SITE INFORMATION

Report Type: Closure Report

General Site Information:		
Site:	GJ West COOP #125	
Company:	COG Operating LLC	
Section, Township and Range	Unit P - Sec 28 - T-17S - R-29E	
Lease Number:	30-015-03163	
County:	Eddy County	
GPS:	N 32.80022	W 104.07126
Surface Owner:	State	
Mineral Owner:		
Directions:	From intersection of Co Rd 219 and Hwy 82 in Loco Hills, NM: Travel 5.5 west on Hwy 82 to Co Rd 212, Turn south on 212 for 2.0 miles, Turn west (right) 1.0 miles to location	

Release Data:	
Date Released:	6/24/2010
Type Release:	Produced water
Source of Contamination:	Steel line ruptured
Fluid Released:	50 bbls
Fluids Recovered:	0 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

RECEIVED
JUN 03 2011
NMOCD ARTESIA

TETRA TECH

May 24, 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., GJ West COOP Unit #125 flowline, Unit P, Section 28, 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 GJ West COOP Unit #125 flowline located in Unit P, Section 28, Township 17 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.80022°, W 104.07126°. 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 24, 2010. Approximately fifty (50) barrels of produced fluids was release from a ruptured steel flow line. Zero (0) barrels of released fluids were recovered. The spill is located in the pasture northwest of the GJ West COOP Unit #125 unit. The spill migrated east down a natural wash approximately 900', with an average width of 5'. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 28. According to the NMOCD groundwater map, the average depth to groundwater in this area is greater than 150' below surface. The well report data is shown in Appendix B.

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

Regulatory

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

Soil Assessment and Analytical Results

On August 6, 2010, Tetra Tech personnel inspected and sampled the spill area. A total of eleven (11) auger holes (AH-1 through AH-11) were installed using a stainless steel hand auger to assess the impacted soils. To assess the spill area, the auger holes were spaced 75' to 80' apart. 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, the areas of auger holes (AH-1, AH-2, AH-4, AH-5, AH-7, AH-8 and AH-9) exceeded TPH RRAL at depths ranging from 1' to 7' below surface and all were vertically defined. Auger hole (AH-1) exceeded the total BTEX from surface to a total depth of 7' below surface and declined below the RRAL at 8' below surface.

Elevated chloride concentrations were detected in the majority of the auger hole locations. All of the auger holes were vertically defined, except for AH-1, AH-2, AH-4 and AH-5. On the auger holes defined, the chloride impact depths ranged from 2' to 9' below surface. The remaining auger holes were not vertically defined and required additional delineation.

In order to delineate the chloride impact, soil borings were installed utilizing an air rotary drilling rig. On November 30, 2010, Tetra Tech personnel supervised the installation of four (4) soil borings (SB-1 through SB-4) near the auger holes which were not vertically defined. Samples were collected to total depths of 30' bgs (SB-2), 40' bgs (SB-1 and SB-4), and 50' bgs (SB-3).

Referring to Table 1, the chloride concentrations declined with depth and were all vertically defined. Soil borings (SB-1, SB-2, SB-3 and SB-4) were vertically defined at depths of 25', 15', 25' and 40', respectively.

Remedial Work and Closure Request

Tetra Tech personnel oversaw the excavation of the site from February 25 through March 8, 2011, based on the NMOCD approved workplan. The excavation measured approximately 900' x 5'-10' wide with pooling areas measuring approximately 30' x 30'. The final excavation depths were achieved or exceeded as stated in the approved work plan. Approximately 5,200 yards^3 were removed and hauled to CRI Inc. for proper disposal. Photos of the excavation are attached. The excavation depths are highlighted in Table 1 and shown on Figure 4.

Once excavated, the site was backfilled with clean material to grade. A copy of the C-141 (Final) is included in Appendix A.

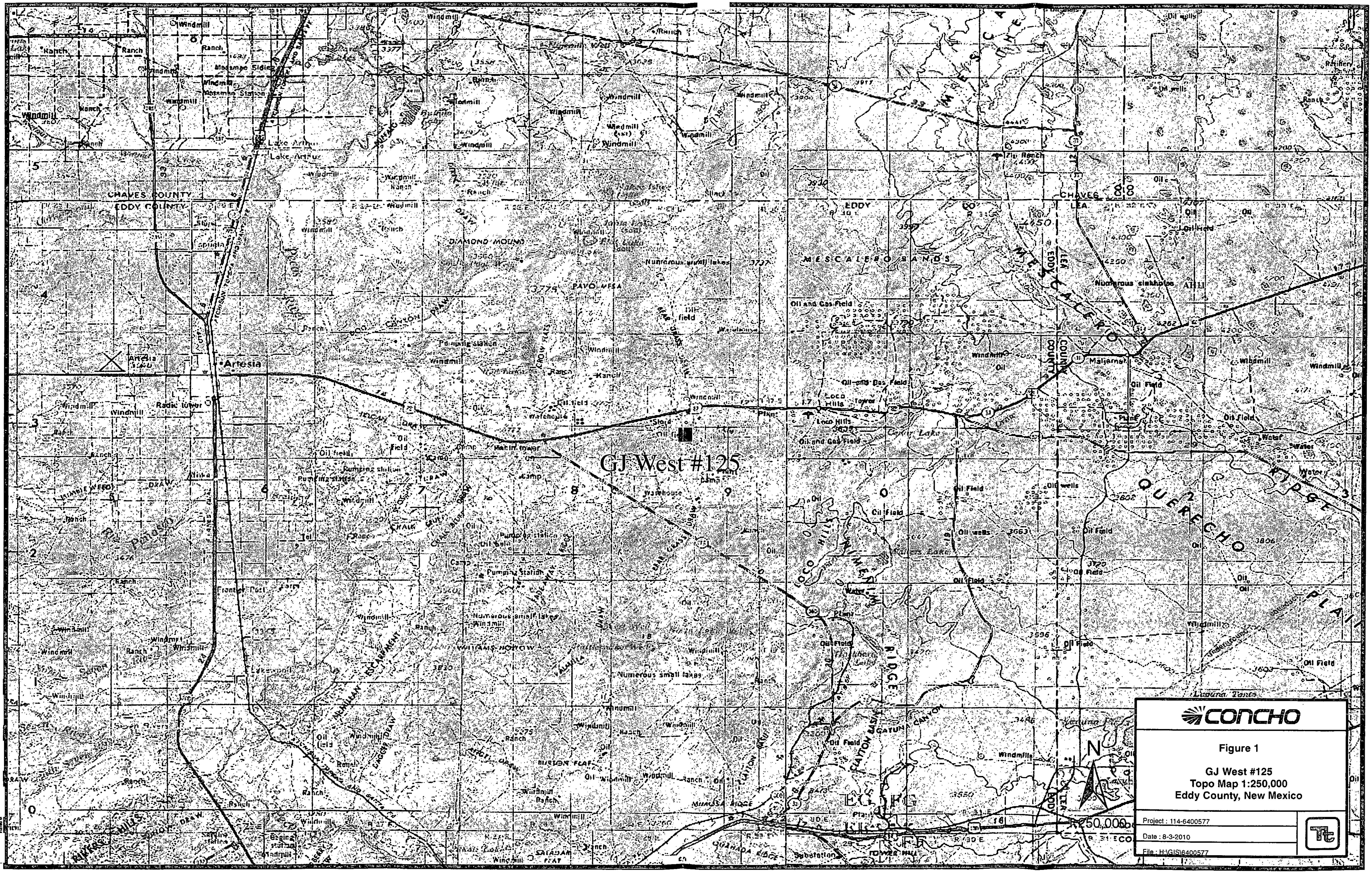
Based on the remedial activities performed at this site, COG request closure of this site. If you require any additional information or have any questions or comments concerning this report, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Kim Dorey
Staff II Geologist

cc: Pat Ellis – COG

FIGURES



CONCHO

Figure 1

GJ West #125
Topo Map 1:250,000
Eddy County, New Mexico

Project : 114-6400577
Date : 8-3-2010
File : H:\GIS\6400577

GJ West #125

GREYBURG JALMAT OIL FIELD

CONCHO

Figure 2

GJ West #125
Topo Map 1:24,000
Eddy County, New Mexico

Project : 114-6400577

Date : 8-3-2010

File : H:\GIS\6400577

1:24,000

LEASE ROAD

**AH Samples 75' - 80' Apart

AH3/SB2

AH5/SB4

AH5\SB4

AH8

AH7

AH6

30'

Leak Source

AH2/SB1

5' WIDE

AH1

AH9

AH11

AH10

900'

Explanation

- Auger Hole Sample
- Soil Bore Sample
- Leak Source
- Spill Assessment Area
- Flowline

N

NOT TO SCALE

CONCHO

Figure 3

GJ West #125
Spill Map with Auger Holes
& Soil Bores
Eddy County, New Mexico

Project : 114-6400577

Date : 8-3-2010

File : H:\GIS\6400577

LEASE ROAD

7' - 8' Excavation

15' Excavation

3' - 4' Excavation

AH3/SB2

AH5/SB4

AH5\SB4

AH8

AH7

AH6

30'

Leak Source

AH2/SB1

5' WIDE

12' - 15' Excavation

10' Excavation

AH1

AH9

AH11

AH10

15' Excavation

900'

**AH Samples 75' - 80' Apart

Explanation

- Auger Hole Sample
- Soil Bore Sample
- Leak Source
- Spill Assessment Area
- Flowline

N

NOT TO SCALE

CONCHO

Figure 4

GJ West #125
Excavation Depths
Eddy County, New Mexico

Project : 114-6400577

Date : 8-3-2010

File : H:\GIS\6400577

TABLES

Table 1
COG Operating LLC.
GJ WEST CO-OP #125
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total					
AH-1	8/6/2010	0-1'		X	**618**	**7,630**	**8,248**	3.45	34.1	15.5	38.8	1,490
	"	1-1.5'		X	**3,340**	**6,820**	**10,160**	-	-	-	-	6,670
	"	2-2.5'		X	**2,140**	**6,990**	**18,408**	-	-	-	-	5,740
	"	3-3.5'		X	**2,670**	**7,190**	**9,860**	-	-	-	-	5,640
	"	4-4.5'		X	1,580	1,140	2,720	-	-	-	-	13,000
	"	5-5.5'		X	2,050	1,810	3,860	-	-	-	-	11,500
	"	6-6.5'		X	**3,340**	**2,150**	**5,490**	-	-	-	-	11,800
	"	7-7.5'		X	3.05	58.2	61.25	-	-	-	-	7,140
	"	8-8.5'		X	-	-	-	-	-	-	-	13,500
	"	9-9.5'		X	-	-	-	-	-	-	-	11,700
SB-1	11/30/2010	0-1'		X	-	-	-	-	-	-	-	<200
		3'		X	-	-	-	-	-	-	-	244
		5'		X	-	-	-	0.70	1.29	3.78	11.90	9,280
		7'		X	-	-	-	<0.0200	<0.0200	<0.0200	0.261	13,400
		10'		X	-	-	-	-	-	-	-	10,900
		15'		X	-	-	-	-	-	-	-	12,800
		20'	X		-	-	-	-	-	-	-	2,060
		25'	X		-	-	-	-	-	-	-	<200
		30'	X		-	-	-	-	-	-	-	<200
		40'	X		-	-	-	-	-	-	-	259

Table 1
COG Operating LLC.
GJ WEST CO-OP #125
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total					
AH-2	8/6/2010	0-1'		X	**357**	**7,060**	**7,417**	<1.00	1.69	2.85	7.66	350
	"	1-1.5'		X	379	1,230	1,609	-	-	-	-	3,680
	"	2-2.5'		X	**671**	**2,290**	**9,026**	-	-	-	-	7,790
	"	3-3.5'		X	817	2,050	2,867	-	-	-	-	10,300
SB-2	11/30/2010	0-1'		X	-	-	-	-				<200
		3'		X	-	-	-	-				<200
		5'		X	-	-	-	-				15,000
		7'		X								722
		10'	X									1,010
		15'	X									942
		20'	X									<200
		25'	X									<200
		30'	X									<200
AH-3	8/6/2010	0-1'	X		153	1,400	1,553	<0.400	2.26	2.11	8.16	2,050
	"	1-1.5'	X		1,460	1,490	2,950	-	-	-	-	5,230
	"	2-2.5'	X		86.1	205	291.1	-	-	-	-	14,100
	"	3-3.5'	X		31.2	97.0	128.2	-	-	-	-	13,300
	"	4-4.5'	X		-	-	-	-	-	-	-	8,660
	"	5-5.5'	X		-	-	-	-	-	-	-	3,940
	"	6-6.5'	X		-	-	-	-	-	-	-	2,200
	"	7-7.5'	X		-	-	-	-	-	-	-	1,150
	"	8-8.5'	X		-	-	-	-	-	-	-	726
	"	9-9.5'	X		-	-	-	-	-	-	-	332

Table 1
COG Operating LLC.
GJ WEST CO-OP #125
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total					
AH-4	8/9/2010	0-1'		X	**458**	**4,700**	**5,158**	<0.400	2.06	2.26	6.61	3,100
	"	1-1.5'		X	465	2,920	3,385	-	-	-	-	8,350
	"	2-2.5'		X	-	-	-	-	-	-	-	13,400
	"	3-3.5'		X	-	-	-	-	-	-	-	15,000
	"	4-4.5'		X	-	-	-	-	-	-	-	13,400
	"	5-5.5'		X	-	-	-	-	-	-	-	7,060
	"	6-6.5'		X	-	-	-	-	-	-	-	6,590
	"	7-7.5'		X	-	-	-	-	-	-	-	4,380
	"	8-8.5'		X	-	-	-	-	-	-	-	3,870
	"	9-9.5'		X	-	-	-	-	-	-	-	4,630
SB-3	11/30/2010	0-1'		X								717
		3'		X	838	2,660	3,498	-	-	-	-	2,260
		5'		X	-	-	-	-	-	-	-	5,230
		7'		X	-	-	-	-	-	-	-	4,240
		10'		X	-	-	-	-	-	-	-	9,020
		15'	X		-	-	-	-	-	-	-	5,690
		20'	X		-	-	-	-	-	-	-	416
		25'	X		-	-	-	-	-	-	-	<200
		30'	X		-	-	-	-	-	-	-	219
		40'	X		-	-	-	-	-	-	-	525
		50'	X		-	-	-	-	-	-	-	520

Table 1
COG Operating LLC.
GJ WEST CO-OP #125
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total					
AH-5	8/9/2010	0-1'		X	**954**	**4,690**	**5,644**	<1.00	<1.00	<1.00	**4.32**	721
	"	1-1.5'		X	**1,000**	**5,240**	**6,240**	-	-	-	-	1,730
	"	2-2.5'		X	-	-	-	-	-	-	-	6,420
	"	3-3.5'		X	-	-	-	-	-	-	-	9,170
	"	4-4.5'		X	-	-	-	-	-	-	-	11,500
	"	5-5.5'		X	-	-	-	-	-	-	-	6,590
	"	6-6.5'		X	-	-	-	-	-	-	-	6,740
	"	7-7.5'		X	-	-	-	-	-	-	-	9,070
	"	8-8.5'		X	-	-	-	-	-	-	-	15,000
	"	9-9.5'		X	-	-	-	-	-	-	-	3,840
SB-4	11/30/2010	3'		X	838	2,660	3,498	-	-	-	-	978
		5'		X	-	-	-	-	-	-	-	7,510
		7'		X	-	-	-	-	-	-	-	10,300
		10'		X	-	-	-	-	-	-	-	7,060
		15'		X	-	-	-	-	-	-	-	4,010
		20'	X		-	-	-	-	-	-	-	1,280
		25'	X		-	-	-	-	-	-	-	1,020
		30'	X		-	-	-	-	-	-	-	308
		40'	X									228

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COG Operating LLC.
GJ WEST CO-OP #125
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total					
AH-6	8/9/2010	0-1'		X	827	3,930	4,757	<1.00	<1.00	<1.00	10.1	2,140
	"	1-1.5'		X	-	-	-	-	-	-	-	9,490
	"	2-2.5'		X	-	-	-	-	-	-	-	9,020
	"	3-3.5'		X	-	-	-	-	-	-	-	10,100
	"	4-4.5'		X	-	-	-	-	-	-	-	9,880
	"	5-5.5'		X	-	-	-	-	-	-	-	1,950
	"	6-6.5'		X	-	-	-	-	-	-	-	5,070
	"	7-7.5'		X	-	-	-	-	-	-	-	5,670
	"	8-8.5'		X	-	-	-	-	-	-	-	2,240
	"	8.5-9'		X	-	-	-	-	-	-	-	687
AH-7	8/9/2010	0-1'	X		**36.8**	**5,030**	**5,066.8**	<0.0200	<0.0200	<0.0200	0.379	1,990
	"	1-1.5'	X		559	2,830	3,389	-	-	-	-	3,920
	"	2-2.5'	X		-	-	-	-	-	-	-	392
	"	3-3.5'	X		-	-	-	-	-	-	-	<200
	"	4-4.5'	X		-	-	-	-	-	-	-	214
AH-8	8/9/2010	0-1'		X	**1,330**	**4,470**	**5,800**	<1.00	<1.00	<1.00	9.66	1,160
	"	1-1.5'		X	**868**	**4,460**	**5,328**	-	-	-	-	3,630
	"	2-2.5'		X	**681**	**5,120**	**11,128**	<0.400	1.26	1.85	17.8	5,020
	"	3-3.5'		X	<2.00	<50.0	<50.0	-	-	-	-	517
	"	4-4.5'	X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<200
	"	5-5.5'	X		-	-	-	-	-	-	-	<200
	"	6-6.5'	X		-	-	-	-	-	-	-	305
	"	7-7.5'	X		-	-	-	-	-	-	-	269

Table 1
COG Operating LLC.
GJ WEST CO-OP #125
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total					
AH-9	8/9/2010	0-1'	X		**486**	**5,770**	**6,256**	<1.00	<1.00	<1.00	2.73	2,410
	"	1-1.5'	X		636	2,860	3,496	-	-	-	-	5,370
	"	2-2.5'	X		-	-	-	-	-	-	-	6,080
	"	3-3.5'	X		-	-	-	-	-	-	-	3,440
	"	4-4.5'	X		-	-	-	-	-	-	-	1,170
	"	5-5.5'	X		-	-	-	-	-	-	-	573
	"	6-6.5'	X		-	-	-	-	-	-	-	563
AH-10	8/9/2010	0-1'	X		<2.00	<50.0	<50.0	-	-	-	-	**639**
	"	1-1.5'	X		-	-	-	-	-	-	-	**1,460**
	"	2-2.5'	X		-	-	-	-	-	-	-	**1,410**
	"	3-3.5'	X		-	-	-	-	-	-	-	<200
	"	4-4.5'	X		-	-	-	-	-	-	-	<200
	"	5-5.5'	X		-	-	-	-	-	-	-	<200
	"	6-6.5'	X		-	-	-	-	-	-	-	<200
AH-11	8/9/2010	0-1'	X		<2.00	<50.0	<50.0	-	-	-	-	<200
	"	1-1.5'	X		-	-	-	-	-	-	-	231

BEB Below Excavation Bottom

(--) Not Analyzed

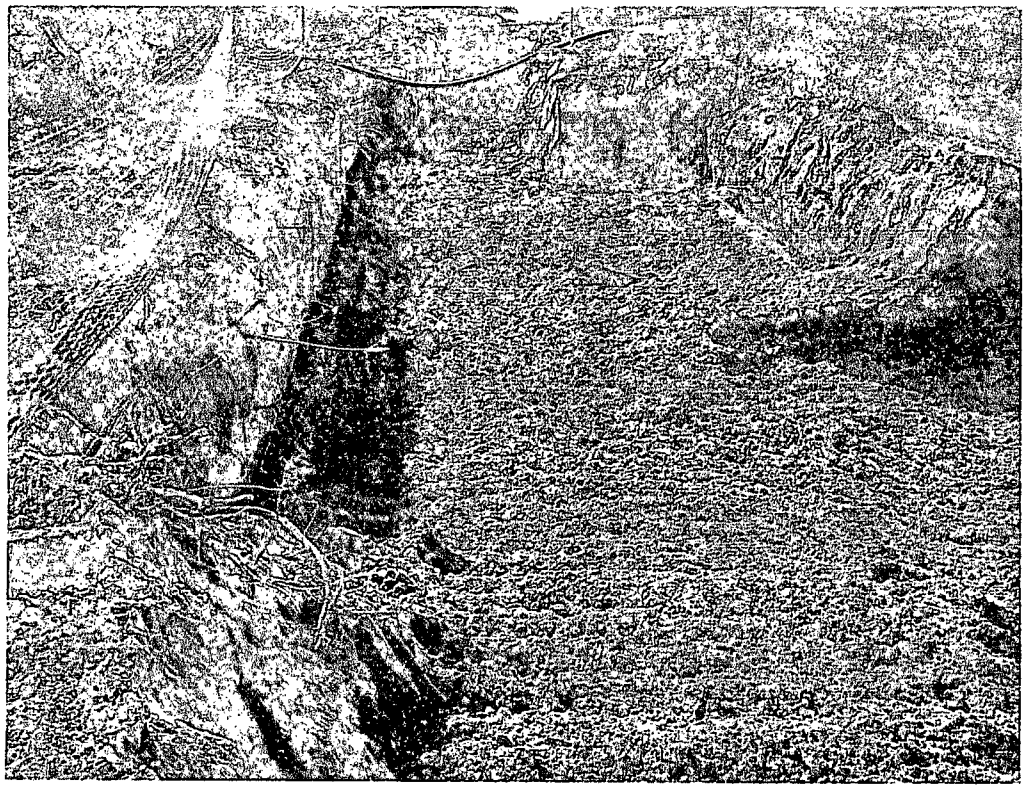
Excavation depths

PHOTOGRAPHS

COG Operating LLC
GJ West COOP Unit #125
Eddy County, New Mexico

TETRA TECH

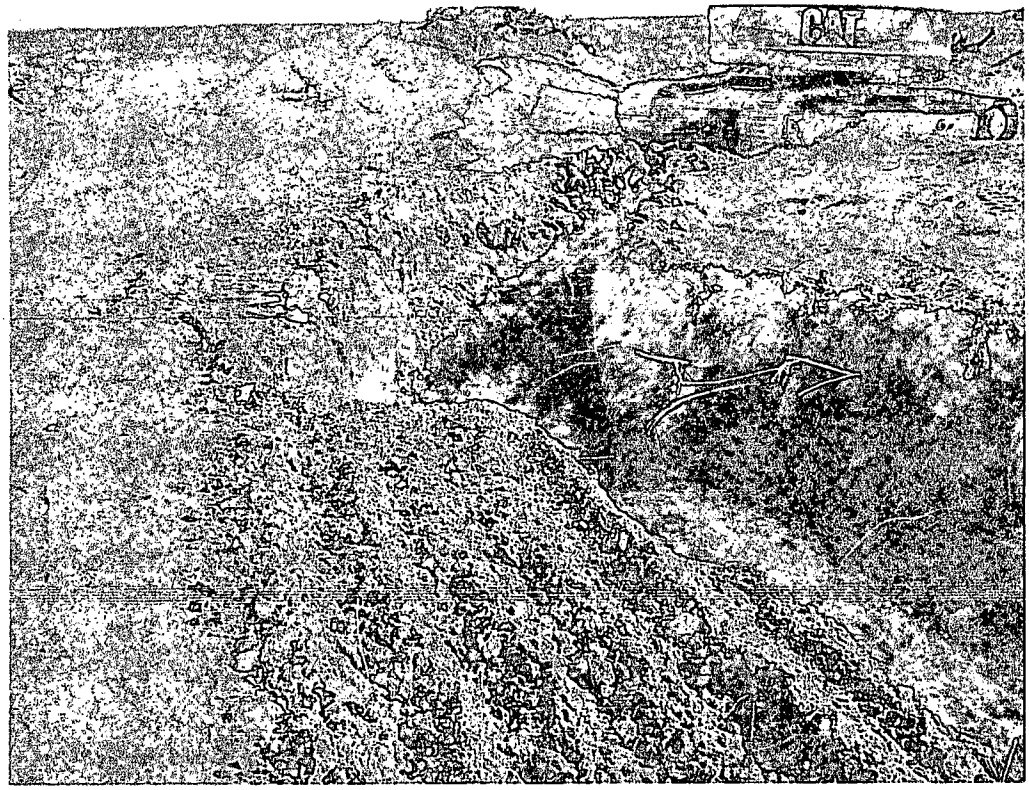
View east from source across footprint (2/25/11)



Final depth approximately 7-8' near SB-2

COG Operating LLC
GJ West COOP Unit #125
Eddy County, New Mexico

TETRA TECH

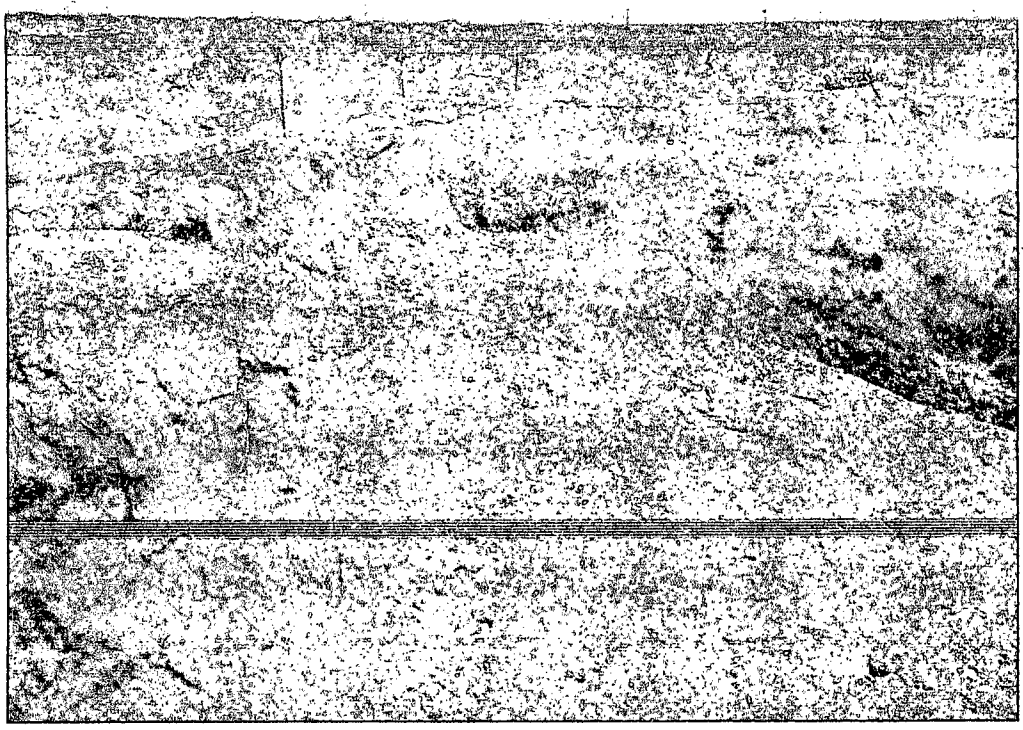


Near SB-1 at approximately 5' bgs

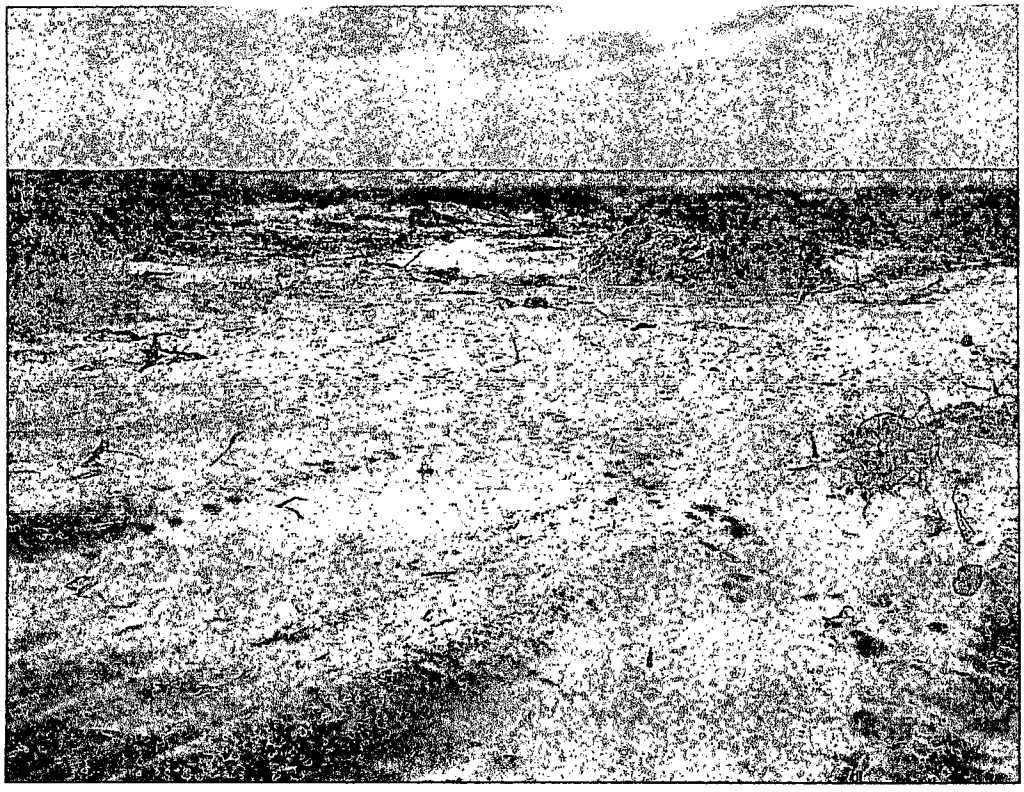
Area near SB-4 at approximately 12-15' bgs

COG Operating LLC
GJ West COOP Unit #125
Eddy County, New Mexico

TETRA TECH



View of area from AH-6 at 10-11' towards area AH-7 through AH-10 at 3-4' bgs



Post excavation and backfilled with clean material (3/8/11)

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) 685-4332**
Facility Name GJ West COOP Unit #125	Facility Type **Well** (Flowline)

Surface Owner: State	Mineral Owner	Lease No. API# 30-015-03163

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	28	17S	29E					Eddy

Latitude N 32 48.015° **Longitude** W 104 04.276°

NATURE OF RELEASE

Type of Release: Produced Fluids	Volume of Release 50 bbls	Volume Recovered 0 bbls
Source of Release: Flowline	Date and Hour of Occurrence 6/24/10	Date and Hour of Discovery 6/24/10 1:00 p.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? **Mike Bratcher - OCD**	
By Whom? Josh Russo	Date and Hour 6/25/10 9:19 a.m.	
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.*

The cause of this release was due to a ruptured flowline. The flowline has been 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 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: Ike Tavarez (Agent for COG)	Approved by District Supervisor:	
Title: Project Manager	Approval Date:	Expiration Date:
E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval:	Attached ☐
Date: 5-24-11 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
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	GJ WEST COOP UNIT #125	Facility Type	Well (Flowline)

Surface Owner	Mineral Owner	Lease No. API# 30-015-03163
State		

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	28	17S	29E					Eddy

Latitude 32 48.015 **Longitude** 104 04.276

NATURE OF RELEASE

Type of Release: Produced Fluids	Volume of Release: 50bbls	Volume Recovered: 0bbls
Source of Release: Flowline	Date and Hour of Occurrence: 06/24/2010	Date and Hour of Discovery: 06/24/2010 1:00 p.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher—OCD	
By Whom? Josh Russo	Date and Hour: 06/25/2010 9:19 a.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

RECEIVED
JUN 03 2011
NMOCD ARTESIA

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The cause of this release was due to a ruptured flowline. The flowline has been repaired and put back into service.

Describe Area Affected and Cleanup Action Taken.*

The ruptured GJ West Coop #125 flowline released 50bbls of produced fluids into the pasture and we were not able to recover any fluid with a vacuum truck. The dimensions of the spill area are 750' long and no greater than 15' wide. (The closest well location to the release site is the GJ West Coop Unit #4, which is 150' northwest of the spill site, API # 30-015-03173, Unit P, Sec. 28-T17S-R29E, 990 FSL 330 FEL, Eddy County, NM, GPS 32.80096 – 104.07228) 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 NMODC 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: 06/28/2010 Phone: 432-212-2399		

* Attach Additional Sheets If Necessary

APPENDIX B

Water Well Data
Average Depth to Groundwater (ft)
COG - GJ West COOP Unit #125
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
19 110	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

16 South 30 East

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

17 South 28 East

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

17 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28 SITE	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	35 65	36

18 South 29 East

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

18 South 30 East

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

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

APPENDIX C

Summary Report

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

Report Date: June 9, 2010

Work Order: 10052814

Project Location: Eddy County, NM
Project Name: COG/GJ West Co-op South Water Distribution
Project Number: 114-6400524

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
233113	AH-1 0-1'	soil	2010-05-24	00:00	2010-05-27
233114	AH-1 1-1.5'	soil	2010-05-24	00:00	2010-05-27
233115	AH-1 2-2.5'	soil	2010-05-24	00:00	2010-05-27
233116	AH-1 3-3.5'	soil	2010-05-24	00:00	2010-05-27
233117	AH-1 4-4.5'	soil	2010-05-24	00:00	2010-05-27
233118	AH-1 5-5.5'	soil	2010-05-24	00:00	2010-05-27
233119	AH-1 6-6.5'	soil	2010-05-24	00:00	2010-05-27
233120	AH-1 7-7.5'	soil	2010-05-24	00:00	2010-05-27
233121	AH-1 8-8.5'	soil	2010-05-24	00:00	2010-05-27
233122	AH-1 9-9.5'	soil	2010-05-24	00:00	2010-05-27
233123	AH-2 0-1'	soil	2010-05-24	00:00	2010-05-27
233124	AH-2 1-1.5'	soil	2010-05-24	00:00	2010-05-27
233125	AH-2 2-2.5'	soil	2010-05-24	00:00	2010-05-27
233126	AH-2 3-3.5'	soil	2010-05-24	00:00	2010-05-27
233127	AH-2 4-4.5'	soil	2010-05-24	00:00	2010-05-27
233128	AH-2 5-5.5'	soil	2010-05-24	00:00	2010-05-27
233129	AH-2 6-6.5'	soil	2010-05-24	00:00	2010-05-27
233130	AH-2 7-7.5'	soil	2010-05-24	00:00	2010-05-27
233131	AH-2 8-8.5'	soil	2010-05-24	00:00	2010-05-27
233132	AH-2 9-9.5'	soil	2010-05-24	00:00	2010-05-27
233133	AH-3 0-1'	soil	2010-05-24	00:00	2010-05-27
233134	AH-4 0-1'	soil	2010-05-24	00:00	2010-05-27
233135	AH-4 1-1.5'	soil	2010-05-24	00:00	2010-05-27
233136	AH-4 2-2.5'	soil	2010-05-24	00:00	2010-05-27
233137	AH-4 3-3.5'	soil	2010-05-24	00:00	2010-05-27
233138	AH-4 4-4.5'	soil	2010-05-24	00:00	2010-05-27
233139	AH-4 5-5.5'	soil	2010-05-24	00:00	2010-05-27
233140	AH-4 6-6.5'	soil	2010-05-24	00:00	2010-05-27
233141	AH-4 7-7.5'	soil	2010-05-24	00:00	2010-05-27
233142	AH-4 8-8.5'	soil	2010-05-24	00:00	2010-05-27

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
233143	AH-4 9-9.5'	soil	2010-05-24	00:00	2010-05-27

Sample - Field Code		TPH DRO - NEW DRO (mg/Kg)		TPH GRO GRO (mg/Kg)
233113 - AH-1 0-1'		<50.0		<1.00
233123 - AH-2 0-1'		**77.3**		**17.2**
233133 - AH-3 0-1'		**66.0**		**5.93**
233134 - AH-4 0-1'		<50.0		<1.00

Sample: 233113 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**7520**	mg/Kg	4.00

Sample: 233114 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**2950**	mg/Kg	4.00

Sample: 233115 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**4830**	mg/Kg	4.00

Sample: 233116 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**5670**	mg/Kg	4.00

Sample: 233117 - AH-1 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**5290**	mg/Kg	4.00

Sample: 233118 - AH-1 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**5560**	mg/Kg	4.00

Sample: 233119 - AH-1 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**6040**	mg/Kg	4.00

Sample: 233120 - AH-1 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**6410**	mg/Kg	4.00

Sample: 233121 - AH-1 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**6000**	mg/Kg	4.00

Sample: 233122 - AH-1 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**6300**	mg/Kg	4.00

Sample: 233123 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**11100**	mg/Kg	4.00

Sample: 233124 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**11000**	mg/Kg	4.00

Sample: 233125 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**3220**	mg/Kg	4.00

Sample: 233126 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**3490**	mg/Kg	4.00

Sample: 233127 - AH-2 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**4610**	mg/Kg	4.00

Sample: 233128 - AH-2 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**4520**	mg/Kg	4.00

Sample: 233129 - AH-2 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**4310**	mg/Kg	4.00

Sample: 233130 - AH-2 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**2290**	mg/Kg	4.00

Sample: 233131 - AH-2 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**2570**	mg/Kg	4.00

Sample: 233132 - AH-2 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**3150**	mg/Kg	4.00

Sample: 233133 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**18300**	mg/Kg	4.00

Sample: 233134 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**15700**	mg/Kg	4.00

Sample: 233135 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**4250**	mg/Kg	4.00

Sample: 233136 - AH-4 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**5250**	mg/Kg	4.00

Sample: 233137 - AH-4 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**5990**	mg/Kg	4.00

Sample: 233138 - AH-4 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**8990**	mg/Kg	4.00

Sample: 233139 - AH-4 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**8240**	mg/Kg	4.00

Sample: 233140 - AH-4 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**7470**	mg/Kg	4.00

Sample: 233141 - AH-4 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**6750**	mg/Kg	4.00

Sample: 233142 - AH-4 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**5170**	mg/Kg	4.00

Sample: 233143 - AH-4 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**4850**	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: June 9, 2010

Work Order: 10052814

Project Location: Eddy County, NM
Project Name: COG/GJ West Co-op South Water Distribution
Project Number: 114-6400524

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
233113	AH-1 0-1'	soil	2010-05-24	00:00	2010-05-27
233114	AH-1 1-1.5'	soil	2010-05-24	00:00	2010-05-27
233115	AH-1 2-2.5'	soil	2010-05-24	00:00	2010-05-27
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233119	AH-1 6-6.5'	soil	2010-05-24	00:00	2010-05-27
233120	AH-1 7-7.5'	soil	2010-05-24	00:00	2010-05-27
233121	AH-1 8-8.5'	soil	2010-05-24	00:00	2010-05-27
233122	AH-1 9-9.5'	soil	2010-05-24	00:00	2010-05-27

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
233123	AH-2 0-1'	soil	2010-05-24	00:00	2010-05-27
233124	AH-2 1-1.5'	soil	2010-05-24	00:00	2010-05-27
233125	AH-2 2-2.5'	soil	2010-05-24	00:00	2010-05-27
233126	AH-2 3-3.5'	soil	2010-05-24	00:00	2010-05-27
233127	AH-2 4-4.5'	soil	2010-05-24	00:00	2010-05-27
233128	AH-2 5-5.5'	soil	2010-05-24	00:00	2010-05-27
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233130	AH-2 7-7.5'	soil	2010-05-24	00:00	2010-05-27
233131	AH-2 8-8.5'	soil	2010-05-24	00:00	2010-05-27
233132	AH-2 9-9.5'	soil	2010-05-24	00:00	2010-05-27
233133	AH-3 0-1'	soil	2010-05-24	00:00	2010-05-27
233134	AH-4 0-1'	soil	2010-05-24	00:00	2010-05-27
233135	AH-4 1-1.5'	soil	2010-05-24	00:00	2010-05-27
233136	AH-4 2-2.5'	soil	2010-05-24	00:00	2010-05-27
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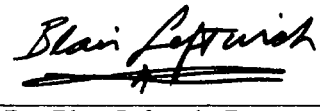
233140	AH-4 6-6.5'	soil	2010-05-24	00:00	2010-05-27
233141	AH-4 7-7.5'	soil	2010-05-24	00:00	2010-05-27
233142	AH-4 8-8.5'	soil	2010-05-24	00:00	2010-05-27
233143	AH-4 9-9.5'	soil	2010-05-24	00:00	2010-05-27

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



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

Standard Flags

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

Case Narrative

Samples for project COG/GJ West Co-op South Water Distribution were received by TraceAnalysis, Inc. on 2010-05-27 and assigned to work order 10052814. Samples for work order 10052814 were received intact at a temperature of 3.1 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	60412	2010-06-01 at 12:05	70559	2010-06-02 at 13:06
Chloride (Titration)	SM 4500-Cl B	60413	2010-06-01 at 12:06	70597	2010-06-03 at 14:03
Chloride (Titration)	SM 4500-Cl B	60414	2010-06-01 at 12:06	70598	2010-06-03 at 14:04
Chloride (Titration)	SM 4500-Cl B	60450	2010-06-03 at 09:49	70599	2010-06-03 at 14:05
TPH DRO - NEW	S 8015 D	60419	2010-06-01 at 13:52	70544	2010-06-01 at 13:52
TPH GRO	S 8015 D	60437	2010-06-02 at 14:15	70574	2010-06-02 at 16:59

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 10052814 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: 233113 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70559	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60412	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**7520**		mg/Kg	100	4.00

Sample: 233113 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	70544	Date Analyzed:	2010-06-01	Analyzed By:	kg
Prep Batch:	60419	Sample Preparation:	2010-06-01	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		106	mg/Kg	1	100	106	70 - 130

Sample: 233113 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	70574	Date Analyzed:	2010-06-02	Analyzed By:	AG
Prep Batch:	60437	Sample Preparation:	2010-06-02	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)		1.78	mg/Kg	1	2.00	89	50.3 - 155
4-Bromofluorobenzene (4-BFB)		1.58	mg/Kg	1	2.00	79	51.7 - 131.1

Sample: 233114 - AH-1 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70559	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60412	Sample Preparation:	2010-06-01	Prepared By:	AR

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

Sample: 233115 - AH-1 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70559	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60412	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**4830**	mg/Kg	100	4.00

Sample: 233116 - AH-1 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70559	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60412	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**5670**	mg/Kg	100	4.00

Sample: 233117 - AH-1 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70559	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60412	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**5290**	mg/Kg	100	4.00

Sample: 233118 - AH-1 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70559	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60412	Sample Preparation:	2010-06-01	Prepared By:	AR

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

Sample: 233119 - AH-1 6-6.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70559	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60412	Sample Preparation:	2010-06-01	Prepared By:	AR

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

Sample: 233120 - AH-1 7-7.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70559	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60412	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**6410**	mg/Kg	100	4.00

Sample: 233121 - AH-1 8-8.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70559	Date Analyzed:	2010-06-02	Analyzed By:	AR
Prep Batch:	60412	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**6000**	mg/Kg	100	4.00

Sample: 233122 - AH-1 9-9.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70597	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60413	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**6300**	mg/Kg	100	4.00

Sample: 233123 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70597	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60413	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**11100**	mg/Kg	100	4.00

Sample: 233123 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	70544	Date Analyzed:	2010-06-01	Analyzed By:	kg
Prep Batch:	60419	Sample Preparation:	2010-06-01	Prepared By:	kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**77.3**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		124	mg/Kg	1	100	124	70 - 130

Sample: 233123 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	70574	Date Analyzed:	2010-06-02	Analyzed By:	AG
Prep Batch:	60437	Sample Preparation:	2010-06-02	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**17.2**	mg/Kg	5	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5.44	mg/Kg	5	5.00	109	50.3 - 155
4-Bromofluorobenzene (4-BFB)		5.16	mg/Kg	5	5.00	103	51.7 - 131.1

Sample: 233124 - AH-2 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70597	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60413	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**11000**	mg/Kg	100	4.00

Sample: 233125 - AH-2 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70597	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60413	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**3220**	mg/Kg	100	4.00

Sample: 233126 - AH-2 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70597	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60413	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**3490**	mg/Kg	100	4.00

Sample: 233127 - AH-2 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70597	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60413	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**4610**	mg/Kg	100	4.00

Sample: 233128 - AH-2 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70597	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60413	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**4520**	mg/Kg	100	4.00

Sample: 233129 - AH-2 6-6.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70597	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60413	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**4310**	mg/Kg	100	4.00

Sample: 233130 - AH-2 7-7.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70597	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60413	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**2290**	mg/Kg	100	4.00

Sample: 233131 - AH-2 8-8.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70597	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60413	Sample Preparation:	2010-06-01	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**2570**	mg/Kg	100	4.00

Sample: 233132 - AH-2 9-9.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70598	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60414	Sample Preparation:	2010-06-03	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**3150**	mg/Kg	100	4.00

Sample: 233133 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70598	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60414	Sample Preparation:	2010-06-03	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**18300**	mg/Kg	100	4.00

Sample: 233133 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	70544	Date Analyzed:	2010-06-01	Analyzed By:	kg
Prep Batch:	60419	Sample Preparation:	2010-06-01	Prepared By:	kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**66.0**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		119	mg/Kg	1	100	119	70 - 130

Sample: 233133 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	70574	Date Analyzed:	2010-06-02	Analyzed By:	AG
Prep Batch:	60437	Sample Preparation:	2010-06-02	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**5.93**	mg/Kg	5	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		5.63	mg/Kg	5	5.00	113	50.3 - 155
4-Bromofluorobenzene (4-BFB)		5.17	mg/Kg	5	5.00	103	51.7 - 131.1

Sample: 233134 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70598	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60414	Sample Preparation:	2010-06-03	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**15700**	mg/Kg	100	4.00

Sample: 233134 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	70544	Date Analyzed:	2010-06-01	Analyzed By:	kg
Prep Batch:	60419	Sample Preparation:	2010-06-01	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: 233134 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	70574	Date Analyzed:	2010-06-02	Analyzed By:	AG
Prep Batch:	60437	Sample Preparation:	2010-06-02	Prepared By:	AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.87	mg/Kg	1	2.00	94	50.3 - 155
4-Bromofluorobenzene (4-BFB)		1.66	mg/Kg	1	2.00	83	51.7 - 131.1

Sample: 233135 - AH-4 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70598	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60414	Sample Preparation:	2010-06-03	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**4250**	mg/Kg	100	4.00

Sample: 233136 - AH-4 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70598	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60414	Sample Preparation:	2010-06-03	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**5250**	mg/Kg	100	4.00

Sample: 233137 - AH-4 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70598	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60414	Sample Preparation:	2010-06-03	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**5990**	mg/Kg	100	4.00

Sample: 233138 - AH-4 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70598	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60414	Sample Preparation:	2010-06-03	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**8990**	mg/Kg	100	4.00

Sample: 233139 - AH-4 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70598	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60414	Sample Preparation:	2010-06-03	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**8240**	mg/Kg	100	4.00

Sample: 233140 - AH-4 6-6.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70598	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60414	Sample Preparation:	2010-06-03	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**7470**	mg/Kg	100	4.00

Sample: 233141 - AH-4 7-7.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70598	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60414	Sample Preparation:	2010-06-03	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**6750**	mg/Kg	100	4.00

Sample: 233142 - AH-4 8-8.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70599	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60450	Sample Preparation:	2010-06-03	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**5170**	mg/Kg	100	4.00

Sample: 233143 - AH-4 9-9.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	70599	Date Analyzed:	2010-06-03	Analyzed By:	AR
Prep Batch:	60450	Sample Preparation:	2010-06-03	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**4850**	mg/Kg	100	4.00

Method Blank (1) QC Batch: 70544

QC Batch:	70544	Date Analyzed:	2010-06-01	Analyzed By:	kg
Prep Batch:	60419	QC Preparation:	2010-06-01	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		95.4	mg/Kg	1	100	95	70 - 130

Method Blank (1) QC Batch: 70559

QC Batch: 70559 | Date Analyzed: 2010-06-02 | Analyzed By: AR
Prep Batch: 60412 | QC Preparation: 2010-06-01 | Prepared By: AR

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

Method Blank (1) QC Batch: 70574

QC Batch: 70574 | Date Analyzed: 2010-06-02 | Analyzed By: AG
Prep Batch: 60437 | QC Preparation: 2010-06-02 | 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)		2.06	mg/Kg	1	2.00	103	66.2 - 145
4-Bromofluorobenzene (4-BFB)		1.60	mg/Kg	1	2.00	80	62 - 120.5

Method Blank (1) QC Batch: 70597

QC Batch: 70597 | Date Analyzed: 2010-06-03 | Analyzed By: AR
Prep Batch: 60413 | QC Preparation: 2010-06-01 | Prepared By: AR

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

Method Blank (1) QC Batch: 70598

QC Batch: 70598 | Date Analyzed: 2010-06-03 | Analyzed By: AR
Prep Batch: 60414 | QC Preparation: 2010-06-01 | Prepared By: AR

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

Method Blank (1) QC Batch: 70599

QC Batch: 70599 Date Analyzed: 2010-06-03 Analyzed By: AR
Prep Batch: 60450 QC Preparation: 2010-06-03 Prepared By: AR

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

Laboratory Control Spike (LCS-1)

QC Batch: 70544 Date Analyzed: 2010-06-01 Analyzed By: kg
Prep Batch: 60419 QC Preparation: 2010-06-01 Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	265	mg/Kg	1	250	<5.86	106	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	277	mg/Kg	1	250	<5.86	111	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	98.0	99.8	mg/Kg	1	100	98	100	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 70559 Date Analyzed: 2010-06-02 Analyzed By: AR
Prep Batch: 60412 QC Preparation: 2010-06-01 Prepared By: AR

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 70574 | Date Analyzed: 2010-06-02 | Analyzed By: AG
Prep Batch: 60437 | QC Preparation: 2010-06-02 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	15.4	mg/Kg	1	20.0	<0.396	77	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	16.0	mg/Kg	1	20.0	<0.396	80	52.5 - 114.3	4	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.08	1.89	mg/Kg	1	2.00	104	94	66.2 - 148.7
4-Bromofluorobenzene (4-BFB)	1.83	1.66	mg/Kg	1	2.00	92	83	64.1 - 127.4

Laboratory Control Spike (LCS-1)

QC Batch: 70597 | Date Analyzed: 2010-06-03 | Analyzed By: AR
Prep Batch: 60413 | QC Preparation: 2010-06-01 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.9	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: 70598 | Date Analyzed: 2010-06-03 | Analyzed By: AR
Prep Batch: 60414 | QC Preparation: 2010-06-01 | 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	91.3	mg/Kg	1	100	<2.18	91	85 - 115	7	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 70599 | Date Analyzed: 2010-06-03 | Analyzed By: AR
Prep Batch: 60450 | QC Preparation: 2010-06-03 | 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.

Matrix Spike (MS-1) Spiked Sample: 233169

QC Batch: 70544 | Date Analyzed: 2010-06-01 | Analyzed By: kg
Prep Batch: 60419 | QC Preparation: 2010-06-01 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	334	mg/Kg	1	250	37.7	118	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	298	mg/Kg	1	250	37.7	104	35.2 - 167.1	11	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	115	112	mg/Kg	1	100	115	112	70 - 130

Matrix Spike (MS-1) Spiked Sample: 233121

QC Batch: 70559 | Date Analyzed: 2010-06-02 | Analyzed By: AR
Prep Batch: 60412 | QC Preparation: 2010-06-01 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	16400	mg/Kg	100	10000	6000	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	16500	mg/Kg	100	10000	6000	105	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: 233165

QC Batch: 70574 | Date Analyzed: 2010-06-02 | Analyzed By: AG
Prep Batch: 60437 | QC Preparation: 2010-06-02 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	25.1	mg/Kg	1	20.0	5.5866	98	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	26.8	mg/Kg	1	20.0	5.5866	106	10 - 198.3	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)	2.28	2.37	mg/Kg	1	2	114	118	65.5 - 143
4-Bromofluorobenzene (4-BFB)	2.42	2.38	mg/Kg	1	2	121	119	58.6 - 140

Matrix Spike (MS-1) Spiked Sample: 233131

QC Batch: 70597 | Date Analyzed: 2010-06-03 | Analyzed By: AR
Prep Batch: 60413 | QC Preparation: 2010-06-01 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	12900	mg/Kg	100	10000	2570	103	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	13100	mg/Kg	100	10000	2570	105	85 - 115	2	20

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

Matrix Spike (MS-1) Spiked Sample: 233141

QC Batch: 70598 | Date Analyzed: 2010-06-03 | Analyzed By: AR
Prep Batch: 60414 | QC Preparation: 2010-06-01 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	17400	mg/Kg	100	10000	6750	106	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	17200	mg/Kg	100	10000	6750	104	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: 233156

QC Batch: 70599 | Date Analyzed: 2010-06-03 | Analyzed By: AR
Prep Batch: 60450 | QC Preparation: 2010-06-03 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	9750	mg/Kg	100	10000	<218	98	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	9820	mg/Kg	100	10000	<218	98	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: 70544 | Date Analyzed: 2010-06-01 | Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	291	116	80 - 120	2010-06-01

Standard (CCV-2)

QC Batch: 70544 Date Analyzed: 2010-06-01 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	290	116	80 - 120	2010-06-01

Standard (ICV-1)

QC Batch: 70559 Date Analyzed: 2010-06-02 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.6	100	85 - 115	2010-06-02

Standard (CCV-1)

QC Batch: 70559 Date Analyzed: 2010-06-02 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-06-02

Standard (CCV-1)

QC Batch: 70574 Date Analyzed: 2010-06-02 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	0.949	95	80 - 120	2010-06-02

Standard (CCV-2)

QC Batch: 70574 Date Analyzed: 2010-06-02 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	1.01	101	80 - 120	2010-06-02

Standard (ICV-1)

QC Batch: 70597 | Date Analyzed: 2010-06-03 | 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	2010-06-03

Standard (CCV-1)

QC Batch: 70597 | Date Analyzed: 2010-06-03 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.8	99	85 - 115	2010-06-03

Standard (ICV-1)

QC Batch: 70598 | Date Analyzed: 2010-06-03 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	96.5	96	85 - 115	2010-06-03

Standard (CCV-1)

QC Batch: 70598 | Date Analyzed: 2010-06-03 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	104	104	85 - 115	2010-06-03

Standard (ICV-1)

QC Batch: 70599 | Date Analyzed: 2010-06-03 | 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	2010-06-03

Standard (CCV-1)

QC Batch: 70599 | Date Analyzed: 2010-06-03 | 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	2010-06-03

WO# 10052014

Analysis Request of Chain of Custody Record

PAGE: 1 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 Tavarez

PROJECT NO.: 114-6400524

PROJECT NAME: COG GJ West Coop South Water Distribution 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 (Ext. to C35) TX1005	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
233113	5/24		S		X	AH-1 0-1'	1							X										X				
114						AH-1 1-1.5'																						
115						AH-1 2-2.5'																						
116						AH-1 3-3.5'																						
117						AH-1 4-4.5'																						
118						AH-1 5-5.5'																						
119						AH-1 6-6.5'																						
120						AH-1 7-7.5'																						
121						AH-1 8-8.5'																						
122	↓		↓		↓	AH-1 9-9.5'	↓																	Y				

RELINQUISHED BY: (Signature) — Date: 5-27-10 Time: 1605 — RECEIVED BY: (Signature) — Date: — Time:

SAMPLED BY: (Print & Initial) RG TF — Date: 5-24-10 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: 5-27-10 TIME: 16:05

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 3.1°C Intact

REMARKS: Run deep Temple if TPH exceed 1000 mg/kg

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

WO# 10052814

Analysis Request of Chain of Custody Record

PAGE: 2 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 Tavarez

PROJECT NO.: 114-6400524

PROJECT NAME: COG / GJ West Coop South Water Distribution 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	TRH 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
233123	5/24		S		X	AH-2 0-1'	1							X												X				
124						AH-2 1-1.5'																								
125						AH-2 2-2.5'																								
126						AH-2 3-3.5'																								
127						AH-2 4-4.5'																								
128						AH-2 5-5.5'																								
129						AH-2 6-6.5'																								
130						AH-2 7-7.5'																								
131						AH-2 8-8.5'																								
132	↓		↓		↓	AH-2 9-9.5'	↓																			↓				

RELINQUISHED BY: (Signature) — Date: 5-27-10 Time: 1600 — RECEIVED BY: (Signature) — Date: — Time:

SAMPLED BY: (Print & Initial) RK TF — Date: 5-24-10 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: 5-27-10 — TIME: 16:05

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 3.1°C

REMARKS: Run extra sample if TRH exceeds 1,000 mg/kg

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

WO# 10052814

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

CLIENT NAME: COG
SITE MANAGER: Ike Tavarez
PROJECT NO.: 114-6400524
PROJECT NAME: COG GJ West Coop South Water Distribution Eddy Co NM

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
233133	5/24		S		X	AH-3 0-1'	1							X											X				
134	↓		↓		↓	AH-4 0-1'	↓							X											↓				
135						AH-4 1-1.5'																							
136						AH-4 2-2.5'																							
137						AH-4 3-3.5'																							
138						AH-4 4-4.5'																							
139						AH-4 5-5.5'																							
140						AH-4 6-6.5'																							
141						AH-4 7-7.5'																							
142	↓		↓		↓	AH-4 8-8.5'	↓																		↓				

RELINQUISHED BY: (Signature) [signature] Date: 5-27-10 Time: 16:05
RECEIVED BY: (Signature) Date: Time:
SAMPLED BY: (Print & Initial) RG TF Date: 5-24-10 Time:

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

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

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: Tx ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature) [signature] DATE: 5-27-10 TIME: 16:05

SAMPLE CONDITION WHEN RECEIVED: 3.1° C [illegible]
REMARKS: Run deeper sample if TPH exceeds 1000 mg/kg

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

WO# 100528014

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.: 114-6400524

PROJECT NAME: COG GJ West Coop South Water Distribution 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
233143	5/24		S		X	AH-4 9-9.5'	1					

ANALYSIS REQUEST (Circle or Specify Method No.): BTEX 8021B; TPH TX1005 (Ext. to C35) / 8015 MOD; PAH 8270; RCRA Metals Ag As Ba Cd Cr Pb Hg Se; TCLP Metals Ag As Ba Cd Vr Pd Hg Se; TCLP Volatiles; TCLP Semi Volatiles; RCI; GC.MS Vol. 8240/8260/624; GC.MS Semi. Vol. 8270/625; PCB's 8080/608; Pest. 808/608; Chloride X; Gamma Spec.; Alpha Beta (Air); PLM (Asbestos); Major Anions/Cations, pH, TDS

RELINQUISHED BY: (Signature)	Date: 5-27-10 Time: 1605	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:

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

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

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: Tx ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: 5.27.10 TIME: 16:05

SAMPLE CONDITION WHEN RECEIVED: 3.1° C

REMARKS: Run deeper samples if TPH exceeds 4000 mg/kg

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