzed By:	AR
QC Batch:	71424	Sample Preparation:	2010-06-30	Prepared By:	AR
Prep Batch:	61121				

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

Sample: 236002 - AH-5 2-2.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-07-02	Analyzed By:	AR
QC Batch:	71424	Sample Preparation:	2010-06-30	Prepared By:	AR
Prep Batch:	61121				

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

Sample: 236003 - AH-5 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-07-02	Analyzed By:	AR
QC Batch:	71424	Sample Preparation:	2010-06-30	Prepared By:	AR
Prep Batch:	61121				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		7790	mg/Kg	100	4.00

Sample: 236004 - AH-5 4-4.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-07-02	Analyzed By:	AR
QC Batch:	71424	Sample Preparation:	2010-06-30	Prepared By:	AR
Prep Batch:	61121				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		495	mg/Kg	100	4.00

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Sample: 236005 - AH-5 5-5.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-07-02	Analyzed By:	AR
QC Batch:	71424	Sample Preparation:	2010-06-30	Prepared By:	AR
Prep Batch:	61121				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		812	mg/Kg	100	4.00

Sample: 236006 - AH-6 0-1'

Laboratory:	Midland	Analytical Method:	S 8021B	Prep Method:	S 5035
Analysis:	BTEX	Date Analyzed:	2010-06-30	Analyzed By:	AG
QC Batch:	71322	Sample Preparation:	2010-06-29	Prepared By:	AG
Prep Batch:	61074				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.16	mg/Kg	1	2.00	58	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.03	mg/Kg	1	2.00	52	38.4 - 157

Sample: 236006 - AH-6 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-07-02	Analyzed By:	AR
QC Batch:	71424	Sample Preparation:	2010-06-30	Prepared By:	AR
Prep Batch:	61121				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		12500	mg/Kg	100	4.00

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Sample: 236006 - AH-6 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2010-06-29	Analyzed By:	kg
QC Batch:	71314	Sample Preparation:	2010-06-29	Prepared By:	kg
Prep Batch:	61097				

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		111	mg/Kg	1	100	111	70 - 130

Sample: 236006 - AH-6 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2010-06-30	Analyzed By:	AG
QC Batch:	71323	Sample Preparation:	2010-06-29	Prepared By:	AG
Prep Batch:	61074				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.34	mg/Kg	1	2.00	67	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.14	mg/Kg	1	2.00	57	42 - 159

Sample: 236007 - AH-6 1-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-07-02	Analyzed By:	AR
QC Batch:	71424	Sample Preparation:	2010-06-30	Prepared By:	AR
Prep Batch:	61121				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		5940	mg/Kg	100	4.00

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Sample: 236008 - AH-6 2-2.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-07-02	Analyzed By:	AR
QC Batch:	71425	Sample Preparation:	2010-07-02	Prepared By:	AR
Prep Batch:	61122				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		792	mg/Kg	100	4.00

Sample: 236009 - AH-6 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-07-02	Analyzed By:	AR
QC Batch:	71425	Sample Preparation:	2010-07-02	Prepared By:	AR
Prep Batch:	61122				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		401	mg/Kg	100	4.00

Method Blank (1) QC Batch: 71314

QC Batch:	71314	Date Analyzed:	2010-06-29	Analyzed By:	kg
Prep Batch:	61097	QC Preparation:	2010-06-29	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		86.9	mg/Kg	1	100	87	70 - 130

Method Blank (1) QC Batch: 71320

QC Batch:	71320	Date Analyzed:	2010-06-29	Analyzed By:	AG
Prep Batch:	61074	QC Preparation:	2010-06-29	Prepared By:	AG

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.0150	mg/Kg	0.02

continued ...

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method blank continued ...

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.19	mg/Kg	1	2.00	110	66.6 - 122
4-Bromofluorobenzene (4-BFB)		1.60	mg/Kg	1	2.00	80	55.4 - 104

Method Blank (1) QC Batch: 71321

QC Batch: 71321
Prep Batch: 61074

Date Analyzed: 2010-06-29
QC Preparation: 2010-06-29

Analyzed By: AG
Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.59	mg/Kg	1	2.00	130	67.6 - 150
4-Bromofluorobenzene (4-BFB)		1.77	mg/Kg	1	2.00	88	52.4 - 130

Method Blank (1) QC Batch: 71322

QC Batch: 71322
Prep Batch: 61074

Date Analyzed: 2010-06-30
QC Preparation: 2010-06-29

Analyzed By: AG
Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.96	mg/Kg	1	2.00	98	66.6 - 122
4-Bromofluorobenzene (4-BFB)		1.57	mg/Kg	1	2.00	78	55.4 - 104

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Method Blank (1) QC Batch: 71323

QC Batch: 71323
Prep Batch: 61074

Date Analyzed: 2010-06-30
QC Preparation: 2010-06-29

Analyzed By: AG
Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.34	mg/Kg	1	2.00	117	67.6 - 150
4-Bromofluorobenzene (4-BFB)		1.74	mg/Kg	1	2.00	87	52.4 - 130

Method Blank (1) QC Batch: 71396

QC Batch: 71396
Prep Batch: 61118

Date Analyzed: 2010-07-01
QC Preparation: 2010-06-30

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 71397

QC Batch: 71397
Prep Batch: 61119

Date Analyzed: 2010-07-01
QC Preparation: 2010-06-30

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 71423

QC Batch: 71423
Prep Batch: 61120

Date Analyzed: 2010-07-02
QC Preparation: 2010-06-30

Analyzed By: AR
Prepared By: AR

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

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Method Blank (1) QC Batch: 71424

QC Batch: 71424
Prep Batch: 61121

Date Analyzed: 2010-07-02
QC Preparation: 2010-06-30

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 71425

QC Batch: 71425
Prep Batch: 61122

Date Analyzed: 2010-07-02
QC Preparation: 2010-06-30

Analyzed By: AR
Prepared By: AR

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

Laboratory Control Spike (LCS-1)

QC Batch: 71314
Prep Batch: 61097

Date Analyzed: 2010-06-29
QC Preparation: 2010-06-29

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	195	mg/Kg	1	250	<14.5	78	57.4 - 133.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	202	mg/Kg	1	250	<14.5	81	57.4 - 133.4	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
n-Tricosane	102	104	mg/Kg	1	100	102	104	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 71320
Prep Batch: 61074

Date Analyzed: 2010-06-29
QC Preparation: 2010-06-29

Analyzed By: AG
Prepared By: AG

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Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.91	mg/Kg	1	2.00	<0.0150	96	81.9 - 108
Toluene	1.89	mg/Kg	1	2.00	<0.00950	94	81.9 - 107
Ethylbenzene	1.81	mg/Kg	1	2.00	<0.0106	90	78.4 - 107
Xylene	5.44	mg/Kg	1	6.00	<0.00930	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	1.89	mg/Kg	1	2.00	<0.0150	94	81.9 - 108	1	20
Toluene	1.88	mg/Kg	1	2.00	<0.00950	94	81.9 - 107	0	20
Ethylbenzene	1.80	mg/Kg	1	2.00	<0.0106	90	78.4 - 107	1	20
Xylene	5.44	mg/Kg	1	6.00	<0.00930	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)	2.00	2.16	mg/Kg	1	2.00	100	108	70.2 - 114
4-Bromofluorobenzene (4-BFB)	1.82	1.96	mg/Kg	1	2.00	91	98	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 71321
Prep Batch: 61074

Date Analyzed: 2010-06-29
QC Preparation: 2010-06-29

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	14.1	mg/Kg	1	20.0	<1.65	70	69.9 - 95.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	14.4	mg/Kg	1	20.0	<1.65	72	69.9 - 95.4	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)	2.48	2.21	mg/Kg	1	2.00	124	110	61.9 - 142
4-Bromofluorobenzene (4-BFB)	2.00	1.78	mg/Kg	1	2.00	100	89	68.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 71322
Prep Batch: 61074

Date Analyzed: 2010-06-30
QC Preparation: 2010-06-29

Analyzed By: AG
Prepared By: AG

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Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.90	mg/Kg	1	2.00	<0.0150	95	81.9 - 108
Toluene	1.88	mg/Kg	1	2.00	<0.00950	94	81.9 - 107
Ethylbenzene	1.76	mg/Kg	1	2.00	<0.0106	88	78.4 - 107
Xylene	5.30	mg/Kg	1	6.00	<0.00930	88	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	1.91	mg/Kg	1	2.00	<0.0150	96	81.9 - 108	0	20
Toluene	1.88	mg/Kg	1	2.00	<0.00950	94	81.9 - 107	0	20
Ethylbenzene	1.79	mg/Kg	1	2.00	<0.0106	90	78.4 - 107	2	20
Xylene	5.37	mg/Kg	1	6.00	<0.00930	90	79.1 - 107	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.05	2.09	mg/Kg	1	2.00	102	104	70.2 - 114
4-Bromofluorobenzene (4-BFB)	1.90	1.95	mg/Kg	1	2.00	95	98	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 71323
Prep Batch: 61074

Date Analyzed: 2010-06-30
QC Preparation: 2010-06-29

Analyzed By: AG
Prepared By: AG

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	16.0	mg/Kg	1	20.0	<1.65	80	69.9 - 95.4	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.46	2.47	mg/Kg	1	2.00	123	124	61.9 - 142
4-Bromofluorobenzene (4-BFB)	2.02	2.02	mg/Kg	1	2.00	101	101	68.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 71396
Prep Batch: 61118

Date Analyzed: 2010-07-01
QC Preparation: 2010-06-30

Analyzed By: AR
Prepared By: AR

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Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.8	mg/Kg	1	100	<2.18	99	85 - 115

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 71397
Prep Batch: 61119

Date Analyzed: 2010-07-01
QC Preparation: 2010-06-30

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.9	mg/Kg	1	100	<2.18	99	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	101	mg/Kg	1	100	<2.18	101	85 - 115	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 71423
Prep Batch: 61120

Date Analyzed: 2010-07-02
QC Preparation: 2010-06-30

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.5	mg/Kg	1	100	<2.18	98	85 - 115

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 71424
Prep Batch: 61121

Date Analyzed: 2010-07-02
QC Preparation: 2010-06-30

Analyzed By: AR
Prepared By: AR

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Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.8	mg/Kg	1	100	<2.18	99	85 - 115

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 71425
Prep Batch: 61122

Date Analyzed: 2010-07-02
QC Preparation: 2010-06-30

Analyzed By: AR
Prepared By: AR

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	101	mg/Kg	1	100	<2.18	101	85 - 115	3	20

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

Matrix Spike (MS-1) Spiked Sample: 236006

QC Batch: 71314
Prep Batch: 61097

Date Analyzed: 2010-06-29
QC Preparation: 2010-06-29

Analyzed By: kg
Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	213	mg/Kg	1	250	<14.5	85	35.2 - 167.1

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	212	mg/Kg	1	250	<14.5	85	35.2 - 167.1	0	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	110	104	mg/Kg	1	100	110	104	70 - 130

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Matrix Spike (MS-1) Spiked Sample: 235740

QC Batch: 71320
Prep Batch: 61074

Date Analyzed: 2010-06-29
QC Preparation: 2010-06-29

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.89	mg/Kg	1	2.00	<0.0150	94	80.5 - 112
Toluene	1.92	mg/Kg	1	2.00	<0.00950	96	82.4 - 113
Ethylbenzene	1.96	mg/Kg	1	2.00	<0.0106	98	83.9 - 114
Xylene	5.89	mg/Kg	1	6.00	<0.00930	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	2.12	mg/Kg	1	2.00	<0.0150	106	80.5 - 112	12	20
Toluene	2.16	mg/Kg	1	2.00	<0.00950	108	82.4 - 113	12	20
Ethylbenzene	2.17	mg/Kg	1	2.00	<0.0106	108	83.9 - 114	10	20
Xylene	6.53	mg/Kg	1	6.00	<0.00930	109	84 - 114	10	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.99	1.47	mg/Kg	1	2	100	74	41.3 - 117
4-Bromofluorobenzene (4-BFB)	1.89	1.39	mg/Kg	1	2	94	70	35.5 - 129

Matrix Spike (MS-1) Spiked Sample: 235992

QC Batch: 71321
Prep Batch: 61074

Date Analyzed: 2010-06-29
QC Preparation: 2010-06-29

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	14.4	mg/Kg	1	20.0	<1.65	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	14.6	mg/Kg	1	20.0	<1.65	73	61.8 - 114	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.35	2.60	mg/Kg	1	2	118	130	50 - 162
4-Bromofluorobenzene (4-BFB)	2.12	2.32	mg/Kg	1	2	106	116	50 - 162

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Matrix Spike (MS-1) Spiked Sample: 236032

QC Batch: 71322
Prep Batch: 61074

Date Analyzed: 2010-06-30
QC Preparation: 2010-06-29

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.98	mg/Kg	1	2.00	<0.0150	99	80.5 - 112
Toluene	2.01	mg/Kg	1	2.00	<0.00950	100	82.4 - 113
Ethylbenzene	1.99	mg/Kg	1	2.00	<0.0106	100	83.9 - 114
Xylene	6.00	mg/Kg	1	6.00	<0.00930	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	2.15	mg/Kg	1	2.00	<0.0150	108	80.5 - 112	8	20
Toluene	2.18	mg/Kg	1	2.00	<0.00950	109	82.4 - 113	8	20
Ethylbenzene	2.18	mg/Kg	1	2.00	<0.0106	109	83.9 - 114	9	20
Xylene	6.59	mg/Kg	1	6.00	<0.00930	110	84 - 114	9	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.81	1.88	mg/Kg	1	2	90	94	41.3 - 117
4-Bromofluorobenzene (4-BFB)	1.76	1.78	mg/Kg	1	2	88	89	35.5 - 129

Matrix Spike (MS-1) Spiked Sample: 236006

QC Batch: 71323
Prep Batch: 61074

Date Analyzed: 2010-06-30
QC Preparation: 2010-06-29

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	14.4	mg/Kg	1	20.0	<1.65	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	14.5	mg/Kg	1	20.0	<1.65	72	61.8 - 114	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.18	1.78	mg/Kg	1	2	109	89	50 - 162
4-Bromofluorobenzene (4-BFB)	1.97	1.65	mg/Kg	1	2	98	82	50 - 162

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Matrix Spike (MS-1) Spiked Sample: 235977

QC Batch: 71396
Prep Batch: 61118

Date Analyzed: 2010-07-01
QC Preparation: 2010-06-30

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10900	mg/Kg	100	10000	914	100	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	11000	mg/Kg	100	10000	914	101	85 - 115	1	20

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

Matrix Spike (MS-1) Spiked Sample: 235987

QC Batch: 71397
Prep Batch: 61119

Date Analyzed: 2010-07-01
QC Preparation: 2010-06-30

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10900	mg/Kg	100	10000	1290	96	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	11100	mg/Kg	100	10000	1290	98	85 - 115	2	20

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

Matrix Spike (MS-1) Spiked Sample: 235997

QC Batch: 71423
Prep Batch: 61120

Date Analyzed: 2010-07-02
QC Preparation: 2010-06-30

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	9810	mg/Kg	100	10000	<218	97	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10200	mg/Kg	100	10000	<218	101	85 - 115	4	20

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

Report Date: July 2, 2010
114-6400557

Work Order: 10062809
COG/Big George Line Leaf

Page Number: 32 of 37
Eddy County, NM

Matrix Spike (MS-1) Spiked Sample: 236007

QC Batch: 71424
Prep Batch: 61121

Date Analyzed: 2010-07-02
QC Preparation: 2010-06-30

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	16000	mg/Kg	100	10000	5940	101	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	16200	mg/Kg	100	10000	5940	103	85 - 115	1	20

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

Matrix Spike (MS-1) Spiked Sample: 236434

QC Batch: 71425
Prep Batch: 61122

Date Analyzed: 2010-07-02
QC Preparation: 2010-06-30

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10900	mg/Kg	100	10000	511	104	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	11000	mg/Kg	100	10000	511	105	85 - 115	1	20

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

Standard (CCV-1)

QC Batch: 71314

Date Analyzed: 2010-06-29

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	200	80	80 - 120	2010-06-29

Standard (CCV-2)

QC Batch: 71314

Date Analyzed: 2010-06-29

Analyzed By: kg

Report Date: July 2, 2010
114-6400557

Work Order: 10062809
COG/Big George Line Leaf

Page Number: 33 of 37
Eddy County, NM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	213	85	80 - 120	2010-06-29

Standard (CCV-3)

QC Batch: 71314

Date Analyzed: 2010-06-29

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	203	81	80 - 120	2010-06-29

Standard (CCV-2)

QC Batch: 71320

Date Analyzed: 2010-06-29

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.100	100	80 - 120	2010-06-29
Toluene		mg/Kg	0.100	0.0979	98	80 - 120	2010-06-29
Ethylbenzene		mg/Kg	0.100	0.0913	91	80 - 120	2010-06-29
Xylene		mg/Kg	0.300	0.275	92	80 - 120	2010-06-29

Standard (CCV-3)

QC Batch: 71320

Date Analyzed: 2010-06-29

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0951	95	80 - 120	2010-06-29
Toluene		mg/Kg	0.100	0.0939	94	80 - 120	2010-06-29
Ethylbenzene		mg/Kg	0.100	0.0884	88	80 - 120	2010-06-29
Xylene		mg/Kg	0.300	0.265	88	80 - 120	2010-06-29

Standard (CCV-2)

QC Batch: 71321

Date Analyzed: 2010-06-29

Analyzed By: AG

Report Date: July 2, 2010
114-6400557

Work Order: 10062809
COG/Big George Line Leaf

Page Number: 34 of 37
Eddy County, NM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.03	103	80 - 120	2010-06-29

Standard (CCV-3)

QC Batch: 71321 Date Analyzed: 2010-06-29 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.884	88	80 - 120	2010-06-29

Standard (CCV-1)

QC Batch: 71322 Date Analyzed: 2010-06-30 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0928	93	80 - 120	2010-06-30
Toluene		mg/Kg	0.100	0.0924	92	80 - 120	2010-06-30
Ethylbenzene		mg/Kg	0.100	0.0874	87	80 - 120	2010-06-30
Xylene		mg/Kg	0.300	0.263	88	80 - 120	2010-06-30

Standard (CCV-2)

QC Batch: 71322 Date Analyzed: 2010-06-30 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0955	96	80 - 120	2010-06-30
Toluene		mg/Kg	0.100	0.0942	94	80 - 120	2010-06-30
Ethylbenzene		mg/Kg	0.100	0.0894	89	80 - 120	2010-06-30
Xylene		mg/Kg	0.300	0.267	89	80 - 120	2010-06-30

Standard (CCV-1)

QC Batch: 71323 Date Analyzed: 2010-06-30 Analyzed By: AG

Report Date: July 2, 2010
114-6400557

Work Order: 10062809
COG/Big George Line Leaf

Page Number: 35 of 37
Eddy County, NM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.878	88	80 - 120	2010-06-30

Standard (CCV-2)

QC Batch: 71323 Date Analyzed: 2010-06-30 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.851	85	80 - 120	2010-06-30

Standard (ICV-1)

QC Batch: 71396 Date Analyzed: 2010-07-01 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-07-01

Standard (CCV-1)

QC Batch: 71396 Date Analyzed: 2010-07-01 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.9	100	85 - 115	2010-07-01

Standard (ICV-1)

QC Batch: 71397 Date Analyzed: 2010-07-01 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.6	100	85 - 115	2010-07-01

Standard (CCV-1)

QC Batch: 71397 Date Analyzed: 2010-07-01 Analyzed By: AR

Report Date: July 2, 2010
114-6400557

Work Order: 10062809
COG/Big George Line Leaf

Page Number: 36 of 37
Eddy County, NM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-07-01

Standard (ICV-1)

QC Batch: 71423

Date Analyzed: 2010-07-02

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-07-02

Standard (CCV-1)

QC Batch: 71423

Date Analyzed: 2010-07-02

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.5	100	85 - 115	2010-07-02

Standard (ICV-1)

QC Batch: 71424

Date Analyzed: 2010-07-02

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.4	99	85 - 115	2010-07-02

Standard (CCV-1)

QC Batch: 71424

Date Analyzed: 2010-07-02

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-07-02

Standard (ICV-1)

QC Batch: 71425

Date Analyzed: 2010-07-02

Analyzed By: AR

Report Date: July 2, 2010
114-6400557

Work Order: 10062809
COG/Big George Line Leaf

Page Number: 37 of 37
Eddy County, NM

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	2010-07-02

Standard (CCV-1)

QC Batch: 71425

Date Analyzed: 2010-07-02

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.1	98	85 - 115	2010-07-02

Order #: 10062809

Analysis Request of Chain of Custody Record

PAGE: 1

OF: 5



TETRA TECH

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

CLIENT NAME:

COG

SITE MANAGER:

Ike Tavaraz

PROJECT NO.:

114-6400557

PROJECT NAME:

COG / Big George Line Leat

LAB I.D.
NUMBERDATE
2010

TIME

MATRIX

COMP

GRAB

NUMBER OF CONTAINERS

FILTERED (Y/N)

HCL

HNO3

ICE

NONE

PRESERVATIVE
METHOD

TEX 8021B

TEX 8015 MOD

TX1005 (Ext. to C55)

PAH 8270

RCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8280/624

GC/MS Semi. Vol. 8270/625

PCB's 8080/608

Pest. 8080/608

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

RELINQUISHED BY: (Signature)

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Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

Date:

Time:

RECEIVING LABORATORY: Trace

ADDRESS:

CITY: Midland

STATE: TX

ZIP:

CONTACT:

PHONE:

DATE:

RECEIVED BY: (Signature)

RECEIVED BY: (Signature)

RECEIVED BY: (Signature)

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RECEIVED BY: (Signature)

SAMPLE CONDITION WHEN RECEIVED:

3.4' c intact

REMARKS:

Run deeper samples if TPH exceeds 1,000 mg/kg

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

For AH-1 through AH-6 / Run deeper sample if Benzene exceeds 10 mg/kg - Total PCB's sample 50 mg/kg

Order #: 10062809

Analysis Request of Chain of Custody Record

PAGE: 2 OF: 5

**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 Tavaroz

PROJECT NO.:

114-6400557

PROJECT NAME:

COG / Big George Line Leak

Eddy Co NM
SAMPLE IDENTIFICATIONLAB I.D.
NUMBERDATE
2010

TIME

MATRIX

COMP

GRAB

NUMBER OF CONTAINERS

FILTERED (Y/N)

HCL

HNO3

ICE

NONE

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

SAMPLED BY: (Print & Initial)

Date:

Time:

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

SAMPLE SHIPPED BY: (Circle)

AIRBILL #:

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

TETRA TECH CONTACT PERSON:

OTHER:

RECEIVING LABORATORY: Trane

RECEIVED BY: (Signature)

ADDRESS:

CITY: Midland

STATE: TX

ZIP:

CONTACT:

PHONE:

DATE:

TIME:

SAMPLE CONDITION WHEN RECEIVED:

REMARKS:

3.4°C intact

Run deeper sample if TPH exceeds 1,000 mg/kg

Ike Tavaroz

Results by:

RUSH Charges

Authorized:

Yes

No

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

For AH-1 through AH-6 / Run deeper sample if Benzene

exceeds 10 mg/kg or Total on-v - 5 mg/kg

Order #: 10062809

Analysis Request of Chain of Custody Record

PAGE: 3 OF: 4

**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 Tavaraz

PROJECT NO.:

114-6400557

PROJECT NAME:

COG Big George Line Leak

 Eddy Co NM
 SAMPLE IDENTIFICATION
LAB I.D.
NUMBER

DATE

TIME

MATRIX

COMP

GRAB

235990

6/22

S

X

991

992

993

994

995

996

Order #: 10062809

Analysis Request of Chain of Custody Record

PAGE: 4 OF: 5

**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 Tavaroz

PROJECT NO.:

114-6400557

PROJECT NAME:

 COG / Big George Line Leak
 Eddy Co NM
 SAMPLE IDENTIFICATION
LAB I.D.
NUMBERDATE
2010

TIME

MATRIX

COMP

GRAB

NUMBER OF CONTAINERS

FILTERED (Y/N)

PRESERVATIVE
METHOD

HCL

HNO3

ICE

NONE

BTEX 8021B

(PH 8015 MOD TX1005 (Ext. to C36)

PAH 8270

PCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8280/624

GC/MS Semi. Vol. 8270/625

PCB's 8080/608

Pest. 809/608

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

236000

6/22

S

X

AH-5

0-1'

2' BEB

1

X

X

X

X

001

AH-5

1-1.5'

2' BEB

002

AH-5

2-2.5'

2' BEB

003

AH-5

3-3.5'

2' BEB

004

AH-5

4-4.5'

2' BEB

005

AH-5

5-5.5'

2' BEB

006

AH-6

0-1'

2' BEB

XX

007

AH-6

1-1.5'

2' BEB

008

AH-6

2-2.5'

2' BEB

009

AH-6

3-3.5'

2' BEB

RELINQUISHED BY: (Signature)

Date: 6-22-10

RECEIVED BY: (Signature)

Date: 6/22/10

SAMPLED BY: (Print & Initial)

TF

Date: 6-22-10

RELINQUISHED BY: (Signature)

Date: 6-22-10

RECEIVED BY: (Signature)

Date: 6-22-10

SAMPLE SHIPPED BY: (Circle)

FEDEX

BUS

AIRBILL #:

RELINQUISHED BY: (Signature)

Date: 6-22-10

RECEIVED BY: (Signature)

Date: 6-22-10

TETRA TECH CONTACT PERSON:

Ike Tavaroz

OTHER:

RECEIVING LABORATORY: Trace

RECEIVED BY: (Signature)

ADDRESS:

CITY: Midland

STATE: TX

ZIP:

CONTACT:

PHONE:

DATE:

TIME:

SAMPLE CONDITION WHEN RECEIVED:

34°C intact

REMARKS:

Results by:

RUSH Charges
Authorized:

Yes No

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

Order #: 10062809

Analysis Request of Chain of Custody Record

PAGE: 4

OF: 4

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

 ANALYSIS REQUEST
 (Circle or Specify Method No.)

CLIENT NAME:

COG

SITE MANAGER:

Ike Tavaraz

PROJECT NO.:

114-6400557

PROJECT NAME:

COG / Big George Line Leak

 Eddy Co NM
 SAMPLE IDENTIFICATION
LAB I.D.
NUMBERDATE
2010

TIME

MATRIX

COMP

GRAB

Stockpile

NUMBER OF CONTAINERS

FILTERED (Y/N)

HCL

HNO3

ICE

NONE

PRESERVATIVE
METHOD

BTX 8021B

TPH 8015 MOD. TX1005 (Ext. to C35)

PAH 8270

ROHA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8260/824

GC/MS Semi. Vol. 8270/825

PCB's 8080/608

Pest. 808/808

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

SAMPLED BY: (Print & Initial)

TE

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: True

RECEIVED BY: (Signature)

ADDRESS:

CITY: Midland

STATE: TX

ZIP:

CONTACT:

PHONE:

DATE:

TIME:

Ike Tavaraz

RUSH Charges
Authorized:

Yes

No

SAMPLE CONDITION WHEN RECEIVED:

REMARKS:

314°C intact

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

Summary Report

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

Report Date: March 29, 2011

Work Order: 11032819

Project Location: Eddy Co, NM
Project Name: COG/Big George 8in.
Project Number: 114-6400557

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
261879	CS-1 6' bottom hole	soil	2011-03-22	00:00	2011-03-28
261880	CS-1 8'	soil	2011-03-22	00:00	2011-03-28
261881	CS-1 10'	soil	2011-03-22	00:00	2011-03-28
261882	CS-2 6' bottom hole	soil	2011-03-23	00:00	2011-03-28
261883	CS-2 8'	soil	2011-03-23	00:00	2011-03-28
261884	CS-2 10'	soil	2011-03-23	00:00	2011-03-28
261885	CS-2 12'	soil	2011-03-23	00:00	2011-03-28
261886	CS-2 14'	soil	2011-03-23	00:00	2011-03-28
261887	CS-3 6'	soil	2011-03-23	00:00	2011-03-28
261888	CS-3 8'	soil	2011-03-23	00:00	2011-03-28
261889	CS-3 10'	soil	2011-03-23	00:00	2011-03-28
261890	CS-3 12'	soil	2011-03-23	00:00	2011-03-28

Sample: 261879 - CS-1 6' bottom hole

Param	Flag	Result	Units	RL
Chloride		310	mg/Kg	4.00

Sample: 261880 - CS-1 8'

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

Sample: 261881 - CS-1 10'

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

Sample: 261882 - CS-2 6' bottom hole

Param	Flag	Result	Units	RL
Chloride		657	mg/Kg	4.00

Sample: 261883 - CS-2 8'

Param	Flag	Result	Units	RL
Chloride		2350	mg/Kg	4.00

Sample: 261884 - CS-2 10'

Param	Flag	Result	Units	RL
Chloride		291	mg/Kg	4.00

Sample: 261885 - CS-2 12'

Param	Flag	Result	Units	RL
Chloride		315	mg/Kg	4.00

Sample: 261886 - CS-2 14'

Param	Flag	Result	Units	RL
Chloride		965	mg/Kg	4.00

Sample: 261887 - CS-3 6'

Param	Flag	Result	Units	RL
Chloride		7760	mg/Kg	4.00

Sample: 261888 - CS-3 8'

Param	Flag	Result	Units	RL
Chloride		2350	mg/Kg	4.00

Sample: 261889 - CS-3 10'

Param	Flag	Result	Units	RL
Chloride		2950	mg/Kg	4.00

Sample: 261890 - CS-3 12'

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



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

Certifications

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

NELAP Certifications

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

Analytical and Quality Control Report

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

Report Date: March 29, 2011

Work Order: 11032819

Project Location: Eddy Co, NM
Project Name: COG/Big George 8in.
Project Number: 114-6400557

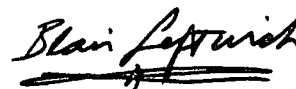
Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
261879	CS-1 6' bottom hole	soil	2011-03-22	00:00	2011-03-28
261880	CS-1 8'	soil	2011-03-22	00:00	2011-03-28
261881	CS-1 10'	soil	2011-03-22	00:00	2011-03-28
261882	CS-2 6' bottom hole	soil	2011-03-23	00:00	2011-03-28
261883	CS-2 8'	soil	2011-03-23	00:00	2011-03-28
261884	CS-2 10'	soil	2011-03-23	00:00	2011-03-28
261885	CS-2 12'	soil	2011-03-23	00:00	2011-03-28
261886	CS-2 14'	soil	2011-03-23	00:00	2011-03-28
261887	CS-3 6'	soil	2011-03-23	00:00	2011-03-28
261888	CS-3 8'	soil	2011-03-23	00:00	2011-03-28

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
261889	CS-3 10'	soil	2011-03-23	00:00	2011-03-28
261890	CS-3 12'	soil	2011-03-23	00:00	2011-03-28

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

This report consists of a total of 9 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.



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

Standard Flags

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

Case Narrative

Samples for project COG/Big George 8in. were received by TraceAnalysis, Inc. on 2011-03-28 and assigned to work order 11032819. Samples for work order 11032819 were received intact at a temperature of 3.6 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	67743	2011-03-28 at 10:16	79845	2011-03-29 at 10:17
Chloride (Titration)	SM 4500-Cl B	67743	2011-03-28 at 10:16	79846	2011-03-29 at 10:18

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 11032819 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Report Date: March 29, 2011
114-6400557

Work Order: 11032819
COG/Big George 8in.

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Eddy Co, NM

Analytical Report

Sample: 261879 - CS-1 6' bottom hole

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-03-29	Analyzed By:	AR
QC Batch:	79845	Sample Preparation:	2011-03-28	Prepared By:	AR
Prep Batch:	67743				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		310	mg/Kg	50	4.00

Sample: 261880 - CS-1 8'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-03-29	Analyzed By:	AR
QC Batch:	79845	Sample Preparation:	2011-03-28	Prepared By:	AR
Prep Batch:	67743				

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

Sample: 261881 - CS-1 10'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-03-29	Analyzed By:	AR
QC Batch:	79845	Sample Preparation:	2011-03-28	Prepared By:	AR
Prep Batch:	67743				

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

Sample: 261882 - CS-2 6' bottom hole

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-03-29	Analyzed By:	AR
QC Batch:	79845	Sample Preparation:	2011-03-28	Prepared By:	AR
Prep Batch:	67743				

continued ...

Report Date: March 29, 2011
114-6400557

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COG/Big George 8in.

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sample 261882 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		657	mg/Kg	50	4.00

Sample: 261883 - CS-2 8'

Laboratory:	Midland			
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method: N/A
QC Batch:	79845	Date Analyzed:	2011-03-29	Analyzed By: AR
Prep Batch:	67743	Sample Preparation:	2011-03-28	Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2350	mg/Kg	100	4.00

Sample: 261884 - CS-2 10'

Laboratory:	Midland			
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method: N/A
QC Batch:	79845	Date Analyzed:	2011-03-29	Analyzed By: AR
Prep Batch:	67743	Sample Preparation:	2011-03-28	Prepared By: AR

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

Sample: 261885 - CS-2 12'

Laboratory:	Midland			
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method: N/A
QC Batch:	79846	Date Analyzed:	2011-03-29	Analyzed By: AR
Prep Batch:	67743	Sample Preparation:	2011-03-28	Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		315	mg/Kg	50	4.00

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Sample: 261886 - CS-2 14'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-03-29	Analyzed By:	AR
QC Batch:	79846	Sample Preparation:	2011-03-28	Prepared By:	AR
Prep Batch:	67743				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		965	mg/Kg	100	4.00

Sample: 261887 - CS-3 6'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-03-29	Analyzed By:	AR
QC Batch:	79846	Sample Preparation:	2011-03-28	Prepared By:	AR
Prep Batch:	67743				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		7760	mg/Kg	100	4.00

Sample: 261888 - CS-3 8'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-03-29	Analyzed By:	AR
QC Batch:	79846	Sample Preparation:	2011-03-28	Prepared By:	AR
Prep Batch:	67743				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2350	mg/Kg	100	4.00

Sample: 261889 - CS-3 10'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-03-29	Analyzed By:	AR
QC Batch:	79846	Sample Preparation:	2011-03-28	Prepared By:	AR
Prep Batch:	67743				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2950	mg/Kg	100	4.00

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Eddy Co, NM

Sample: 261890 - CS-3 12'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 79846

Prep Batch: 67743

Analytical Method: SM 4500-Cl B

Date Analyzed: 2011-03-29

Sample Preparation: 2011-03-28

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

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

Method Blank (1) QC Batch: 79845

QC Batch: 79845

Date Analyzed: 2011-03-29

Analyzed By: AR

Prep Batch: 67743

QC Preparation: 2011-03-28

Prepared By: AR

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

Method Blank (1) QC Batch: 79846

QC Batch: 79846

Date Analyzed: 2011-03-29

Analyzed By: AR

Prep Batch: 67743

QC Preparation: 2011-03-28

Prepared By: AR

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

Laboratory Control Spike (LCS-1)

QC Batch: 79845

Date Analyzed: 2011-03-29

Analyzed By: AR

Prep Batch: 67743

QC Preparation: 2011-03-28

Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.2	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.

continued . . .

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control spikes continued . . .

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
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: 79846
Prep Batch: 67743

Date Analyzed: 2011-03-29
QC Preparation: 2011-03-28

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.2	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	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: 261884

QC Batch: 79845
Prep Batch: 67743

Date Analyzed: 2011-03-29
QC Preparation: 2011-03-28

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10500	mg/Kg	100	10000	<385	102	80 - 120

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10800	mg/Kg	100	10000	<385	105	80 - 120	3	20

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

Matrix Spike (MS-1) Spiked Sample: 261890

QC Batch: 79846
Prep Batch: 67743

Date Analyzed: 2011-03-29
QC Preparation: 2011-03-28

Analyzed By: AR
Prepared By: AR

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Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10100	mg/Kg	100	10000	<385	101	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	10400	mg/Kg	100	10000	<385	104	80 - 120	3	20

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

Standard (ICV-1)

QC Batch: 79845

Date Analyzed: 2011-03-29

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.9	99	85 - 115	2011-03-29

Standard (CCV-1)

QC Batch: 79845

Date Analyzed: 2011-03-29

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	2011-03-29

Standard (ICV-1)

QC Batch: 79846

Date Analyzed: 2011-03-29

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2011-03-29

Standard (CCV-1)

QC Batch: 79846

Date Analyzed: 2011-03-29

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.6	99	85 - 115	2011-03-29

Analysis Request of Chain of Custody Record



TETRA TECH

**1910 N. Big Spring St.
Midland, Texas 79705**

(432) 682-4559 • Fax (432) 682-3946

PAGE: 1 Of: 2

ANALYSIS REQUEST
(Circle or Specify Method No.)

[illegible]

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

2600 #: 11032819

Analysis Request of Chain of Custody Record



TETRA TECH

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

PAGE: 2 Or. 2

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:

SITE MANAGER:

PROJECT NO:

PROJECT NAME:

LAB I.D.
NUMBER

DATE

TIME

MATRIX

COMP.

GRAB

SAMPLE IDENTIFICATION

NUMBER OF CONTAINERS

FILTERED (Y/N)

HCL

HNO3

ICE

NONE

PRESERVATIVE
METHOD

BTEX 8021B

TPH 8015 MOD. TX1005 (Ext to C39)

PAH 8270

RCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8260/824

GC/MS Semi. Vol. 8270/825

PCB's 8080/808

Pest. 8080/808

Chloride

Gamma Spec.

Alpha Beta (Al)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

SAMPLED BY: (Print & Initial)

Date:

Time:

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

SAMPLE SHIPPED BY: (Circle)

AIRBILL #:

FEDEX

BUS

HAND DELIVERED

UPS

OTHER:

RECEIVING LABORATORY:

ADDRESS:

CITY:

STATE:

ZIP:

CONTACT:

PHONE:

RECEIVED BY: (Signature)

DATE:

TIME:

TETRA TECH CONTACT PERSON:

Results by:

RUSH Charges
Authorized:
Yes No

SAMPLE CONDITION WHEN RECEIVED:

REMARKS:

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