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

RECEIVED
AUG 06 2010
HOBBSOCD

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company **COG Operating LLC**	Contact **Pat Ellis**
Address **550 W. Texas, Suite 1300 Midland, Texas 79701**	Telephone No. **(432) 685-4332**
Facility Name G.C Federal 27 Tank Battery	Facility Type **Tank Battery**

Surface Owner: Federal	Mineral Owner	Lease No. API 30-025-39151

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
I	20	17S	32E	2410	South	265	East	Lea

Latitude N 32.818887° **Longitude** W 103.78212°

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release **205 bbls**	Volume Recovered **200 bbls**
Source of Release **4" poly line**	Date and Hour of Occurrence 2/12/10 10:00 a.m.	Date and Hour of Discovery 2/12/10 10:00 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? **Mark – OCD** **Jim Amos – BLM**	
By Whom? Rick Wright	Date and Hour 2/12/10	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

. A backhoe hit and ruptured an above ground 4 inch poly line while building a caliche road. The 4 inch poly line was repaired.

Describe Area Affected and Cleanup Action Taken.*

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

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Patrick L. Ellis	Approved by District Supervisor:	
Title: Environmental and Safety Supervisor	Approval Date:	Expiration Date:
E-mail Address: pellis@conchoresources.com	Conditions of Approval:	Attached ☐
Date: July 14, 2010 Phone: (432) 686-3023		

* Attach Additional Sheets If Necessary

PGRL1006057565
2438

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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	G.C. Federal 27 Tank Battery	Facility Type	Tank Battery

Surface Owner Federal	Mineral Owner	Lease No. (API#) 30-025-39515

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
I	20	17S	32E	2410	SOUTH	265	EAST	LEA

Latitude 32.815433 **Longitude** 103.774917

NATURE OF RELEASE

Type of Release	Produced water	Volume of Release 205 bbls	Volume Recovered 200 bbls
Source of Release	4 inch poly line	Date and Hour of Occurrence 02/12/2010 10:00 a.m.	Date and Hour of Discovery 02/12/2010 10:00a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required		If YES, To Whom? Mark – OCD Jim Amos - BLM	
By Whom? Rick Wright		Date and Hour 02/12/2010	
Was a Watercourse Reached? ☐ Yes ☒ No		If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A backhoe hit and ruptured an above ground 4 inch poly line while building a caliche road. The 4 inch poly line was repaired.

Describe Area Affected and Cleanup Action Taken.*

205bbls of produced fluid was contained on caliche road by a 30'x60'dike wall that the backhoe operator built immediately after the poly line ruptured. A vacuum truck was called and recovered 200bbls of fluid. The area affected was scraped and the contaminated soils were hauled off. (Covered under one-call from building road). (The nearest location to the spill is the G.C. FEDERAL #39) Tetra Tech will then sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD/BLM for approval prior to any significant remediation work.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Josh Russo	Approved by District Supervisor:
Title: HSE Coordinator	Approval Date: / Expiration Date:
E-mail Address: jrusso@conchoresources.com	Conditions of Approval: / Attached ☐
Date: 02/12/2010 Phone: 432-212-2399	

* Attach Additional Sheets If Necessary

SITE INFORMATION

Report Type: Closure Report

General Site Information:		
Site:	**G.C. Federal 27 Tank Battery**	
Company:	**COG Operating LLC**	
Section, Township and Range	**Unit I - Section 20 - Township 17S - Range 32E**	
Lease Number:	**API-30-025-39515**	
County:	**Lea County**	
GPS:	**32.818887° N**	**103.78212° W**
Surface Owner:	Federal	
Mineral Owner:		
Directions:	From intersection of Hwy 529 and CR 126, travel north 1.8 miles, turn left on Conoco Road 1.1 miles, turn right (north) 0.1 miles to location	

Release Data:	
Date Released:	2/12/2010
Type Release:	Produced Water
Source of Contamination:	4" Polyline
Fluid Released:	205 bbls
Fluids Recovered:	200 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@tetratech.com

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

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

TETRA TECH

July 15, 2010

Mr. Larry Johnson
Environmental Engineer Specialist
Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 88240

Re: Closure Report for the COG Operating LLC., GC Federal #27 Tank Battery, Unit I, Section 20, Township 17 South, Range 32 East, Lea County, New Mexico.

Mr. Johnson:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the GC Federal #27 Tank Battery, Unit I, Section 20, Township 17 South, Range 32 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.815433°, W 103.774917°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on February 12, 2010, and released approximately 205 barrels of produced water, due to piece of equipment striking and rupturing a 4 inch above ground poly line. To alleviate the problem, COG personnel repaired the poly line. 200 barrels of standing fluids were recovered. The spill crossed the lease road and was contained in a native low-lying area west of the road. The initial and final C-141 forms are enclosed in Appendix C.

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

Groundwater

The United States Geological Survey (USGS) Well Reports did not list any wells in Section 20. However, the USGS Well Report did list two wells in Section 11 with reported depths of 70' and 105' below ground surface (bgs). To establish depth to groundwater, Tetra Tech previously installed a temporary monitor well (TMW) in Section 30 to a depth of 180' bgs and did not encounter groundwater. The groundwater data is shown in Appendix A.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 5,000 mg/kg.

Soil Assessment and Analytical Results

On February 15, 2010, Tetra Tech personnel inspected and sampled the spill area which measured approximately 60' x 10' along the road and impacted an area 20' by 20' on the lease road. A total of four (4) auger holes (AH-1 through AH-4) were installed using a stainless steel hand auger to assess the impacted soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix B. 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 AH-2 (6-6.5') of 745 mg/kg and AH-3 (7-7.5') of 1,280 mg/kg. The data was emailed, February 19, 2010, to the NMOCD and the work plan approved.

TETRA TECH

Soil Remediation

On May 12, 2010, Tetra Tech personnel supervised the removal of approximately 2.5' of impacted material near AH-2 and 1.0' at AH-4, which was hauled away for proper disposal. In order to define the chloride concentration impact, confirmation samples (CS-1 and CS-2) were collected from the bottom of trenches in the the excavated areas near AH-2 and AH-3 and submitted to lab for analysis.

Referring to Table 1, both confirmation samples defined the chloride concentrations at CS-1 (10') with <200 mg/kg and CS-2 (14') with 470 mg/kg. The excavated areas and CS locations are shown on Figure 4.

Based on the results, COG requests closure of the site. The C-141 (Final) is included in Appendix C. If you have any questions or comments concerning the assessment or the remediation activities performed at the site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Kim Dorey
Staff Geologist

cc: Pat Ellis – COG
cc: Trisha Bad Bear – BLM

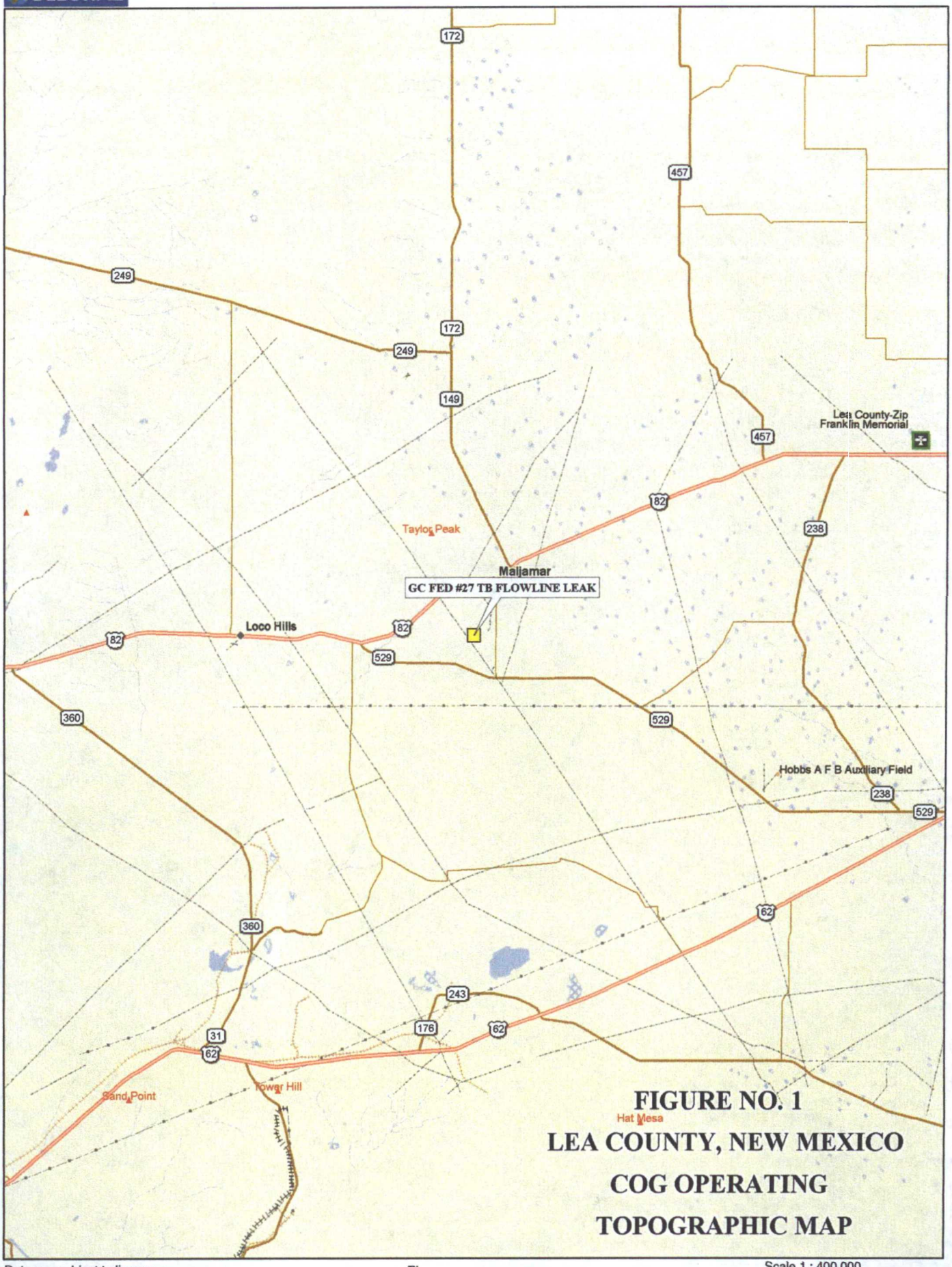


FIGURE NO. 1
LEA COUNTY, NEW MEXICO
COG OPERATING
TOPOGRAPHIC MAP

TN

MN (7.9°E)

Scale 1 : 400,000

1" = 6.31 mi

Data Zoom 9-0

FIGURE NO. 2

LEA COUNTY, NEW MEXICO

COG OPERATING

TOPOGRAPHIC MAP

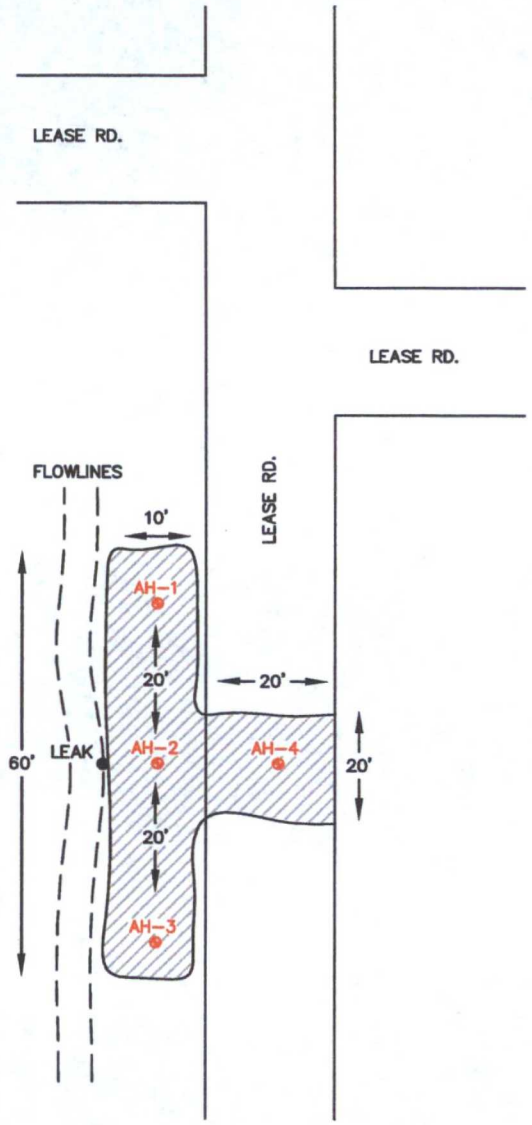
TN

MN (7.9°E)

Scale 1 : 24,000

1" = 2,000.0 ft

Data Zoom 13-0



N

SPILL AREA
SAMPLE LOCATIONS

NOT TO SCALE

FIGURE NO. 3

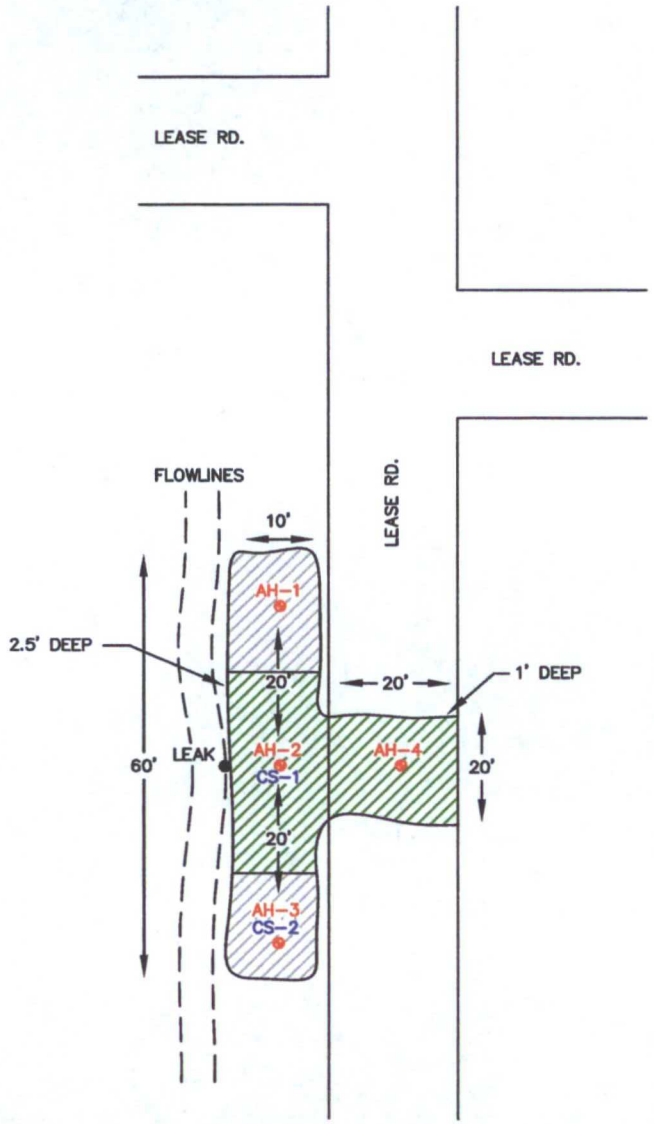
LEA COUNTY, NEW MEXICO

COG OPERATING

GC FED. #27 TB FLOWLINE LEAK

DATE: 2/17/10
DWN. BY: JJ
FILE: H:\COG\6400439

TETRA TECH, INC.
MIDLAND, TEXAS



N

SPILL AREA
EXCAVATED AREA
SAMPLE LOCATIONS
CONFIRMATION SAMPLE LOCATIONS

NOT TO SCALE

FIGURE NO. 4

LEA COUNTY, NEW MEXICO

COG OPERATING

DATE: 2/17/10
DWN. BY: JJ
FILE: H:\COG\8400439

GC FED. #27 TB FLOWLINE LEAK

TETRA TECH, INC.
MIDLAND, TEXAS

Table 1
COG Operating LLC.
GC Federal #27 Flowline
LEA COUNTY, NEW MEXICO

Sample ID	Date Sampled	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total					
AH-1	2/15/2010	0-1'	X		<50.0	<1.0	<50.0	-	-	-	-	<200
		1-1.5'	X		-	-	-	-	-	-	-	<200
		2-2.5'	X		-	-	-	-	-	-	-	<200
		3-3.5'	X		-	-	-	-	-	-	-	<200
AH-2	2/15/2010	0-1'		X	<50.0	<1.0	<50.0	<0.01	<0.01	<0.01	<0.01	13,100
		1-1.5'		X	-	-	-	-	-	-	-	19,200
		2-2.5'		X	-	-	-	-	-	-	-	1,180
		3-3.5'	X		-	-	-	-	-	-	-	<200
		4-4.5	X		-	-	-	-	-	-	-	216
		5-5.5	X		-	-	-	-	-	-	-	1,020
		6-6.5	X		-	-	-	-	-	-	-	745
CS-1	5/12/2010	8	X		-	-	-	-	-	-	-	<200
		10	X		-	-	-	-	-	-	-	<200

Table 1
COG Operating LLC.
GC Federal #27 Flowline
LEA COUNTY, NEW MEXICO

Sample ID	Date Sampled	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total					
AH-3	2/15/2010	0-1'	X		<50.0	<1.0	<50.0	-	-	-	-	<200
		1-1.5'	X		-	-	-	-	-	-	-	<200
		2-2.5'	X		-	-	-	-	-	-	-	<200
		3-3.5'	X		-	-	-	-	-	-	-	232
		4-4.5	X		-	-	-	-	-	-	-	<200
		5-5.5	X		-	-	-	-	-	-	-	210
		6-6.5	X		-	-	-	-	-	-	-	610
		7-7.5	X		-	-	-	-	-	-	-	1,280
CS-2	5/12/2010	10	X		-	-	-	-	-	-	-	275
		12	X		-	-	-	-	-	-	-	626
		14	X		-	-	-	-	-	-	-	470
AH-4	2/15/2010	0-1'	X		<50.0	<1.0	<50.0	<0.01	<0.01	<0.01	<0.01	4,200
		1-1.5'	X		-	-	-	-	-	-	-	<200
		2-2.5'	X		-	-	-	-	-	-	-	281
		3-3.5'	X		-	-	-	-	-	-	-	<200
		4-4.5	X		-	-	-	-	-	-	-	<200
		5-5.5	X		-	-	-	-	-	-	-	588

(-) Not Analyzed

Soil excavated and hauled to CRI for disposal

Water Well Data
Average Depth to Groundwater (ft)
COG - G.C. Federal 27 Tank Battery
Lea County, New Mexico

16 South 31 East

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

17 South 31 East

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

18 South 31 East

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

16 South 32 East

6	5	4	3 65	2 265	1 265
7	8	9	10	11	12 215
18	17	16 221	15	14	13 215
19 220	20	21 210	22	23 210	24
30	29	28	27	26 243	25
31	32	33	34	35	36 260

17 South 32 East

6	5	4 82	3 175	2 60	1 225
7	8	9	10	11 70 88	12 120
18	17	16	15	14	13
19	20 SITE	21	22	23	24
30 180	29	28	27	26	25
31	32	33	34	35	36

18 South 32 East

6	5	4 65	3	2	1
7 460 82	8	9	10	11	12
18	17	16 84	15	14	13
19	20 164	21	22 429	23	24
30	29	28	27	26	25
31	32	33	34 117	35	36

16 South 33 East

6	5 180	4 150	3 130	2 148	1 142
7	8 200	9	10 182	11	12 142
18	17 182	16 180	15 175	14 143	13 110
19	20	21	22	23 120	24
30 191	29	28 190	27 130	26 143	25 120
31 190	32 168	33	34 160	35	36

17 South 33 East

6 90	5	4	3 155	2 158	1 150
7 167	8 173	9 161	10	11	12
18 188	17 180	16	15	14	13 165
19	20 190	21	22	23 115	24
30	29	28	27	26	25
31	32	33	34	35 155	36

18 South 33 East

6	5	4	3	2	1
7	8 100	9	10 62	11	12 143 140
18	17 85	16	15	14 36	13 60
19 >140	20	21	22	23	24 195
30 35	29	28	27	26	25
31	32	33	34 177	35	36

- New Mexico State Engineers Well Reports
- USGS Well Reports
- Geology and Groundwater Conditions in Southern Eddy, County, NM
- NMOCD - Groundwater Data
- Field water level
- New Mexico Water and Infrastructure Data System
- Tetra Tech Temporary well (TD 180' - Dry Well)

Summary Report

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

Report Date: February 18, 2010

Work Order: 10021607

Project Location: Lea County, NM
Project Name: COG/GC Fed. #27 Flowline
Project Number: 114-6400439

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
222536	AH-1 0-1'	soil	2010-02-15	00:00	2010-02-15
222537	AH-1 1-1.5'	soil	2010-02-15	00:00	2010-02-15
222538	AH-1 2-2.5'	soil	2010-02-15	00:00	2010-02-15
222539	AH-1 3-3.5'	soil	2010-02-15	00:00	2010-02-15
222540	AH-2 0-1'	soil	2010-02-15	00:00	2010-02-15
222541	AH-2 1-1.5'	soil	2010-02-15	00:00	2010-02-15
222542	AH-2 2-2.5'	soil	2010-02-15	00:00	2010-02-15
222543	AH-2 3-3.5'	soil	2010-02-15	00:00	2010-02-15
222544	AH-2 4-4.5'	soil	2010-02-15	00:00	2010-02-15
222545	AH-2 5-5.5'	soil	2010-02-15	00:00	2010-02-15
222546	AH-2 6-6.5'	soil	2010-02-15	00:00	2010-02-15
222547	AH-3 0-1'	soil	2010-02-15	00:00	2010-02-15
222548	AH-3 1-1.5'	soil	2010-02-15	00:00	2010-02-15
222549	AH-3 2-2.5'	soil	2010-02-15	00:00	2010-02-15
222550	AH-3 3-3.5'	soil	2010-02-15	00:00	2010-02-15
222551	AH-3 4-4.5'	soil	2010-02-15	00:00	2010-02-15
222552	AH-3 5-5.5'	soil	2010-02-15	00:00	2010-02-15
222553	AH-3 6-6.5'	soil	2010-02-15	00:00	2010-02-15
222554	AH-3 7-7.5'	soil	2010-02-15	00:00	2010-02-15
222555	AH-4 0-1'	soil	2010-02-15	00:00	2010-02-15
222556	AH-4 1-1.5'	soil	2010-02-15	00:00	2010-02-15
222557	AH-4 2-2.5'	soil	2010-02-15	00:00	2010-02-15
222558	AH-4 3-3.5'	soil	2010-02-15	00:00	2010-02-15
222559	AH-4 4-4.5'	soil	2010-02-15	00:00	2010-02-15
222560	AH-4 5-5.5'	soil	2010-02-15	00:00	2010-02-15

Sample - Field Code	BTEX Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
222536 - AH-1 0-1'					<50.0	<1.00
222540 - AH-2 0-1'	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	<1.00
222547 - AH-3 0-1'					<50.0	<1.00
222555 - AH-4 0-1'	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	<1.00

Sample: 222536 - AH-1 0-1'

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

Sample: 222537 - AH-1 1-1.5'

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

Sample: 222538 - AH-1 2-2.5'

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

Sample: 222539 - AH-1 3-3.5'

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

Sample: 222540 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**13100**	mg/Kg	4.00

Sample: 222541 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**19200**	mg/Kg	4.00

Sample: 222542 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**1180**	mg/Kg	4.00

Sample: 222543 - AH-2 3-3.5'

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

Sample: 222544 - AH-2 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**216**	mg/Kg	4.00

Sample: 222545 - AH-2 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**1020**	mg/Kg	4.00

Sample: 222546 - AH-2 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**745**	mg/Kg	4.00

Sample: 222547 - AH-3 0-1'

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

Sample: 222548 - AH-3 1-1.5'

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

Sample: 222549 - AH-3 2-2.5'

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

Sample: 222550 - AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**232**	mg/Kg	4.00

Sample: 222551 - AH-3 4-4.5'

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

Sample: 222552 - AH-3 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**210**	mg/Kg	4.00

Sample: 222553 - AH-3 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**610**	mg/Kg	4.00

Sample: 222554 - AH-3 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**1280**	mg/Kg	4.00

Sample: 222555 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**4200**	mg/Kg	4.00

Sample: 222556 - AH-4 1-1.5'

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

Sample: 222557 - AH-4 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**281**	mg/Kg	4.00

Sample: 222558 - AH-4 3-3.5'

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

Sample: 222559 - AH-4 4-4.5'

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

Sample: 222560 - AH-4 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**588**	mg/Kg	4.00

TRACEANALYSIS, INC.

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

Analytical and Quality Control Report

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

Report Date: February 18, 2010

Work Order: 10021607

Project Location: Lea County, NM
Project Name: COG/GC Fed. #27 Flowline
Project Number: 114-6400439

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
222536	AH-1 0-1'	soil	2010-02-15	00:00	2010-02-15
222537	AH-1 1-1.5'	soil	2010-02-15	00:00	2010-02-15
222538	AH-1 2-2.5'	soil	2010-02-15	00:00	2010-02-15
222539	AH-1 3-3.5'	soil	2010-02-15	00:00	2010-02-15
222540	AH-2 0-1'	soil	2010-02-15	00:00	2010-02-15
222541	AH-2 1-1.5'	soil	2010-02-15	00:00	2010-02-15
222542	AH-2 2-2.5'	soil	2010-02-15	00:00	2010-02-15
222543	AH-2 3-3.5'	soil	2010-02-15	00:00	2010-02-15
222544	AH-2 4-4.5'	soil	2010-02-15	00:00	2010-02-15
222545	AH-2 5-5.5'	soil	2010-02-15	00:00	2010-02-15

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
222546	AH-2 6-6.5'	soil	2010-02-15	00:00	2010-02-15
222547	AH-3 0-1'	soil	2010-02-15	00:00	2010-02-15
222548	AH-3 1-1.5'	soil	2010-02-15	00:00	2010-02-15
222549	AH-3 2-2.5'	soil	2010-02-15	00:00	2010-02-15
222550	AH-3 3-3.5'	soil	2010-02-15	00:00	2010-02-15
222551	AH-3 4-4.5'	soil	2010-02-15	00:00	2010-02-15
222552	AH-3 5-5.5'	soil	2010-02-15	00:00	2010-02-15
222553	AH-3 6-6.5'	soil	2010-02-15	00:00	2010-02-15
222554	AH-3 7-7.5'	soil	2010-02-15	00:00	2010-02-15
222555	AH-4 0-1'	soil	2010-02-15	00:00	2010-02-15
222556	AH-4 1-1.5'	soil	2010-02-15	00:00	2010-02-15
222557	AH-4 2-2.5'	soil	2010-02-15	00:00	2010-02-15
222558	AH-4 3-3.5'	soil	2010-02-15	00:00	2010-02-15
222559	AH-4 4-4.5'	soil	2010-02-15	00:00	2010-02-15
222560	AH-4 5-5.5'	soil	2010-02-15	00:00	2010-02-15

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.

Michael Abel

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/GC Fed. #27 Flowline were received by TraceAnalysis, Inc. on 2010-02-15 and assigned to work order 10021607. Samples for work order 10021607 were received intact at a temperature of 15.9 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	57812	2010-02-16 at 15:00	67583	2010-02-16 at 12:07
Chloride (Titration)	SM 4500-Cl B	57782	2010-02-16 at 09:25:16.534604	67548	2010-02-16 at 13:55:10.114756
Chloride (Titration)	SM 4500-Cl B	57784	2010-02-16 at 11:00:31.699439	67549	2010-02-16 at 13:56:05.303051
Chloride (Titration)	SM 4500-Cl B	57785	2010-02-16 at 11:00:11.559193	67550	2010-02-16 at 13:56:58.092598
TPH DRO - NEW	Mod. 8015B	57807	2010-02-16 at 13:43:11.849778	67578	2010-02-16 at 13:43:11.849778
TPH GRO	S 8015B	57812	2010-02-16 at 15:00	67584	2010-02-16 at 12:35

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 10021607 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Analytical Report

Sample: 222536 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67549	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57784	Sample Preparation:	2010-02-16	Prepared By:	AR

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

Sample: 222536 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	67578	Date Analyzed:	2010-02-16	Analyzed By:	kg
Prep Batch:	57807	Sample Preparation:	2010-02-16	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		116	mg/Kg	1	100	116	70 - 130

Sample: 222536 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	67584	Date Analyzed:	2010-02-16	Analyzed By:	AG
Prep Batch:	57812	Sample Preparation:	2010-02-16	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.25	mg/Kg	1	2.00	112	65.3 - 145
4-Bromofluorobenzene (4-BFB)		2.14	mg/Kg	1	2.00	107	61.7 - 131.1

Sample: 222537 - AH-1 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67549	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57784	Sample Preparation:	2010-02-16	Prepared By:	AR

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

Sample: 222538 - AH-1 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67549	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57784	Sample Preparation:	2010-02-16	Prepared By:	AR

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

Sample: 222539 - AH-1 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67549	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57784	Sample Preparation:	2010-02-16	Prepared By:	AR

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

Sample: 222540 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	67583	Date Analyzed:	2010-02-16	Analyzed By:	AG
Prep Batch:	57812	Sample Preparation:	2010-02-16	Prepared By:	AG

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

continued ...

sample 222540 continued ...

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.18	mg/Kg	1	2.00	109	64.4 - 141.2
4-Bromofluorobenzene (4-BFB)		2.15	mg/Kg	1	2.00	108	43.1 - 158.4

Sample: 222540 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67549	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57784	Sample Preparation:	2010-02-16	Prepared By:	AR

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

Sample: 222540 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	67578	Date Analyzed:	2010-02-16	Analyzed By:	kg
Prep Batch:	57807	Sample Preparation:	2010-02-16	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	[1]	131	mg/Kg	1	100	131	70 - 130

Sample: 222540 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	67584	Date Analyzed:	2010-02-16	Analyzed By:	AG
Prep Batch:	57812	Sample Preparation:	2010-02-16	Prepared By:	AG

[1] High surrogate recovery. Sample non-detect, result bias high.

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.30	mg/Kg	1	2.00	115	65.3 - 145
4-Bromofluorobenzene (4-BFB)		2.21	mg/Kg	1	2.00	110	61.7 - 131.1

Sample: 222541 - AH-2 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67549	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57784	Sample Preparation:	2010-02-16	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**19200**		mg/Kg	100	4.00

Sample: 222542 - AH-2 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67549	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57784	Sample Preparation:	2010-02-16	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**1180**		mg/Kg	50	4.00

Sample: 222543 - AH-2 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67549	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57784	Sample Preparation:	2010-02-16	Prepared By:	AR

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

Sample: 222544 - AH-2 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67549	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57784	Sample Preparation:	2010-02-16	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**216**	mg/Kg	50	4.00

Sample: 222545 - AH-2 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67549	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57784	Sample Preparation:	2010-02-16	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1020**	mg/Kg	50	4.00

Sample: 222546 - AH-2 6-6.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67550	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57785	Sample Preparation:	2010-02-16	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**745**	mg/Kg	50	4.00

Sample: 222547 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67550	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57785	Sample Preparation:	2010-02-16	Prepared By:	AR

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

Sample: 222547 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	67578	Date Analyzed:	2010-02-16	Analyzed By:	kg
Prep Batch:	57807	Sample Preparation:	2010-02-16	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		120	mg/Kg	1	100	120	70 - 130

Sample: 222547 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	67584	Date Analyzed:	2010-02-16	Analyzed By:	AG
Prep Batch:	57812	Sample Preparation:	2010-02-16	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.41	mg/Kg	1	2.00	120	65.3 - 145
4-Bromofluorobenzene (4-BFB)		2.31	mg/Kg	1	2.00	116	61.7 - 131.1

Sample: 222548 - AH-3 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67550	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57785	Sample Preparation:	2010-02-16	Prepared By:	AR

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

Sample: 222549 - AH-3 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67550	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57785	Sample Preparation:	2010-02-16	Prepared By:	AR

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

Sample: 222550 - AH-3 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67550	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57785	Sample Preparation:	2010-02-16	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**232**	mg/Kg	50	4.00

Sample: 222551 - AH-3 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67550	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57785	Sample Preparation:	2010-02-16	Prepared By:	AR

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

Sample: 222552 - AH-3 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67550	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57785	Sample Preparation:	2010-02-16	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**210**	mg/Kg	50	4.00

Sample: 222553 - AH-3 6-6.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67550	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57785	Sample Preparation:	2010-02-16	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**610**	mg/Kg	50	4.00

Sample: 222554 - AH-3 7-7.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67550	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57785	Sample Preparation:	2010-02-16	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1280**	mg/Kg	50	4.00

Sample: 222555 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	67583	Date Analyzed:	2010-02-16	Analyzed By:	AG
Prep Batch:	57812	Sample Preparation:	2010-02-16	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.87	mg/Kg	1	2.00	94	64.4 - 141.2
4-Bromofluorobenzene (4-BFB)		1.91	mg/Kg	1	2.00	96	43.1 - 158.4

Sample: 222555 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67550	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57785	Sample Preparation:	2010-02-16	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**4200**		mg/Kg	100	4.00

Sample: 222555 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	67578	Date Analyzed:	2010-02-16	Analyzed By:	kg
Prep Batch:	57807	Sample Preparation:	2010-02-16	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		123	mg/Kg	1	100	123	70 - 130

Sample: 222555 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	67584	Date Analyzed:	2010-02-16	Analyzed By:	AG
Prep Batch:	57812	Sample Preparation:	2010-02-16	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.02	mg/Kg	1	2.00	101	65.3 - 145
4-Bromofluorobenzene (4-BFB)		2.06	mg/Kg	1	2.00	103	61.7 - 131.1

Sample: 222556 - AH-4 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67548	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57782	Sample Preparation:	2010-02-16	Prepared By:	AR

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

Sample: 222557 - AH-4 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67548	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57782	Sample Preparation:	2010-02-16	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**281**	mg/Kg	50	4.00

Sample: 222558 - AH-4 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67548	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57782	Sample Preparation:	2010-02-16	Prepared By:	AR

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

Sample: 222559 - AH-4 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67548	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57782	Sample Preparation:	2010-02-16	Prepared By:	AR

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

Sample: 222560 - AH-4 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67548	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57782	Sample Preparation:	2010-02-16	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**588**	mg/Kg	50	4.00

Method Blank (1) QC Batch: 67548

QC Batch:	67548	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57782	QC Preparation:	2010-02-16	Prepared By:	AR

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

Method Blank (1) QC Batch: 67549

QC Batch:	67549	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57784	QC Preparation:	2010-02-16	Prepared By:	AR

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

Method Blank (1) QC Batch: 67550

QC Batch:	67550	Date Analyzed:	2010-02-16	Analyzed By:	AR
Prep Batch:	57785	QC Preparation:	2010-02-16	Prepared By:	AR

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

Method Blank (1) QC Batch: 67578

QC Batch:	67578	Date Analyzed:	2010-02-16
Prep Batch:	57807	QC Preparation:	2010-02-16

Analyzed By: kg
Prepared By: kg

Parameter	Flag	MDL Result	Units	RL
DRO		<5.86	mg/Kg	50

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

Method Blank (1) QC Batch: 67583

QC Batch:	67583	Date Analyzed:	2010-02-16
Prep Batch:	57812	QC Preparation:	2010-02-16

Analyzed By: AG
Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.08	mg/Kg	1	2.00	104	64.9 - 142.7
4-Bromofluorobenzene (4-BFB)		1.95	mg/Kg	1	2.00	98	43.9 - 141.9

Method Blank (1) QC Batch: 67584

QC Batch:	67584	Date Analyzed:	2010-02-16
Prep Batch:	57812	QC Preparation:	2010-02-16

Analyzed By: AG
Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.18	mg/Kg	1	2.00	109	66.2 - 145
4-Bromofluorobenzene (4-BFB)		1.98	mg/Kg	1	2.00	99	62 - 120.5

Laboratory Control Spike (LCS-1)

QC Batch: 67548 | Date Analyzed: 2010-02-16 | Analyzed By: AR
Prep Batch: 57782 | QC Preparation: 2010-02-16 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.4	mg/Kg	1	100	<2.18	96	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	99.7	mg/Kg	1	100	<2.18	100	85 - 115	3	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 67549 | Date Analyzed: 2010-02-16 | Analyzed By: AR
Prep Batch: 57784 | QC Preparation: 2010-02-16 | Prepared By: AR

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	104	mg/Kg	1	100	<2.18	104	85 - 115	3	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 67550 | Date Analyzed: 2010-02-16 | Analyzed By: AR
Prep Batch: 57785 | QC Preparation: 2010-02-16 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.7	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	99.9	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: 67578 | Date Analyzed: 2010-02-16 | Analyzed By: kg
Prep Batch: 57807 | QC Preparation: 2010-02-16 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	273	mg/Kg	1	250	<5.86	109	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	276	mg/Kg	1	250	<5.86	110	57.4 - 133.4	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
n-Tricosane	122	121	mg/Kg	1	100	122	121	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 67583 | Date Analyzed: 2010-02-16 | Analyzed By: AG
Prep Batch: 57812 | QC Preparation: 2010-02-16 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.77	mg/Kg	1	2.00	<0.00410	88	75.4 - 115.7
Toluene	1.96	mg/Kg	1	2.00	<0.00310	98	78.4 - 113.6
Ethylbenzene	2.04	mg/Kg	1	2.00	<0.00240	102	76 - 114.2
Xylene	6.10	mg/Kg	1	6.00	<0.00650	102	76.9 - 113.6

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.70	mg/Kg	1	2.00	<0.00410	85	75.4 - 115.7	4	20
Toluene	1.88	mg/Kg	1	2.00	<0.00310	94	78.4 - 113.6	4	20
Ethylbenzene	1.94	mg/Kg	1	2.00	<0.00240	97	76 - 114.2	5	20
Xylene	5.85	mg/Kg	1	6.00	<0.00650	98	76.9 - 113.6	4	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.94	2.07	mg/Kg	1	2.00	97	104	65 - 142.9
4-Bromofluorobenzene (4-BFB)	2.00	2.14	mg/Kg	1	2.00	100	107	43.8 - 144.9

Laboratory Control Spike (LCS-1)

QC Batch: 67584 | Date Analyzed: 2010-02-16 | Analyzed By: AG
Prep Batch: 57812 | QC Preparation: 2010-02-16 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	16.7	mg/Kg	1	20.0	<0.396	84	52.5 - 114.3

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	17.8	mg/Kg	1	20.0	<0.396	89	52.5 - 114.3	6	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.15	2.19	mg/Kg	1	2.00	108	110	66.2 - 148.7
4-Bromofluorobenzene (4-BFB)	2.13	2.19	mg/Kg	1	2.00	106	110	64.1 - 127.4

Matrix Spike (MS-1) Spiked Sample: 222560

QC Batch: 67548 | Date Analyzed: 2010-02-16 | Analyzed By: AR
Prep Batch: 57782 | QC Preparation: 2010-02-16 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10600	mg/Kg	100	10000	588	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	10700	mg/Kg	100	10000	588	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: 222545

QC Batch: 67549 | Date Analyzed: 2010-02-16 | Analyzed By: AR
Prep Batch: 57784 | QC Preparation: 2010-02-16 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10400	mg/Kg	100	10000	1020	94	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	10700	mg/Kg	100	10000	1020	97	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: 222555

QC Batch: 67550 | Date Analyzed: 2010-02-16 | Analyzed By: AR
Prep Batch: 57785 | QC Preparation: 2010-02-16 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	14300	mg/Kg	100	10000	4200	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	14500	mg/Kg	100	10000	4200	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: 222536

QC Batch: 67578 | Date Analyzed: 2010-02-16 | Analyzed By: kg
Prep Batch: 57807 | QC Preparation: 2010-02-16 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	254	mg/Kg	1	250	<5.86	102	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	254	mg/Kg	1	250	<5.86	102	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	117	117	mg/Kg	1	100	117	117	70 - 130

Matrix Spike (MS-1) Spiked Sample: 222072

QC Batch: 67583 | Date Analyzed: 2010-02-16 | Analyzed By: AG
Prep Batch: 57812 | QC Preparation: 2010-02-16 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.45	mg/Kg	1	2.00	<0.00410	122	57.7 - 140.7
Toluene	2.47	mg/Kg	1	2.00	<0.00310	124	53.4 - 146.6
Ethylbenzene	2.54	mg/Kg	1	2.00	<0.00240	127	62.1 - 141.6
Xylene	7.59	mg/Kg	1	6.00	<0.00650	126	61.2 - 142.7

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.26	mg/Kg	1	2.00	<0.00410	113	57.7 - 140.7	8	20
Toluene	2.29	mg/Kg	1	2.00	<0.00310	114	53.4 - 146.6	8	20
Ethylbenzene	2.35	mg/Kg	1	2.00	<0.00240	118	62.1 - 141.6	8	20
Xylene	7.05	mg/Kg	1	6.00	<0.00650	118	61.2 - 142.7	7	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.50	1.63	mg/Kg	1	2	75	82	62.7 - 139.6
4-Bromofluorobenzene (4-BFB)	1.55	1.67	mg/Kg	1	2	78	84	49.6 - 146.7

Matrix Spike (MS-1) Spiked Sample: 222213

QC Batch: 67584 | Date Analyzed: 2010-02-16 | Analyzed By: AG
Prep Batch: 57812 | QC Preparation: 2010-02-16 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	15.4	mg/Kg	1	20.0	<0.396	77	10 - 198.3

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	17.5	mg/Kg	1	20.0	<0.396	88	10 - 198.3	13	20

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

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	[2]	1.11	2.45	mg/Kg	1	2	56	122	65.5 - 143
4-Bromofluorobenzene (4-BFB)	[3]	1.15	2.44	mg/Kg	1	2	58	122	58.6 - 140

[2]Surrogate out due to peak interference.
[3]Surrogate out due to peak interference.

Standard (ICV-1)

QC Batch: 67548 | Date Analyzed: 2010-02-16 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.6	98	85 - 115	2010-02-16

Standard (CCV-1)

QC Batch: 67548 | Date Analyzed: 2010-02-16 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	102	102	85 - 115	2010-02-16

Standard (ICV-1)

QC Batch: 67549 | Date Analyzed: 2010-02-16 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	105	105	85 - 115	2010-02-16

Standard (CCV-1)

QC Batch: 67549 | Date Analyzed: 2010-02-16 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	95.0	95	85 - 115	2010-02-16

Standard (ICV-1)

QC Batch: 67550 | Date Analyzed: 2010-02-16 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	95.1	95	85 - 115	2010-02-16

Standard (CCV-1)

QC Batch: 67550 | Date Analyzed: 2010-02-16 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	105	105	85 - 115	2010-02-16

Standard (CCV-1)

QC Batch: 67578 | Date Analyzed: 2010-02-16 | Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	257	103	80 - 120	2010-02-16

Standard (CCV-2)

QC Batch: 67578 | Date Analyzed: 2010-02-16 | Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	295	118	80 - 120	2010-02-16

Standard (CCV-2)

QC Batch: 67583 | Date Analyzed: 2010-02-16 | 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	0.0977	98	80 - 120	2010-02-16
Toluene		mg/Kg	0.100	0.0969	97	80 - 120	2010-02-16
Ethylbenzene		mg/Kg	0.100	0.0982	98	80 - 120	2010-02-16
Xylene		mg/Kg	0.300	0.292	97	80 - 120	2010-02-16

Standard (CCV-3)

QC Batch: 67583 | Date Analyzed: 2010-02-16 | 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	0.101	101	80 - 120	2010-02-16
Toluene		mg/Kg	0.100	0.100	100	80 - 120	2010-02-16
Ethylbenzene		mg/Kg	0.100	0.0986	99	80 - 120	2010-02-16
Xylene		mg/Kg	0.300	0.295	98	80 - 120	2010-02-16

Standard (CCV-2)

QC Batch: 67584 Date Analyzed: 2010-02-16 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.02	102	80 - 120	2010-02-16

Standard (CCV-3)

QC Batch: 67584 Date Analyzed: 2010-02-16 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.04	104	80 - 120	2010-02-16

Order #: 100211607

Analysis Request of Chain of Custody Record

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-GW00439

PROJECT NAME: COG / GC Fed #27 (flowline Lea Co, NM

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
222536	2/15		S		X	AH-1 0-1'	1				X			X											X				
537						AH-1 1'-1.5'																							
538						AH-1 2'-2.5'																							
539						AH-1 3'-3.5'																							
540						AH-2 0-1'								X															
541						AH-2 1'-1.5'																							
542						AH-2 2'-2.5'																							
543						AH-2 3'-3.5'																							
544						AH-2 4'-4.5'																							
545						AH-2 5'-5.5'																							

RELINQUISHED BY: (Signature) Date: 2/15/10 Time: 1630
RECEIVED BY: (Signature) Date: 2/15/10 Time: 1650
SAMPLED BY: (Print & Initial) JT/BG Date: 2/15/10 Time:

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

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

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

SAMPLE CONDITION WHEN RECEIVED: 15.9°C intact

REMARKS: If total TPH exceeds 5,000 mg/kg run deeper horizons Run 2 BTEX on highest TPH AR

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

Order #: 100211607

Analysis Request of Chain of Custody Record

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG
SITE MANAGER: Ike Tavarez
PROJECT NO.: 114-4400439
PROJECT NAME: COG / GC Fed #27 (flowline Lea Co, NM

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD	TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
225546	2/15		S		X	AH-2	6'-6.5'	1				X														X				
547						AH-~~3~~	~~7'-7.5'~~ 0-1'								X																
548						AH-3	1'-1.5'																								
549						AH-3	2'-2.5'																								
550						AH-3	3'-3.5'																								
551						AH-3	4'-4.5'																								
552						AH-3	5'-5.5'																								
553						AH-3	6'-6.5'																								
554						AH-3	7'-7.5'																								
555						AH-4	0-1'								X															

RELINQUISHED BY: (Signature) — Date: 2/15/10 Time: 1650 — RECEIVED BY: (Signature) — Date: 2/15/10 Time: 16:50
SAMPLED BY: (Print & Initial) JT / RG — Date: 2/15/10 Time:
RELINQUISHED BY: (Signature) — Date: Time: — RECEIVED BY: (Signature) — Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS — AIRBILL #: OTHER:
RELINQUISHED BY: (Signature) — Date: Time: — RECEIVED BY: (Signature) — Date: Time:
TETRA TECH CONTACT PERSON: Ike Tavarez — Results by:
RECEIVING LABORATORY: Trace — RECEIVED BY: (Signature)
ADDRESS: CITY: Midland STATE: TX ZIP: CONTACT: PHONE: DATE: TIME:
RUSH Charges Authorized: (Yes) No

SAMPLE CONDITION WHEN RECEIVED: 15.9°c intact

REMARKS: If total TPH exceeds 5,000 mg/kg run dry per samples Run 2 BTEX on highest TPH

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

Order #: 100211607

Analysis Request of Chain of Custody Record

PAGE: 3 OF: 3

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-640 0439

PROJECT NAME: COG / GC Fed #27 (flowline) Lea Co, NM

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
222556	2/5		S		X	AH-4 1'-1.5'	1				X													X				
557						AH-4 2'-2.5'																							
558						AH-4 3'-3.5'																							
559						AH-4 4'-4.5'																							
560						AH-4 5'-5.5'																							

RELINQUISHED BY: (Signature) Date: 2/15/10 Time: 1650
RECEIVED BY: (Signature) Date: 2/15/10 Time: 1650
SAMPLED BY: (Print & Initial) JT/BG Date: 2/13/10 Time:

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

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

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

SAMPLE CONDITION WHEN RECEIVED: 15.9°C intact

REMARKS: If total TPH exceeds 5,000 mg/kg run deeper horizons Run 2 BTEX on highest TPH

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

Summary Report

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

Report Date: May 25, 2010

Work Order: 10051401

Project Location: Lea County, NM
Project Name: COG/GC Fed. #27 Flowline
Project Number: 114-6400439

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
231592	CS-1 (AH-2) 8'	soil	2010-05-12	00:00	2010-05-13
231593	CS-1 (AH-2) 10'	soil	2010-05-12	00:00	2010-05-13
231594	CS-1 (AH-2) 12'	soil	2010-05-12	00:00	2010-05-13
231595	CS-1 (AH-2) 14'	soil	2010-05-12	00:00	2010-05-13
231596	CS-2 (AH-3) 10'	soil	2010-05-12	00:00	2010-05-13
231597	CS-2 (AH-3) 12'	soil	2010-05-12	00:00	2010-05-13
231598	CS-2 (AH-3) 14'	soil	2010-05-12	00:00	2010-05-13

Sample: 231592 - CS-1 (AH-2) 8'

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

Sample: 231593 - CS-1 (AH-2) 10'

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

Sample: 231594 - CS-1 (AH-2) 12' Sample: 231595 - CS-1 (AH-2) 14' Sample: 231596 - CS-2 (AH-3)

10'

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

Sample: 231597 - CS-2 (AH-3) 12'

Param	Flag	Result	Units	RL
Chloride		**626**	mg/Kg	4.00

Sample: 231598 - CS-2 (AH-3) 14'

Param	Flag	Result	Units	RL
Chloride		**470**	mg/Kg	4.00

TRACEANALYSIS, INC.

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

Certifications

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

NELAP Certifications

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

Analytical and Quality Control Report

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

Report Date: May 25, 2010

Work Order: 10051401

Project Location: Lea County, NM
Project Name: COG/GC Fed. #27 Flowline
Project Number: 114-6400439

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
231592	CS-1 (AH-2) 8'	soil	2010-05-12	00:00	2010-05-13
231593	CS-1 (AH-2) 10'	soil	2010-05-12	00:00	2010-05-13
231594	CS-1 (AH-2) 12'	soil	2010-05-12	00:00	2010-05-13
231595	CS-1 (AH-2) 14'	soil	2010-05-12	00:00	2010-05-13
231596	CS-2 (AH-3) 10'	soil	2010-05-12	00:00	2010-05-13
231597	CS-2 (AH-3) 12'	soil	2010-05-12	00:00	2010-05-13
231598	CS-2 (AH-3) 14'	soil	2010-05-12	00:00	2010-05-13

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

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

Michael Abel

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/GC Fed. #27 Flowline were received by TraceAnalysis, Inc. on 2010-05-13 and assigned to work order 10051401. Samples for work order 10051401 were received intact at a temperature of 10.4 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	60026	2010-05-17 at 14:52	70157	2010-05-18 at 16:04
Chloride (Titration)	SM 4500-Cl B	60027	2010-05-17 at 14:53	70180	2010-05-19 at 15:49
Chloride (Titration)	SM 4500-Cl B	60199	2010-05-24 at 09:13	70333	2010-05-25 at 09:55

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 10051401 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Analytical Report

Sample: 231592 - CS-1 (AH-2) 8'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70157	Date Analyzed:	2010-05-18	Analyzed By:	AR
Prep Batch:	60026	Sample Preparation:	2010-05-17	Prepared By:	AR

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

Sample: 231593 - CS-1 (AH-2) 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70157	Date Analyzed:	2010-05-18	Analyzed By:	AR
Prep Batch:	60026	Sample Preparation:	2010-05-17	Prepared By:	AR

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

Sample: 231596 - CS-2 (AH-3) 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70157	Date Analyzed:	2010-05-18	Analyzed By:	AR
Prep Batch:	60026	Sample Preparation:	2010-05-17	Prepared By:	AR

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

Sample: 231597 - CS-2 (AH-3) 12'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70180	Date Analyzed:	2010-05-19	Analyzed By:	AR
Prep Batch:	60027	Sample Preparation:	2010-05-17	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**626**	mg/Kg	50	4.00

Sample: 231598 - CS-2 (AH-3) 14'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70333	Date Analyzed:	2010-05-25	Analyzed By:	AR
Prep Batch:	60199	Sample Preparation:	2010-05-25	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**470**	mg/Kg	50	4.00

Method Blank (1) QC Batch: 70157

QC Batch:	70157	Date Analyzed:	2010-05-18	Analyzed By:	AR
Prep Batch:	60026	QC Preparation:	2010-05-17	Prepared By:	AR

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

Method Blank (1) QC Batch: 70180

QC Batch:	70180	Date Analyzed:	2010-05-19	Analyzed By:	AR
Prep Batch:	60027	QC Preparation:	2010-05-17	Prepared By:	AR

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

Method Blank (1) QC Batch: 70333

QC Batch:	70333	Date Analyzed:	2010-05-25	Analyzed By:	AR
Prep Batch:	60199	QC Preparation:	2010-05-24	Prepared By:	AR

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

Laboratory Control Spike (LCS-1)

QC Batch: 70157 | Date Analyzed: 2010-05-18 | Analyzed By: AR
Prep Batch: 60026 | QC Preparation: 2010-05-17 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.7	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: 70180 | Date Analyzed: 2010-05-19 | Analyzed By: AR
Prep Batch: 60027 | QC Preparation: 2010-05-17 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	99.0	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: 70333 | Date Analyzed: 2010-05-25 | Analyzed By: AR
Prep Batch: 60199 | QC Preparation: 2010-05-24 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.4	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.

Matrix Spike (MS-1) Spiked Sample: 231596

QC Batch: 70157 | Date Analyzed: 2010-05-18 | Analyzed By: AR
Prep Batch: 60026 | QC Preparation: 2010-05-17 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10300	mg/Kg	100	10000	275	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	10400	mg/Kg	100	10000	275	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: 231628

QC Batch: 70180 | Date Analyzed: 2010-05-19 | Analyzed By: AR
Prep Batch: 60027 | QC Preparation: 2010-05-17 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	18200	mg/Kg	100	10000	8610	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	18500	mg/Kg	100	10000	8610	99	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: 231598

QC Batch: 70333 | Date Analyzed: 2010-05-25 | Analyzed By: AR
Prep Batch: 60199 | QC Preparation: 2010-05-24 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10700	mg/Kg	100	10000	470	102	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10900	mg/Kg	100	10000	470	104	85 - 115	2	20

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

Standard (ICV-1)

QC Batch: 70157 Date Analyzed: 2010-05-18 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	2010-05-18

Standard (CCV-1)

QC Batch: 70157 Date Analyzed: 2010-05-18 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.9	99	85 - 115	2010-05-18

Standard (ICV-1)

QC Batch: 70180 Date Analyzed: 2010-05-19 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.9	100	85 - 115	2010-05-19

Standard (CCV-1)

QC Batch: 70180 Date Analyzed: 2010-05-19 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-05-19

Standard (ICV-1)

QC Batch: 70333 | Date Analyzed: 2010-05-25 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.3	99	85 - 115	2010-05-25

Standard (CCV-1)

QC Batch: 70333 | Date Analyzed: 2010-05-25 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-05-25

Order #: 1005401

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 1

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

ANALYSIS REQUEST (Circle or Specify Method No.)

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400439

PROJECT NAME: COG / G.C Fed #27 (Flowline) Eddy Co, NM

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
231592	5/12		S		X	CS-1 (AH-2) 8'	1				X														X				
593						CS-1 (AH-2) 10'																		X					
594						CS-1 (AH-2) 12'																							
595						CS-1 (AH-2) 14'																							
596						CS-2 (AH-3) 10'																		X					
597						CS-2 (AH-3) 12'																		X					
598	↓		↓		↓	CS-2 (AH-3) 14'	↓				↓																		

RELINQUISHED BY: (Signature) Date: 5-13-10 Time: 1440
RECEIVED BY: (Signature) Date: 5/13/10 Time: 16:40
SAMPLED BY: (Print & Initial) Robert Grubbs Jr Date: 5-13-10 Time: 1100

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

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

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

SAMPLE CONDITION WHEN RECEIVED: 10.4°c intact

REMARKS: TPH Chlorides exceeds 3000 mg/kg run deeper Sample.

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

Summary Report

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

Report Date: May 21, 2010

Work Order: 10051401

Project Location: Lea County, NM
Project Name: COG/GC Fed. #27 Flowline
Project Number: 114-6400439

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
231592	CS-1 (AH-2) 8'	soil	2010-05-12	00:00	2010-05-13
231593	CS-1 (AH-2) 10'	soil	2010-05-12	00:00	2010-05-13
231596	CS-2 (AH-3) 10'	soil	2010-05-12	00:00	2010-05-13
231597	CS-2 (AH-3) 12'	soil	2010-05-12	00:00	2010-05-13

Sample: 231592 - CS-1 (AH-2) 8'

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

Sample: 231593 - CS-1 (AH-2) 10'

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

Sample: 231596 - CS-2 (AH-3) 10'

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

Sample: 231597 - CS-2 (AH-3) 12'

Param	Flag	Result	Units	RL
Chloride		**626**	mg/Kg	4.00

TRACEANALYSIS, INC.

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

Certifications

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

NELAP Certifications

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

Analytical and Quality Control Report

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

Report Date: May 21, 2010

Work Order: 10051401

Project Location: Lea County, NM
Project Name: COG/GC Fed. #27 Flowline
Project Number: 114-6400439

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
231592	CS-1 (AH-2) 8'	soil	2010-05-12	00:00	2010-05-13
231593	CS-1 (AH-2) 10'	soil	2010-05-12	00:00	2010-05-13
231596	CS-2 (AH-3) 10'	soil	2010-05-12	00:00	2010-05-13
231597	CS-2 (AH-3) 12'	soil	2010-05-12	00:00	2010-05-13

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

Michael Abel

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/GC Fed. #27 Flowline were received by TraceAnalysis, Inc. on 2010-05-13 and assigned to work order 10051401. Samples for work order 10051401 were received intact at a temperature of 10.4 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	60026	2010-05-17 at 14:52	70157	2010-05-18 at 16:04
Chloride (Titration)	SM 4500-Cl B	60027	2010-05-17 at 14:53	70180	2010-05-19 at 15:49

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 10051401 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Analytical Report

Sample: 231592 - CS-1 (AH-2) 8'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70157	Date Analyzed:	2010-05-18	Analyzed By:	AR
Prep Batch:	60026	Sample Preparation:	2010-05-17	Prepared By:	AR

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

Sample: 231593 - CS-1 (AH-2) 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70157	Date Analyzed:	2010-05-18	Analyzed By:	AR
Prep Batch:	60026	Sample Preparation:	2010-05-17	Prepared By:	AR

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

Sample: 231596 - CS-2 (AH-3) 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70157	Date Analyzed:	2010-05-18	Analyzed By:	AR
Prep Batch:	60026	Sample Preparation:	2010-05-17	Prepared By:	AR

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

Sample: 231597 - CS-2 (AH-3) 12'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70180	Date Analyzed:	2010-05-19	Analyzed By:	AR
Prep Batch:	60027	Sample Preparation:	2010-05-17	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**626**	mg/Kg	50	4.00

Method Blank (1) QC Batch: 70157

QC Batch: 70157 | Date Analyzed: 2010-05-18 | Analyzed By: AR
Prep Batch: 60026 | QC Preparation: 2010-05-17 | Prepared By: AR

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

Method Blank (1) QC Batch: 70180

QC Batch: 70180 | Date Analyzed: 2010-05-19 | Analyzed By: AR
Prep Batch: 60027 | QC Preparation: 2010-05-17 | Prepared By: AR

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

Laboratory Control Spike (LCS-1)

QC Batch: 70157 | Date Analyzed: 2010-05-18 | Analyzed By: AR
Prep Batch: 60026 | QC Preparation: 2010-05-17 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.7	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: 70180 | Date Analyzed: 2010-05-19 | Analyzed By: AR
Prep Batch: 60027 | QC Preparation: 2010-05-17 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	99.0	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.

Matrix Spike (MS-1) Spiked Sample: 231596

QC Batch: 70157 | Date Analyzed: 2010-05-18 | Analyzed By: AR
Prep Batch: 60026 | QC Preparation: 2010-05-17 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10300	mg/Kg	100	10000	275	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	10400	mg/Kg	100	10000	275	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: 231628

QC Batch: 70180 | Date Analyzed: 2010-05-19 | Analyzed By: AR
Prep Batch: 60027 | QC Preparation: 2010-05-17 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	18200	mg/Kg	100	10000	8610	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	18500	mg/Kg	100	10000	8610	99	85 - 115	2	20

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

Standard (ICV-1)

QC Batch: 70157 | Date Analyzed: 2010-05-18 | 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	2010-05-18

Standard (CCV-1)

QC Batch: 70157 | Date Analyzed: 2010-05-18 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.9	99	85 - 115	2010-05-18

Standard (ICV-1)

QC Batch: 70180 | Date Analyzed: 2010-05-19 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.9	100	85 - 115	2010-05-19

Standard (CCV-1)

QC Batch: 70180 | Date Analyzed: 2010-05-19 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-05-19

Order #: 1005401

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 1

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400439

PROJECT NAME: COG / G.C Fed #27 (Flowline) Eddy Co, NM

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
231592	5/12		S		X	CS-1 (AH-2) 8'	1				X														X				
593						CS-1 (AH-2) 10'																		X					
594						CS-1 (AH-2) 12'																							
595						CS-1 (AH-2) 14'																							
596						CS-2 (AH-3) 10'																		X					
597						CS-2 (AH-3) 12'																		X					
598	↓		↓		↓	CS-2 (AH-3) 14'	↓				↓																		

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature) Robert Robles	Date: 5-13-10 Time: 1640	RECEIVED BY: (Signature)	Date: 5/13/10 Time: 16:40
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:

SAMPLED BY: (Print & Initial) Robert Grubbs Jr Date: 5-13-10 Time: 1100

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

AIRBILL #:

OTHER:

RECEIVING LABORATORY: Trace

ADDRESS:

CITY: Midland STATE: TX ZIP:

CONTACT: Ronda PHONE:

RECEIVED BY: (Signature)

DATE: TIME:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 10.4°c intact

REMARKS: TPH Chlorides exceeds 3000 mg/kg due deeper Sample.

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