

SITE INFORMATION

Report Type: Work Plan

General Site Information:

Site:	Antelope State Tank Battery	
Company:	COG Operating LLC	
Section, Township and Range	Unit K - Section 36 - T-17S - R-31E	
Lease Number:	30-015-32040	
County:	Eddy County	
GPS:	32.78810° N	103.82630° W
Surface Owner:	State	
Mineral Owner:		
Directions:	From CR 126 and Hwy 529 travel west on Hwy 529 for 3.1 miles, turn left onto lease road and travel 0.8 miles, turn right and travel 0.6 miles to site.	

Release Data:

Date Released:	8/30/2012	RECEIVED MAY 21 2012 NMOCD ARTESIA
Type Release:	Produced Fluid	
Source of Contamination:	Water Tank	
Fluid Released:	15 bbls	
Fluids Recovered:	13 bbls	

Official Communication:

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

March 9, 2012

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

Re: Work Plan for the COG Operating LLC., Antelope State Tank Battery, Unit K, Section 36, Township 17 South, Range 31 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 Antelope State Tank Battery located in Unit K, Section 36, Township 17 South, Range 31 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.7881°, W 103.8263°. 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 August 30, 2011. The water tank overflowed and released approximately fifteen (15) barrels of produced fluids. A total of thirteen (13) barrels of standing fluids were recovered. The entire spill was contained inside the facility berms. The spill impacted an area measuring approximately 12' x 165'. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 36. One well was listed in Section 34 with a recorded depth of 271' according to the *Geology and Groundwater Resources of Eddy County, New Mexico (Report 3)*. The NMOCD groundwater map shows a groundwater depth of approximately 350' below surface. The groundwater data is shown in Appendix B.

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com



Regulatory

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

Soil Assessment and Analytical Results

On September 19, 2011, Tetra Tech personnel inspected and sampled the spill area. Four (4) auger holes (AH-1 and AH-4) were installed using a stainless steel hand auger. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory reports and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all submitted samples were below the RRAL for TPH and BTEX. Elevated chloride concentrations were detected in all the auger holes and not vertically defined. The auger hole bottom samples showed chloride concentrations of AH-1 (24,200 mg/kg at 6-6.5'), AH-2 (3,870 mg/kg at 6-6.5'), AH-3 (5,760 mg/kg at 7-7.5') and AH-4 (15,300 mg/kg at 7-7.5').

On January 31, 2012, Tetra Tech personnel supervised the installation of four (4) boreholes (BH-1, BH-2, BH-3 and BH-4) using an air rotary rig. Due to the limited access of the site, the facility berm was removed to gain access for the drilling rig. Samples were collected and submitted for chloride analysis. The sampling results are summarized in Table 1. The borehole locations are shown on Figure 3.

Referring to Table 1, all of the borehole locations were vertically defined. Boreholes (BH-2, BH-3 and BH-4) showed a significant chloride decline at 9-10' below surface. BH-1 showed a deeper impact to the soils with a chloride high at 6-7' of 14,100 mg/kg and declining with depth to 507 mg/kg at 19-20' below surface. A chloride spiked was also detected at 25-



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25' of 2,570 mg/kg, which declined at 29-30' to 474 mg/kg. The chloride spike appears to be cross-contaminated with the upper soils.

Work Plan

COG proposes to remove the chloride impacted soils as highlighted (green) in Table 1. Due to the location of the spill, COG will excavate the impacted soil to a depth of approximately 3.0 to 4.0' below surface. Deeper excavation will not be performed due to the stability of the soils near the tanks and facility equipment. Once completed, the excavation bottoms will be capped with either a 40 mil liner or clay (0.5' to 1.0' thick) and backfill with clean soil to grade. The excavated material will be hauled to proper disposal.

The proposed excavation area or excavation depths may not be achieved due to wall cave ins and safety concerns for onsite personnel. In addition, impacted soil around oil and gas equipment, structures or lines may not be feasible or practicable to be removed due to safety concerns. As such, Tetra Tech will excavate the soils to the maximum extent practicable.

Upon completion a final report will be submitted to the NMOCD. If you have any questions or comments concerning the assessment or the proposed remediation activities for this site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH



Ike Tavaréz
Project Manager

cc: Pat Ellis – COG

Figures

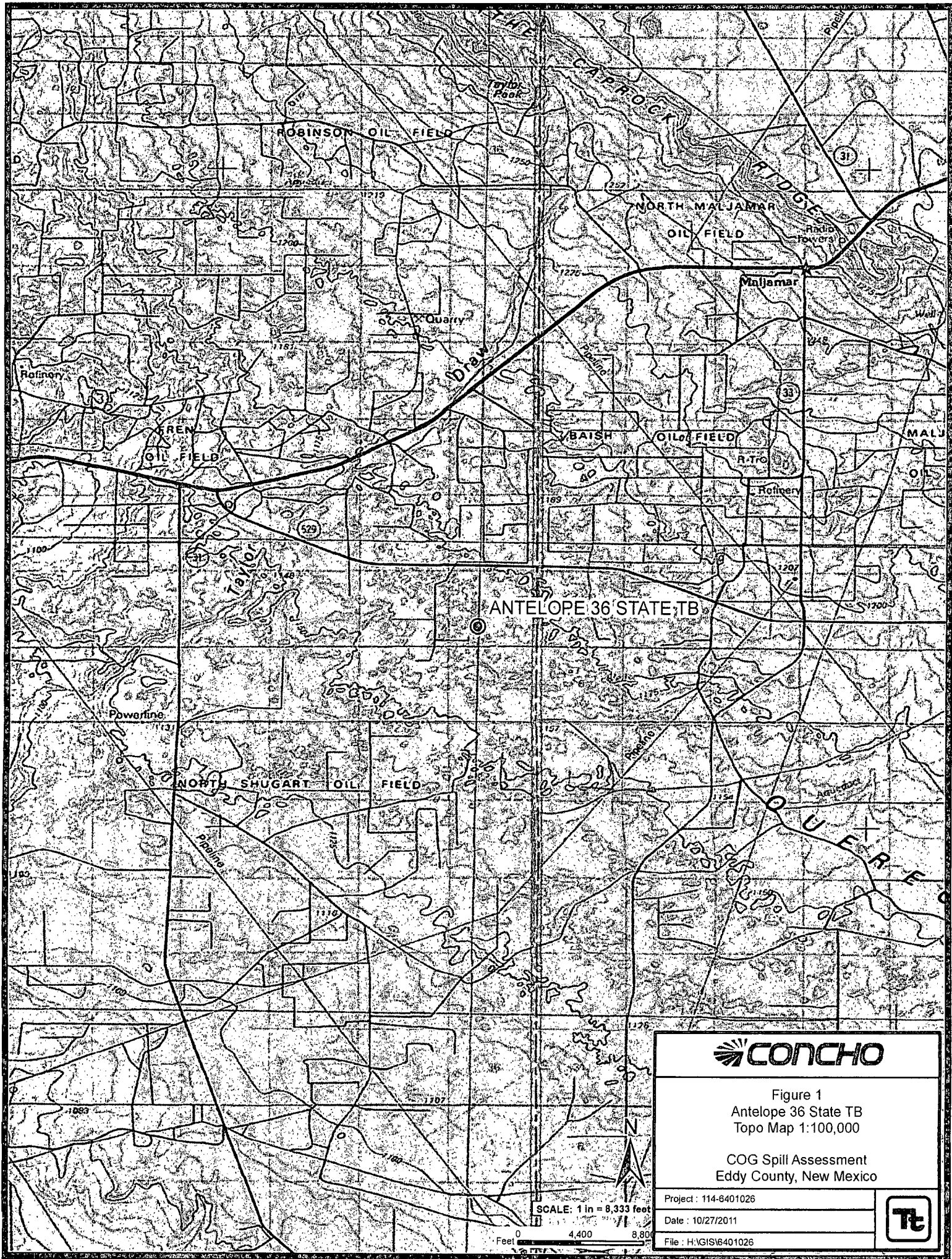


Figure 1
Antelope 36 State TB
Topo Map 1:100,000

COG Spill Assessment
Eddy County, New Mexico

Project : 114-8401026

Date : 10/27/2011

File : H:\GIS\6401026



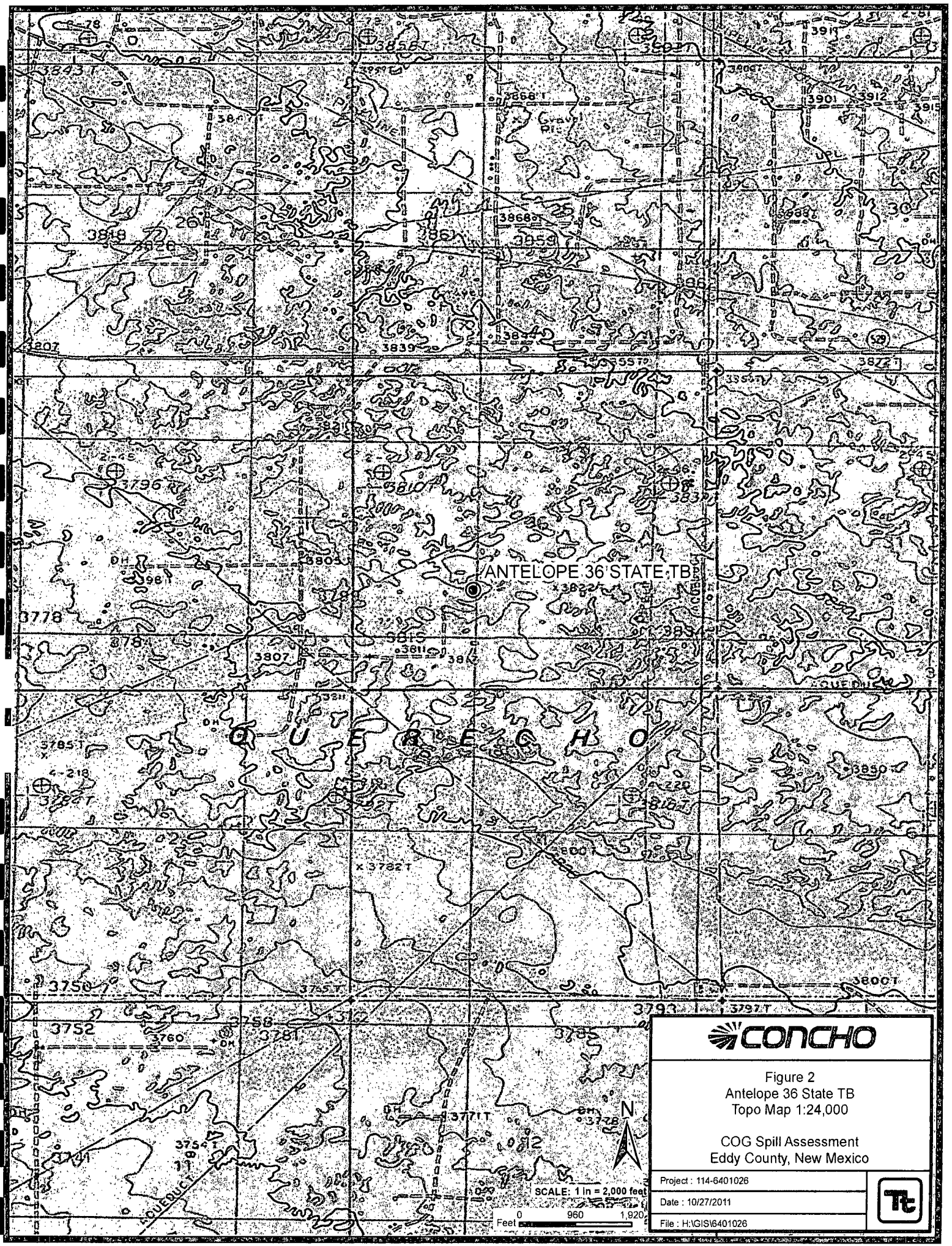


Figure 2
Antelope 36 State TB
Topo Map 1:24,000

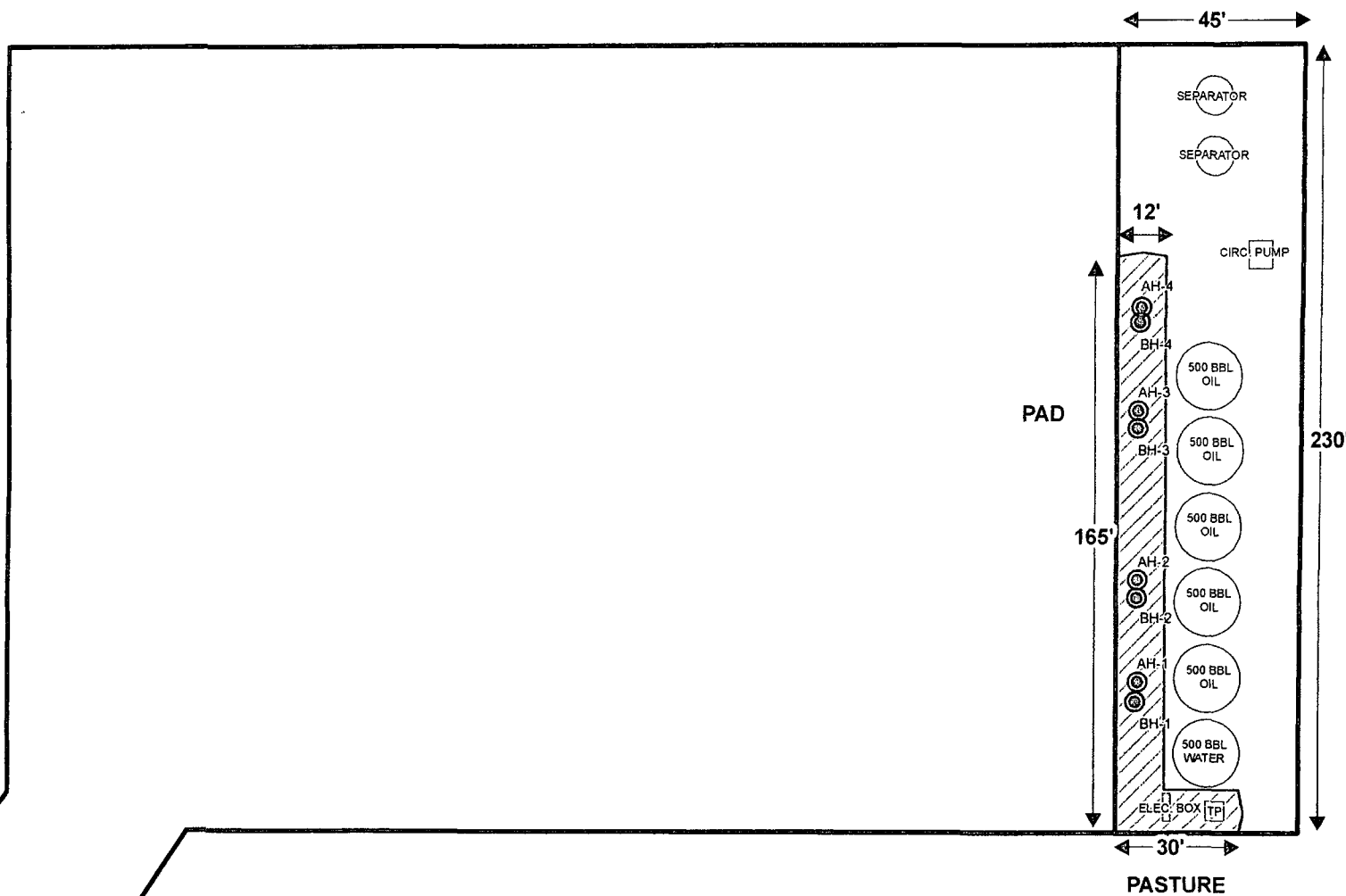
COG Spill Assessment
Eddy County, New Mexico

Project : 114-6401026

Date : 10/27/2011

File : H:\GIS\6401026





EXPLANATION

- ⊙ AUGER HOLE SAMPLE LOCATIONS
- ⊙ BORE HOLE SAMPLE LOCATIONS
-  SPILL AREA

SCALE: 1 IN = 60 FEET

Feet 0 25 50



Figure 3

Antelope 36 State TB
Spill Assessment Map

COG Spill Assessment
Eddy County, New Mexico

Project : 114-6401026

Date : 11/4/2011

File : H:\GIS\6401026



Tables

Table 1
COG Operating LLC
Antelope State Tank Battery
Eddy County, New Mexico

[illegible]

Table 1
COG Operating LLC
Antelope State Tank Battery
Eddy County, New Mexico

[illegible]

Table 1
COG Operating LLC
Antelope State Tank Battery
Eddy County, New Mexico

[illegible]

Table 1
COG Operating LLC
Antelope State Tank Battery
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-4	9/19/2011	0-1'	-	X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	7,630
	"	1-1.5'	-	X		-	-	-	-	-	-	-	-	1,380
	"	2-2.5'	-	X		-	-	-	-	-	-	-	-	1,890
	"	3-3.5'	-	X		-	-	-	-	-	-	-	-	1,230
	"	4-4.5'	-	X		-	-	-	-	-	-	-	-	5,170
	"	5-5.5'	-	X		-	-	-	-	-	-	-	-	6,410
	"	6-6.5'	-	X		-	-	-	-	-	-	-	-	6,970
	"	7-7.5'	-	X		-	-	-	-	-	-	-	-	15,300
BH-4	1/31/2012	0-1	-	X		-	-	-	-	-	-	-	-	7,610
	"	2-3	-	X		-	-	-	-	-	-	-	-	3,180
	"	4-5	-	X		-	-	-	-	-	-	-	-	1,580
	"	6-7	-	X		-	-	-	-	-	-	-	-	13,000
	"	9-10	-	X		-	-	-	-	-	-	-	-	<200
	"	14-15	-	X		-	-	-	-	-	-	-	-	377
	"	19-20	-	X		-	-	-	-	-	-	-	-	<200
	"	24-25	-	X		-	-	-	-	-	-	-	-	<200

(--) Not Analyzed

 Proposed Excavation Depths

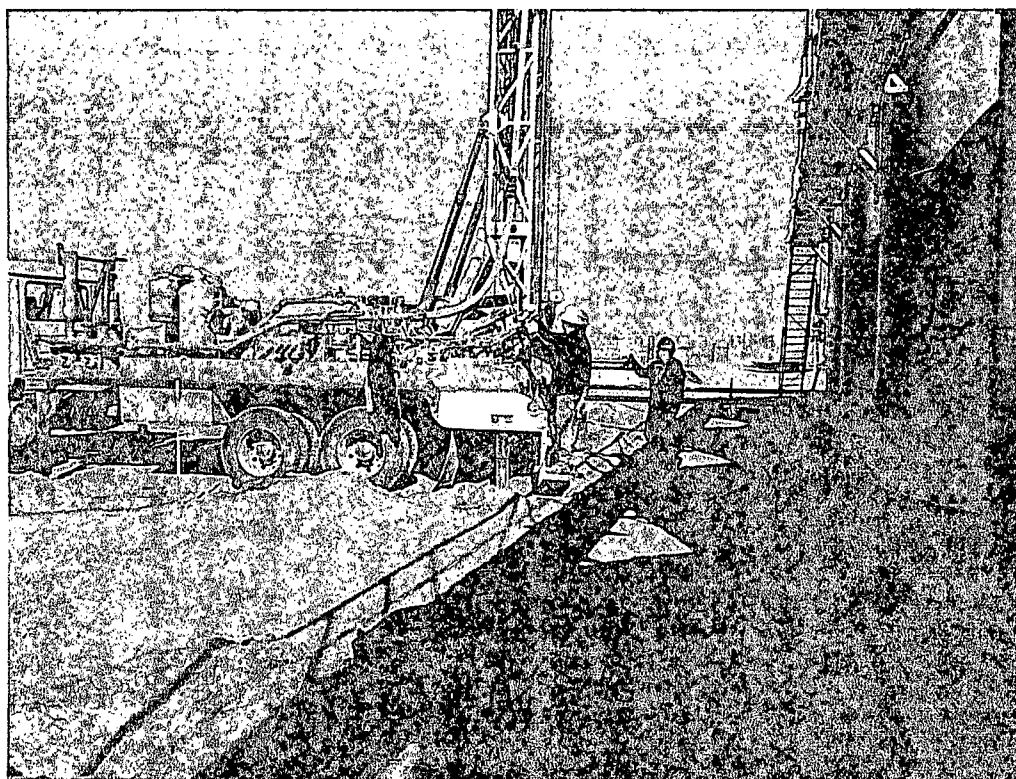
 40 mil liner or clay

Photos

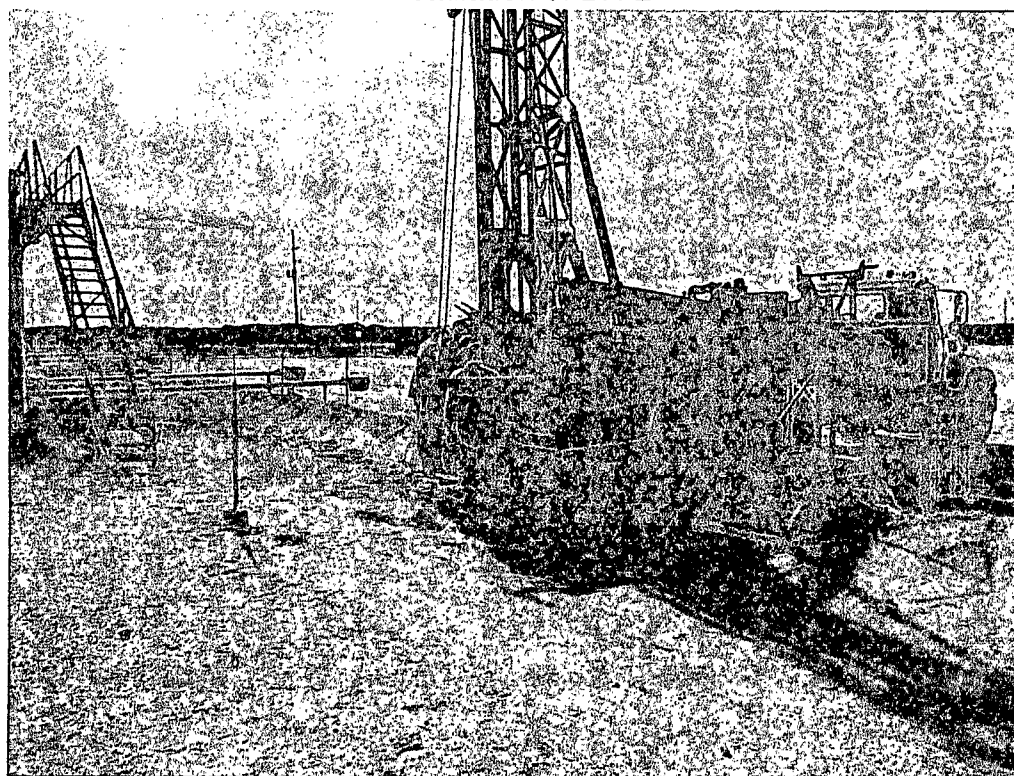
COG Operating LLC
Antelope State Tank Battery
Eddy County, New Mexico



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View north along front side of tank battery
Installation of BH-2

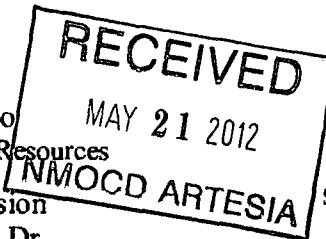


View south west Installation of BH-4

Appendix A

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

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505



1024
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	Antelope State Tank Battery	Facility Type	Tank Battery

Surface Owner	State	Mineral Owner	Lease No.	B-3627
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	36	17S	31E					Eddy

Latitude 32.7881 Longitude 103.8263

NATURE OF RELEASE

Type of Release	Produced fluid	Volume of Release	15bbls	Volume Recovered	13bbls
Source of Release	Water tank	Date and Hour of Occurrence	08/30/2011	Date and Hour of Discovery	08/30/2011 11:00 a.m.
Was Immediate Notice Given?	☐ Yes ☒ No ☒ Not Required	If YES, To Whom?			
By Whom?		Date and Hour			
Was a Watercourse Reached?	☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

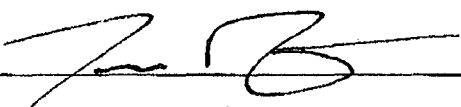
Describe Cause of Problem and Remedial Action Taken.*

Water hauling company did not keep up with water in tank causing the tank to overflow.

Describe Area Affected and Cleanup Action Taken.*

Initially 15bbls were released from the water tank and we were able to recover 13bbls with a vacuum truck. The spill area measured 6' x 60' in front of the water and oil tanks inside the tank battery. All fluid was contained inside the tank battery walls. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD prior to any significant remediation work.

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

Signature: 		OIL CONSERVATION DIVISION	
Printed Name: Josh Russo		Approved by District Supervisor:	
Title: HSE Coordinator		Approval Date:	Expiration Date:
E-mail Address: jrusso@conchoresources.com		Conditions of Approval:	
Date: 09/13/2011 Phone: 432-212-2399		Attached ☐	

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - Antelope State Tank Battery
Eddy County, New Mexico

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

16 South			31 East		
6	5	4	3	2	1
7	8	9	10	11	12
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			32 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			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			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	35	36

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

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

18 South			31 East		
6	5	4	3	2	1
7	8	9	10	11	12
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			32 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

Appendix C

Summary Report

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

Report Date: September 30, 2011

Work Order: 11092015

Project Location: Eddy Co., NM
Project Name: COG/Antelope State TB
Project Number: 114-6401026

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
277856	AH-1 0-1'	soil	2011-09-19	00:00	2011-09-20
277857	AH-1 1-1.5'	soil	2011-09-19	00:00	2011-09-20
277858	AH-1 2-2.5'	soil	2011-09-19	00:00	2011-09-20
277859	AH-1 3-3.5'	soil	2011-09-19	00:00	2011-09-20
277860	AH-1 4-4.5'	soil	2011-09-19	00:00	2011-09-20
277861	AH-1 5-5.5'	soil	2011-09-19	00:00	2011-09-20
277862	AH-1 6-6.5'	soil	2011-09-19	00:00	2011-09-20
277863	AH-2 0-1'	soil	2011-09-19	00:00	2011-09-20
277864	AH-2 1-1.5'	soil	2011-09-19	00:00	2011-09-20
277865	AH-2 2-2.5'	soil	2011-09-19	00:00	2011-09-20
277866	AH-2 3-3.5'	soil	2011-09-19	00:00	2011-09-20
277867	AH-2 4-4.5'	soil	2011-09-19	00:00	2011-09-20
277868	AH-2 5-5.5'	soil	2011-09-19	00:00	2011-09-20
277869	AH-2 6-6.5'	soil	2011-09-19	00:00	2011-09-20
277870	AH-3 0-1'	soil	2011-09-19	00:00	2011-09-20
277871	AH-3 1-1.5'	soil	2011-09-19	00:00	2011-09-20
277872	AH-3 2-2.5'	soil	2011-09-19	00:00	2011-09-20
277873	AH-3 3-3.5'	soil	2011-09-19	00:00	2011-09-20
277874	AH-3 4-4.5'	soil	2011-09-19	00:00	2011-09-20
277875	AH-3 5-5.5'	soil	2011-09-19	00:00	2011-09-20
277876	AH-3 6-6.5'	soil	2011-09-19	00:00	2011-09-20
277877	AH-3 7-7.5'	soil	2011-09-19	00:00	2011-09-20
277878	AH-4 0-1'	soil	2011-09-19	00:00	2011-09-20
277879	AH-4 1-1.5'	soil	2011-09-19	00:00	2011-09-20
277880	AH-4 2-2.5'	soil	2011-09-19	00:00	2011-09-20
277881	AH-4 3-3.5'	soil	2011-09-19	00:00	2011-09-20
277882	AH-4 4-4.5'	soil	2011-09-19	00:00	2011-09-20
277883	AH-4 5-5.5'	soil	2011-09-19	00:00	2011-09-20
277884	AH-4 6-6.5'	soil	2011-09-19	00:00	2011-09-20
277885	AH-4 7-7.5'	soil	2011-09-19	00:00	2011-09-20

Sample - Field Code	BTEX				TPH DRO - NEW	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
277856 - AH-1 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
277863 - AH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	278	<2.00
277870 - AH-3 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
277878 - AH-4 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00

Sample: 277856 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		4800	mg/Kg	4

Sample: 277857 - AH-1 1-1.5'

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

Sample: 277858 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		482	mg/Kg	4

Sample: 277859 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		1550	mg/Kg	4

Sample: 277860 - AH-1 4-4.5'

Param	Flag	Result	Units	RL
Chloride		4400	mg/Kg	4

Sample: 277861 - AH-1 5-5.5'

Param	Flag	Result	Units	RL
Chloride		10400	mg/Kg	4

Sample: 277862 - AH-1 6-6.5'

Param	Flag	Result	Units	RL
Chloride		24200	mg/Kg	4

Sample: 277863 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		6000	mg/Kg	4

Sample: 277864 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		9160	mg/Kg	4

Sample: 277865 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		5920	mg/Kg	4

Sample: 277866 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		4380	mg/Kg	4

Sample: 277867 - AH-2 4-4.5'

Param	Flag	Result	Units	RL
Chloride		3480	mg/Kg	4

Sample: 277868 - AH-2 5-5.5'

Param	Flag	Result	Units	RL
Chloride		633	mg/Kg	4

Sample: 277869 - AH-2 6-6.5'

Param	Flag	Result	Units	RL
Chloride		3870	mg/Kg	4

Sample: 277870 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		6190	mg/Kg	4

Sample: 277871 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		5140	mg/Kg	4

Sample: 277872 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		7110	mg/Kg	4

Sample: 277873 - AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		2450	mg/Kg	4

Sample: 277874 - AH-3 4-4.5'

Param	Flag	Result	Units	RL
Chloride		632	mg/Kg	4

Sample: 277875 - AH-3 5-5.5'

Param	Flag	Result	Units	RL
Chloride		1550	mg/Kg	4

Sample: 277876 - AH-3 6-6.5'

Param	Flag	Result	Units	RL
Chloride		1870	mg/Kg	4

Sample: 277877 - AH-3 7-7.5'

Param	Flag	Result	Units	RL
Chloride		5760	mg/Kg	4

Sample: 277878 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		7630	mg/Kg	4

Sample: 277879 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		1380	mg/Kg	4

Sample: 277880 - AH-4 2-2.5'

Param	Flag	Result	Units	RL
Chloride		1890	mg/Kg	4

Sample: 277881 - AH-4 3-3.5'

Param	Flag	Result	Units	RL
Chloride		1230	mg/Kg	4

Sample: 277882 - AH-4 4-4.5'

Param	Flag	Result	Units	RL
Chloride		5170	mg/Kg	4

Sample: 277883 - AH-4 5-5.5'

Param	Flag	Result	Units	RL
Chloride		6410	mg/Kg	4

Sample: 277884 - AH-4 6-6.5'

Param	Flag	Result	Units	RL
Chloride		6970	mg/Kg	4

Sample: 277885 - AH-4 7-7.5'

Param	Flag	Result	Units	RL
Chloride		15300	mg/Kg	4

Summary Report

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

Report Date: February 9, 2012

Work Order: 12020118

Project Location: Eddy Co., NM
Project Name: COG/Antelope State TB
Project Number: 114-6401026

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
287974	BH-1 @ AH-1 0-1'	soil	2012-01-31	00:00	2012-02-01
287975	BH-1 @ AH-1 2-3'	soil	2012-01-31	00:00	2012-02-01
287976	BH-1 @ AH-1 4-5'	soil	2012-01-31	00:00	2012-02-01
287977	BH-1 @ AH-1 6-7'	soil	2012-01-31	00:00	2012-02-01
287978	BH-1 @ AH-1 9-10'	soil	2012-01-31	00:00	2012-02-01
287979	BH-1 @ AH-1 14-15'	soil	2012-01-31	00:00	2012-02-01
287980	BH-1 @ AH-1 19-20'	soil	2012-01-31	00:00	2012-02-01
287981	BH-1 @ AH-1 24-25'	soil	2012-01-31	00:00	2012-02-01
287982	BH-1 @ AH-1 29-30'	soil	2012-01-31	00:00	2012-02-01
287983	BH-1 @ AH-1 39-40'	soil	2012-01-31	00:00	2012-02-01
287986	BH-2 @ AH-2 0-1'	soil	2012-01-31	00:00	2012-02-01
287987	BH-2 @ AH-2 2-3'	soil	2012-01-31	00:00	2012-02-01
287988	BH-2 @ AH-2 4-5'	soil	2012-01-31	00:00	2012-02-01
287989	BH-2 @ AH-2 6-7'	soil	2012-01-31	00:00	2012-02-01
287990	BH-2 @ AH-2 9-10'	soil	2012-01-31	00:00	2012-02-01
287991	BH-2 @ AH-2 14-15'	soil	2012-01-31	00:00	2012-02-01
287992	BH-2 @ AH-2 19-20'	soil	2012-01-31	00:00	2012-02-01
287993	BH-2 @ AH-2 24-25'	soil	2012-01-31	00:00	2012-02-01
287994	BH-2 @ AH-2 29-30'	soil	2012-01-31	00:00	2012-02-01
287995	BH-2 @ AH-2 39-40'	soil	2012-01-31	00:00	2012-02-01
287998	BH-3 @ AH-3 0-1'	soil	2012-01-31	00:00	2012-02-01
287999	BH-3 @ AH-3 2-3'	soil	2012-01-31	00:00	2012-02-01
288000	BH-3 @ AH-3 4-5'	soil	2012-01-31	00:00	2012-02-01
288001	BH-3 @ AH-3 6-7'	soil	2012-01-31	00:00	2012-02-01
288002	BH-3 @ AH-3 9-10'	soil	2012-01-31	00:00	2012-02-01
288003	BH-3 @ AH-3 14-15'	soil	2012-01-31	00:00	2012-02-01
288004	BH-3 @ AH-3 19-20'	soil	2012-01-31	00:00	2012-02-01
288005	BH-3 @ AH-3 24-25'	soil	2012-01-31	00:00	2012-02-01
288006	BH-3 @ AH-3 29-30'	soil	2012-01-31	00:00	2012-02-01
288007	BH-3 @ AH-3 39-40'	soil	2012-01-31	00:00	2012-02-01

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
288008	BH-4 @ AH-4 0-1'	soil	2012-01-31	00:00	2012-02-01
288009	BH-4 @ AH-4 2-3'	soil	2012-01-31	00:00	2012-02-01
288010	BH-4 @ AH-4 4-5'	soil	2012-01-31	00:00	2012-02-01
288011	BH-4 @ AH-4 6-7'	soil	2012-01-31	00:00	2012-02-01
288012	BH-4 @ AH-4 9-10'	soil	2012-01-31	00:00	2012-02-01
288013	BH-4 @ AH-4 14-15'	soil	2012-01-31	00:00	2012-02-01
288014	BH-4 @ AH-4 19-20'	soil	2012-01-31	00:00	2012-02-01
288015	BH-4 @ AH-4 24-25'	soil	2012-01-31	00:00	2012-02-01

Sample: 287974 - BH-1 @ AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		3760	mg/Kg	4

Sample: 287975 - BH-1 @ AH-1 2-3'

Param	Flag	Result	Units	RL
Chloride		1910	mg/Kg	4

Sample: 287976 - BH-1 @ AH-1 4-5'

Param	Flag	Result	Units	RL
Chloride		3610	mg/Kg	4

Sample: 287977 - BH-1 @ AH-1 6-7'

Param	Flag	Result	Units	RL
Chloride		14100	mg/Kg	4

Sample: 287978 - BH-1 @ AH-1 9-10'

Param	Flag	Result	Units	RL
Chloride		9410	mg/Kg	4

Sample: 287979 - BH-1 @ AH-1 14-15'

Param	Flag	Result	Units	RL
Chloride		1510	mg/Kg	4

Sample: 287980 - BH-1 @ AH-1 19-20'

Param	Flag	Result	Units	RL
Chloride		507	mg/Kg	4

Sample: 287981 - BH-1 @ AH-1 24-25'

Param	Flag	Result	Units	RL
Chloride		2570	mg/Kg	4

Sample: 287982 - BH-1 @ AH-1 29-30'

Param	Flag	Result	Units	RL
Chloride		474	mg/Kg	4

Sample: 287983 - BH-1 @ AH-1 39-40'

Param	Flag	Result	Units	RL
Chloride		388	mg/Kg	4

Sample: 287986 - BH-2 @ AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		5220	mg/Kg	4

Sample: 287987 - BH-2 @ AH-2 2-3'

Param	Flag	Result	Units	RL
Chloride		4130	mg/Kg	4

Sample: 287988 - BH-2 @ AH-2 4-5'

Param	Flag	Result	Units	RL
Chloride		1490	mg/Kg	4

Sample: 287989 - BH-2 @ AH-2 6-7'

Param	Flag	Result	Units	RL
Chloride		11400	mg/Kg	4

Sample: 287990 - BH-2 @ AH-2 9-10'

Param	Flag	Result	Units	RL
Chloride		778	mg/Kg	4

Sample: 287991 - BH-2 @ AH-2 14-15'

Param	Flag	Result	Units	RL
Chloride		232	mg/Kg	4

Sample: 287992 - BH-2 @ AH-2 19-20'

Param	Flag	Result	Units	RL
Chloride		232	mg/Kg	4

Sample: 287993 - BH-2 @ AH-2 24-25'

Param	Flag	Result	Units	RL
Chloride		246	mg/Kg	4

Sample: 287994 - BH-2 @ AH-2 29-30'

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

Sample: 287995 - BH-2 @ AH-2 39-40'

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

Sample: 287998 - BH-3 @ AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		4680	mg/Kg	4

Sample: 287999 - BH-3 @ AH-3 2-3'

Param	Flag	Result	Units	RL
Chloride		5160	mg/Kg	4

Sample: 288000 - BH-3 @ AH-3 4-5'

Param	Flag	Result	Units	RL
Chloride		2280	mg/Kg	4

Sample: 288001 - BH-3 @ AH-3 6-7'

Param	Flag	Result	Units	RL
Chloride		16700	mg/Kg	4

Sample: 288002 - BH-3 @ AH-3 9-10'

Param	Flag	Result	Units	RL
Chloride		1360	mg/Kg	4

Sample: 288003 - BH-3 @ AH-3 14-15'

Param	Flag	Result	Units	RL
Chloride		397	mg/Kg	4

Sample: 288004 - BH-3 @ AH-3 19-20'

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

Sample: 288005 - BH-3 @ AH-3 24-25'

Param	Flag	Result	Units	RL
Chloride		628	mg/Kg	4

Sample: 288006 - BH-3 @ AH-3 29-30'

Param	Flag	Result	Units	RL
Chloride		226	mg/Kg	4

Sample: 288007 - BH-3 @ AH-3 39-40'

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

Sample: 288008 - BH-4 @ AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		7610	mg/Kg	4

Sample: 288009 - BH-4 @ AH-4 2-3'

Param	Flag	Result	Units	RL
Chloride		3180	mg/Kg	4

Sample: 288010 - BH-4 @ AH-4 4-5'

Param	Flag	Result	Units	RL
Chloride		1580	mg/Kg	4

Sample: 288011 - BH-4 @ AH-4 6-7'

Param	Flag	Result	Units	RL
Chloride		13000	mg/Kg	4

Sample: 288012 - BH-4 @ AH-4 9-10'

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

Sample: 288013 - BH-4 @ AH-4 14-15'

Param	Flag	Result	Units	RL
Chloride		377	mg/Kg	4

Sample: 288014 - BH-4 @ AH-4 19-20'

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

Sample: 288015 - BH-4 @ AH-4 24-25'

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



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Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: September 30, 2011

Work Order: 11092015

Project Location: Eddy Co., NM
Project Name: COG/Antelope State TB
Project Number: 114-6401026

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
277856	AH-1 0-1'	soil	2011-09-19	00:00	2011-09-20
277857	AH-1 1-1.5'	soil	2011-09-19	00:00	2011-09-20
277858	AH-1 2-2.5'	soil	2011-09-19	00:00	2011-09-20
277859	AH-1 3-3.5'	soil	2011-09-19	00:00	2011-09-20
277860	AH-1 4-4.5'	soil	2011-09-19	00:00	2011-09-20
277861	AH-1 5-5.5'	soil	2011-09-19	00:00	2011-09-20
277862	AH-1 6-6.5'	soil	2011-09-19	00:00	2011-09-20
277863	AH-2 0-1'	soil	2011-09-19	00:00	2011-09-20
277864	AH-2 1-1.5'	soil	2011-09-19	00:00	2011-09-20
277865	AH-2 2-2.5'	soil	2011-09-19	00:00	2011-09-20
277866	AH-2 3-3.5'	soil	2011-09-19	00:00	2011-09-20
277867	AH-2 4-4.5'	soil	2011-09-19	00:00	2011-09-20
277868	AH-2 5-5.5'	soil	2011-09-19	00:00	2011-09-20
277869	AH-2 6-6.5'	soil	2011-09-19	00:00	2011-09-20
277870	AH-3 0-1'	soil	2011-09-19	00:00	2011-09-20
277871	AH-3 1-1.5'	soil	2011-09-19	00:00	2011-09-20
277872	AH-3 2-2.5'	soil	2011-09-19	00:00	2011-09-20
277873	AH-3 3-3.5'	soil	2011-09-19	00:00	2011-09-20

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
277874	AH-3 4-4.5'	soil	2011-09-19	00:00	2011-09-20
277875	AH-3 5-5.5'	soil	2011-09-19	00:00	2011-09-20
277876	AH-3 6-6.5'	soil	2011-09-19	00:00	2011-09-20
277877	AH-3 7-7.5'	soil	2011-09-19	00:00	2011-09-20
277878	AH-4 0-1'	soil	2011-09-19	00:00	2011-09-20
277879	AH-4 1-1.5'	soil	2011-09-19	00:00	2011-09-20
277880	AH-4 2-2.5'	soil	2011-09-19	00:00	2011-09-20
277881	AH-4 3-3.5'	soil	2011-09-19	00:00	2011-09-20
277882	AH-4 4-4.5'	soil	2011-09-19	00:00	2011-09-20
277883	AH-4 5-5.5'	soil	2011-09-19	00:00	2011-09-20
277884	AH-4 6-6.5'	soil	2011-09-19	00:00	2011-09-20
277885	AH-4 7-7.5'	soil	2011-09-19	00:00	2011-09-20

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



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

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Sample 277862 (AH-1 6-6.5')	9
Sample 277863 (AH-2 0-1')	9
Sample 277864 (AH-2 1-1.5')	10
Sample 277865 (AH-2 2-2.5')	11
Sample 277866 (AH-2 3-3.5')	11
Sample 277867 (AH-2 4-4.5')	11
Sample 277868 (AH-2 5-5.5')	11
Sample 277869 (AH-2 6-6.5')	12
Sample 277870 (AH-3 0-1')	12
Sample 277871 (AH-3 1-1.5')	13
Sample 277872 (AH-3 2-2.5')	14
Sample 277873 (AH-3 3-3.5')	14
Sample 277874 (AH-3 4-4.5')	14
Sample 277875 (AH-3 5-5.5')	15
Sample 277876 (AH-3 6-6.5')	15
Sample 277877 (AH-3 7-7.5')	15
Sample 277878 (AH-4 0-1')	15
Sample 277879 (AH-4 1-1.5')	17
Sample 277880 (AH-4 2-2.5')	17
Sample 277881 (AH-4 3-3.5')	17
Sample 277882 (AH-4 4-4.5')	18
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Case Narrative

Samples for project COG/Antelope State TB were received by TraceAnalysis, Inc. on 2011-09-20 and assigned to work order 11092015. Samples for work order 11092015 were received intact at a temperature of 9.9 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	72160	2011-09-22 at 10:00	84974	2011-09-23 at 17:40
Chloride (Titration)	SM 4500-Cl B	72245	2011-09-27 at 10:20	85096	2011-09-28 at 15:07
Chloride (Titration)	SM 4500-Cl B	72245	2011-09-27 at 10:20	85098	2011-09-28 at 15:22
Chloride (Titration)	SM 4500-Cl B	72245	2011-09-27 at 10:20	85100	2011-09-28 at 15:27
Chloride (Titration)	SM 4500-Cl B	72245	2011-09-27 at 10:20	85101	2011-09-28 at 15:34
TPH DRO - NEW	S 8015 D	72153	2011-09-22 at 15:12	84963	2011-09-22 at 15:12
TPH GRO	S 8015 D	72160	2011-09-22 at 10:00	84975	2011-09-22 at 18:06

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 11092015 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.

Samples on ice.

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

Report Date: September 30, 2011
114-6401026

Work Order: 11092015
COG/Antelope State TB

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Analytical Report

Sample: 277856 - AH-1 0-1'

Laboratory: Midland
Analysis: BTEX
QC Batch: 84974
Prep Batch: 72160

Analytical Method: S 8021B
Date Analyzed: 2011-09-23
Sample Preparation: 2011-09-22

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.78	mg/Kg	1	2.00	139	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			2.79	mg/Kg	1	2.00	140	70.6 - 179

Sample: 277856 - AH-1 0-1'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 85096
Prep Batch: 72245

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-09-28
Sample Preparation: 2011-09-28

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			4800	mg/Kg	100	4.00

Sample: 277856 - AH-1 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 84963
Prep Batch: 72153

Analytical Method: S 8015 D
Date Analyzed: 2011-09-22
Sample Preparation: 2011-09-22

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

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

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Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			84.9	mg/Kg	1	100	85	67.5 - 147.1

Sample: 277856 - AH-1 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 84975
Prep Batch: 72160

Analytical Method: S 8015 D
Date Analyzed: 2011-09-22
Sample Preparation: 2011-09-22

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.29	mg/Kg	1	2.00	114	30 - 134.6
4-Bromofluorobenzene (4-BFB)			1.63	mg/Kg	1	2.00	82	22.4 - 149

Sample: 277857 - AH-1 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 85096
Prep Batch: 72245

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-09-28
Sample Preparation: 2011-09-28

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

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

Sample: 277858 - AH-1 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 85096
Prep Batch: 72245

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-09-28
Sample Preparation: 2011-09-28

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

continued ...

Report Date: September 30, 2011
114-6401026

Work Order: 11092015
COG/Antelope State TB

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Eddy Co., NM

sample 277858 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			482	mg/Kg	50	4.00

Sample: 277859 - AH-1 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 85096 Date Analyzed: 2011-09-28 Analyzed By: AR
Prep Batch: 72245 Sample Preparation: 2011-09-28 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1550	mg/Kg	100	4.00

Sample: 277860 - AH-1 4-4.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 85096 Date Analyzed: 2011-09-28 Analyzed By: AR
Prep Batch: 72245 Sample Preparation: 2011-09-28 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			4400	mg/Kg	100	4.00

Sample: 277861 - AH-1 5-5.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 85098 Date Analyzed: 2011-09-28 Analyzed By: AR
Prep Batch: 72245 Sample Preparation: 2011-09-28 Prepared By: AR

Report Date: September 30, 2011
114-6401026

Work Order: 11092015
COG/Antelope State TB

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

Sample: 277862 - AH-1 6-6.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 85098 Date Analyzed: 2011-09-28 Analyzed By: AR
Prep Batch: 72245 Sample Preparation: 2011-09-28 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			24200	mg/Kg	100	4.00

Sample: 277863 - AH-2 0-1'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 84974 Date Analyzed: 2011-09-23 Analyzed By: AG
Prep Batch: 72160 Sample Preparation: 2011-09-22 Prepared By: AG

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.35	mg/Kg	1	2.00	118	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			2.45	mg/Kg	1	2.00	122	70.6 - 179

Sample: 277863 - AH-2 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 85098 Date Analyzed: 2011-09-28 Analyzed By: AR
Prep Batch: 72245 Sample Preparation: 2011-09-28 Prepared By: AR

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

Sample: 277863 - AH-2 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 84963
Prep Batch: 72153

Analytical Method: S 8015 D
Date Analyzed: 2011-09-22
Sample Preparation: 2011-09-22

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO			278	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			93.2	mg/Kg	1	100	93	67.5 - 147.1

Sample: 277863 - AH-2 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 84975
Prep Batch: 72160

Analytical Method: S 8015 D
Date Analyzed: 2011-09-22
Sample Preparation: 2011-09-22

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.93	mg/Kg	1	2.00	96	30 - 134.6
4-Bromofluorobenzene (4-BFB)			1.40	mg/Kg	1	2.00	70	22.4 - 149

Sample: 277864 - AH-2 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 85098
Prep Batch: 72245

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-09-28
Sample Preparation: 2011-09-28

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

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			9160	mg/Kg	100	4.00

Sample: 277865 - AH-2 2-2.5'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 85098

Prep Batch: 72245

Analytical Method: SM 4500-Cl B

Date Analyzed: 2011-09-28

Sample Preparation: 2011-09-28

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			5920	mg/Kg	100	4.00

Sample: 277866 - AH-2 3-3.5'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 85098

Prep Batch: 72245

Analytical Method: SM 4500-Cl B

Date Analyzed: 2011-09-28

Sample Preparation: 2011-09-28

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			4380	mg/Kg	100	4.00

Sample: 277867 - AH-2 4-4.5'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 85098

Prep Batch: 72245

Analytical Method: SM 4500-Cl B

Date Analyzed: 2011-09-28

Sample Preparation: 2011-09-28

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			3480	mg/Kg	100	4.00

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Sample: 277868 - AH-2 5-5.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-09-28	Analyzed By:	AR
QC Batch:	85098	Sample Preparation:	2011-09-28	Prepared By:	AR
Prep Batch:	72245				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			633	mg/Kg	50	4.00

Sample: 277869 - AH-2 6-6.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-09-28	Analyzed By:	AR
QC Batch:	85098	Sample Preparation:	2011-09-28	Prepared By:	AR
Prep Batch:	72245				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			3870	mg/Kg	100	4.00

Sample: 277870 - AH-3 0-1'

Laboratory:	Midland	Analytical Method:	S 8021B	Prep Method:	S 5035
Analysis:	BTEX	Date Analyzed:	2011-09-23	Analyzed By:	AG
QC Batch:	84974	Sample Preparation:	2011-09-22	Prepared By:	AG
Prep Batch:	72160				

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.55	mg/Kg	1	2.00	128	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			2.68	mg/Kg	1	2.00	134	70.6 - 179

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Sample: 277870 - AH-3 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 85098 Date Analyzed: 2011-09-28 Analyzed By: AR
Prep Batch: 72245 Sample Preparation: 2011-09-28 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			6190	mg/Kg	100	4.00

Sample: 277870 - AH-3 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 84963 Date Analyzed: 2011-09-22 Analyzed By: kg
Prep Batch: 72153 Sample Preparation: 2011-09-22 Prepared By: kg

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			81.6	mg/Kg	1	100	82	67.5 - 147.1

Sample: 277870 - AH-3 0-1'

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 84975 Date Analyzed: 2011-09-22 Analyzed By: AG
Prep Batch: 72160 Sample Preparation: 2011-09-22 Prepared By: AG

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.09	mg/Kg	1	2.00	104	30 - 134.6
4-Bromofluorobenzene (4-BFB)			1.54	mg/Kg	1	2.00	77	22.4 - 149

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Sample: 277871 - AH-3 1-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-09-28	Analyzed By:	AR
QC Batch:	85100	Sample Preparation:	2011-09-28	Prepared By:	AR
Prep Batch:	72245				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			5140	mg/Kg	100	4.00

Sample: 277872 - AH-3 2-2.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-09-28	Analyzed By:	AR
QC Batch:	85100	Sample Preparation:	2011-09-28	Prepared By:	AR
Prep Batch:	72245				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			7110	mg/Kg	100	4.00

Sample: 277873 - AH-3 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-09-28	Analyzed By:	AR
QC Batch:	85100	Sample Preparation:	2011-09-28	Prepared By:	AR
Prep Batch:	72245				

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

Sample: 277874 - AH-3 4-4.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-09-28	Analyzed By:	AR
QC Batch:	85100	Sample Preparation:	2011-09-28	Prepared By:	AR
Prep Batch:	72245				

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			632	mg/Kg	50	4.00

Sample: 277875 - AH-3 5-5.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 85100 Date Analyzed: 2011-09-28 Analyzed By: AR
Prep Batch: 72245 Sample Preparation: 2011-09-28 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1550	mg/Kg	100	4.00

Sample: 277876 - AH-3 6-6.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 85100 Date Analyzed: 2011-09-28 Analyzed By: AR
Prep Batch: 72245 Sample Preparation: 2011-09-28 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1870	mg/Kg	100	4.00

Sample: 277877 - AH-3 7-7.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 85100 Date Analyzed: 2011-09-28 Analyzed By: AR
Prep Batch: 72245 Sample Preparation: 2011-09-28 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			5760	mg/Kg	100	4.00

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Sample: 277878 - AH-4 0-1'

Laboratory: Midland

Analysis: BTEX

QC Batch: 84974

Prep Batch: 72160

Analytical Method: S 8021B

Date Analyzed: 2011-09-23

Sample Preparation: 2011-09-22

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.68	mg/Kg	1	2.00	134	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			2.84	mg/Kg	1	2.00	142	70.6 - 179

Sample: 277878 - AH-4 0-1'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 85100

Prep Batch: 72245

Analytical Method: SM 4500-Cl B

Date Analyzed: 2011-09-28

Sample Preparation: 2011-09-28

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL	Units	Dilution	RL
			Result			
Chloride			7630	mg/Kg	100	4.00

Sample: 277878 - AH-4 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 84963

Prep Batch: 72153

Analytical Method: S 8015 D

Date Analyzed: 2011-09-22

Sample Preparation: 2011-09-22

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			83.9	mg/Kg	1	100	84	67.5 - 147.1

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Sample: 277878 - AH-4 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 84975
Prep Batch: 72160

Analytical Method: S 8015 D
Date Analyzed: 2011-09-22
Sample Preparation: 2011-09-22

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.20	mg/Kg	1	2.00	110	30 - 134.6
4-Bromofluorobenzene (4-BFB)			1.62	mg/Kg	1	2.00	81	22.4 - 149

Sample: 277879 - AH-4 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 85100
Prep Batch: 72245

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-09-28
Sample Preparation: 2011-09-28

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1380	mg/Kg	100	4.00

Sample: 277880 - AH-4 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 85100
Prep Batch: 72245

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-09-28
Sample Preparation: 2011-09-28

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1890	mg/Kg	100	4.00

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Sample: 277881 - AH-4 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-09-28	Analyzed By:	AR
QC Batch:	85101	Sample Preparation:	2011-09-28	Prepared By:	AR
Prep Batch:	72245				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1230	mg/Kg	100	4.00

Sample: 277882 - AH-4 4-4.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-09-28	Analyzed By:	AR
QC Batch:	85101	Sample Preparation:	2011-09-28	Prepared By:	AR
Prep Batch:	72245				

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

Sample: 277883 - AH-4 5-5.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-09-28	Analyzed By:	AR
QC Batch:	85101	Sample Preparation:	2011-09-28	Prepared By:	AR
Prep Batch:	72245				

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

Sample: 277884 - AH-4 6-6.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-09-28	Analyzed By:	AR
QC Batch:	85101	Sample Preparation:	2011-09-28	Prepared By:	AR
Prep Batch:	72245				

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			6970	mg/Kg	100	4.00

Sample: 277885 - AH-4 7-7.5'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 85101

Prep Batch: 72245

Analytical Method: SM 4500-Cl B

Date Analyzed: 2011-09-28

Sample Preparation: 2011-09-28

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			15300	mg/Kg	100	4.00

Method Blanks

Method Blank (1) QC Batch: 84963

QC Batch: 84963 Date Analyzed: 2011-09-22 Analyzed By: kg
Prep Batch: 72153 QC Preparation: 2011-09-22 Prepared By: kg

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			78.6	mg/Kg	1	100	79	52.7 - 133.8

Method Blank (1) QC Batch: 84974

QC Batch: 84974 Date Analyzed: 2011-09-23 Analyzed By: AG
Prep Batch: 72160 QC Preparation: 2011-09-22 Prepared By: ME

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.0118	mg/Kg	0.02
Toluene		1	<0.00600	mg/Kg	0.02
Ethylbenzene		1	<0.00850	mg/Kg	0.02
Xylene		1	<0.00613	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.01	mg/Kg	1	2.00	100	65.9 - 111.8
4-Bromofluorobenzene (4-BFB)			1.73	mg/Kg	1	2.00	86	48.4 - 123.1

Method Blank (1) QC Batch: 84975

QC Batch: 84975 Date Analyzed: 2011-09-22 Analyzed By: AG
Prep Batch: 72160 QC Preparation: 2011-09-22 Prepared By: ME

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Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	0.811	mg/Kg	2

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.66	mg/Kg	1	2.00	83	67.6 - 150
4-Bromofluorobenzene (4-BFB)			1.07	mg/Kg	1	2.00	54	52.4 - 130

Method Blank (1) QC Batch: 85096

QC Batch: 85096 Date Analyzed: 2011-09-28 Analyzed By: AR
Prep Batch: 72245 QC Preparation: 2011-09-27 Prepared By: AR

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

Method Blank (1) QC Batch: 85098

QC Batch: 85098 Date Analyzed: 2011-09-28 Analyzed By: AR
Prep Batch: 72245 QC Preparation: 2011-09-27 Prepared By: AR

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

Method Blank (1) QC Batch: 85100

QC Batch: 85100 Date Analyzed: 2011-09-28 Analyzed By: AR
Prep Batch: 72245 QC Preparation: 2011-09-27 Prepared By: AR

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

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Method Blank (1) QC Batch: 85101

QC Batch: 85101
Prep Batch: 72245

Date Analyzed: 2011-09-28
QC Preparation: 2011-09-27

Analyzed By: AR
Prepared By: AR

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

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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 84963
Prep Batch: 72153

Date Analyzed: 2011-09-22
QC Preparation: 2011-09-22

Analyzed By: kg
Prepared By: kg

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	205	mg/Kg	1	250	<14.5	82	64.5 - 146.9

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	214	mg/Kg	1	250	<14.5	86	64.5 - 146.9	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	79.9	81.4	mg/Kg	1	100	80	81	65.3 - 135.8

Laboratory Control Spike (LCS-1)

QC Batch: 84974
Prep Batch: 72160

Date Analyzed: 2011-09-23
QC Preparation: 2011-09-22

Analyzed By: AG
Prepared By: ME

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.97	mg/Kg	1	2.00	<0.0118	98	77.4 - 121.7
Toluene		1	1.94	mg/Kg	1	2.00	<0.00600	97	88.6 - 121.6
Ethylbenzene		1	1.98	mg/Kg	1	2.00	<0.00850	99	74.3 - 117.9
Xylene		1	5.89	mg/Kg	1	6.00	<0.00613	98	73.4 - 118.8

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.10	mg/Kg	1	2.00	<0.0118	105	77.4 - 121.7	6	20
Toluene		1	2.08	mg/Kg	1	2.00	<0.00600	104	88.6 - 121.6	7	20
Ethylbenzene		1	2.14	mg/Kg	1	2.00	<0.00850	107	74.3 - 117.9	8	20
Xylene		1	6.44	mg/Kg	1	6.00	<0.00613	107	73.4 - 118.8	9	20

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

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114-6401026

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Eddy Co., NM

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.06	2.14	mg/Kg	1	2.00	103	107	65.5 - 116.7
4-Bromofluorobenzene (4-BFB)	2.15	2.26	mg/Kg	1	2.00	108	113	56.2 - 132.1

Laboratory Control Spike (LCS-1)

QC Batch: 84975
Prep Batch: 72160

Date Analyzed: 2011-09-22
QC Preparation: 2011-09-22

Analyzed By: AG
Prepared By: ME

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	17.2	mg/Kg	1	20.0	<0.753	86	60.9 - 95.4

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	17.6	mg/Kg	1	20.0	<0.753	88	60.9 - 95.4	2	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.83	1.57	mg/Kg	1	2.00	92	78	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.34	1.13	mg/Kg	1	2.00	67	56	56.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 85096
Prep Batch: 72245

Date Analyzed: 2011-09-28
QC Preparation: 2011-09-27

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			95.3	mg/Kg	1	100	<3.85	95	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			106	mg/Kg	1	100	<3.85	106	85 - 115	11	20

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

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114-6401026

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Eddy Co., NM

Laboratory Control Spike (LCS-1)

QC Batch: 85098
Prep Batch: 72245

Date Analyzed: 2011-09-28
QC Preparation: 2011-09-27

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			95.8	mg/Kg	1	100	<3.85	96	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			104	mg/Kg	1	100	<3.85	104	85 - 115	8	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 85100
Prep Batch: 72245

Date Analyzed: 2011-09-28
QC Preparation: 2011-09-27

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			94.2	mg/Kg	1	100	<3.85	94	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			101	mg/Kg	1	100	<3.85	101	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: 85101
Prep Batch: 72245

Date Analyzed: 2011-09-28
QC Preparation: 2011-09-27

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			95.4	mg/Kg	1	100	<3.85	95	85 - 115

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

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114-6401026

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Eddy Co., NM

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			106	mg/Kg	1	100	<3.85	106	85 - 115	10	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: 277878

QC Batch: 84963 Date Analyzed: 2011-09-22 Analyzed By: kg
Prep Batch: 72153 QC Preparation: 2011-09-22 Prepared By: kg

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO			201	mg/Kg	1	250	<14.5	80	38.8 - 153.3

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO			194	mg/Kg	1	250	<14.5	78	38.8 - 153.3	4	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	81.0	80.9	mg/Kg	1	100	81	81	54.6 - 149.8

Matrix Spike (MS-1) Spiked Sample: 277878

QC Batch: 84974 Date Analyzed: 2011-09-23 Analyzed By: AG
Prep Batch: 72160 QC Preparation: 2011-09-22 Prepared By: ME

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene			1.69	mg/Kg	1	2.00	<0.0118	84	69.4 - 123.6
Toluene			1.77	mg/Kg	1	2.00	<0.00600	88	75.4 - 134.3
Ethylbenzene			1.96	mg/Kg	1	2.00	<0.00850	98	58.8 - 133.7
Xylene			5.82	mg/Kg	1	6.00	<0.00613	97	57 - 134.2

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene			1.95	mg/Kg	1	2.00	<0.0118	98	69.4 - 123.6	14	20
Toluene			2.04	mg/Kg	1	2.00	<0.00600	102	75.4 - 134.3	14	20

continued ...

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matrix spikes continued ...

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Ethylbenzene		1	2.28	mg/Kg	1	2.00	<0.00850	114	58.8 - 133.7	15	20
Xylene		1	6.75	mg/Kg	1	6.00	<0.00613	112	57 - 134.2	15	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)	2.42	2.63	mg/Kg	1	2	121	132	79.4 - 141.1
4-Bromofluorobenzene (4-BFB)	2.70	2.86	mg/Kg	1	2	135	143	71 - 167

Matrix Spike (MS-1) Spiked Sample: 277870

QC Batch: 84975
Prep Batch: 72160

Date Analyzed: 2011-09-22
QC Preparation: 2011-09-22

Analyzed By: AG
Prepared By: ME

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	19.8	mg/Kg	1	20.0	1.1724	93	61.8 - 114

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	20.0	mg/Kg	1	20.0	1.1724	94	61.8 - 114	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.14	1.99	mg/Kg	1	2	107	100	29.4 - 161.7
4-Bromofluorobenzene (4-BFB)	1.77	1.69	mg/Kg	1	2	88	84	37.3 - 162

Matrix Spike (MS-1) Spiked Sample: 277860

QC Batch: 85096
Prep Batch: 72245

Date Analyzed: 2011-09-28
QC Preparation: 2011-09-27

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			13900	mg/Kg	100	10000	4400	95	79.4 - 120.6

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

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Param	F	C	MSD		Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
			Result	Units							
Chloride			14600	mg/Kg	100	10000	4400	102	79.4 - 120.6	5	20

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

Matrix Spike (MS-1) Spiked Sample: 277870

QC Batch: 85098
Prep Batch: 72245

Date Analyzed: 2011-09-28
QC Preparation: 2011-09-27

Analyzed By: AR
Prepared By: AR

Param	F	C	MS		Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
			Result	Units					
Chloride			16600	mg/Kg	100	10000	6190	104	79.4 - 120.6

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

Param	F	C	MSD		Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
			Result	Units							
Chloride			17000	mg/Kg	100	10000	6190	108	79.4 - 120.6	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: 277880

QC Batch: 85100
Prep Batch: 72245

Date Analyzed: 2011-09-28
QC Preparation: 2011-09-27

Analyzed By: AR
Prepared By: AR

Param	F	C	MS		Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
			Result	Units					
Chloride			11900	mg/Kg	100	10000	1890	100	79.4 - 120.6

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

Param	F	C	MSD		Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
			Result	Units							
Chloride			12400	mg/Kg	100	10000	1890	105	79.4 - 120.6	4	20

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

Matrix Spike (MS-1) Spiked Sample: 278038

QC Batch: 85101
Prep Batch: 72245

Date Analyzed: 2011-09-28
QC Preparation: 2011-09-27

Analyzed By: AR
Prepared By: AR

Report Date: September 30, 2011
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Eddy Co., NM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10100	mg/Kg	100	10000	<385	101	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			10800	mg/Kg	100	10000	<385	108	79.4 - 120.6	7	20

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

Calibration Standards

Standard (CCV-2)

QC Batch: 84963

Date Analyzed: 2011-09-22

Analyzed By: kg

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	238	95	80 - 120	2011-09-22

Standard (CCV-3)

QC Batch: 84963

Date Analyzed: 2011-09-22

Analyzed By: kg

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	212	85	80 - 120	2011-09-22

Standard (CCV-2)

QC Batch: 84974

Date Analyzed: 2011-09-23

Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.102	102	80 - 120	2011-09-23
Toluene		1	mg/Kg	0.100	0.100	100	80 - 120	2011-09-23
Ethylbenzene		1	mg/Kg	0.100	0.104	104	80 - 120	2011-09-23
Xylene		1	mg/Kg	0.300	0.307	102	80 - 120	2011-09-23

Standard (CCV-3)

QC Batch: 84974

Date Analyzed: 2011-09-23

Analyzed By: AG

Report Date: September 30, 2011
114-6401026

Work Order: 11092015
COG/Antelope State TB

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Eddy Co., NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.104	104	80 - 120	2011-09-23
Toluene		1	mg/Kg	0.100	0.102	102	80 - 120	2011-09-23
Ethylbenzene		1	mg/Kg	0.100	0.106	106	80 - 120	2011-09-23
Xylene		1	mg/Kg	0.300	0.315	105	80 - 120	2011-09-23

Standard (CCV-2)

QC Batch: 84975

Date Analyzed: 2011-09-22

Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.04	104	80 - 120	2011-09-22

Standard (CCV-3)

QC Batch: 84975

Date Analyzed: 2011-09-22

Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.07	107	80 - 120	2011-09-22

Standard (ICV-1)

QC Batch: 85096

Date Analyzed: 2011-09-28

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	102	102	85 - 115	2011-09-28

Standard (CCV-1)

QC Batch: 85096

Date Analyzed: 2011-09-28

Analyzed By: AR

Report Date: September 30, 2011
114-6401026

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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	98.3	98	85 - 115	2011-09-28

Standard (ICV-1)

QC Batch: 85098

Date Analyzed: 2011-09-28

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2011-09-28

Standard (CCV-1)

QC Batch: 85098

Date Analyzed: 2011-09-28

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2011-09-28

Standard (ICV-1)

QC Batch: 85100

Date Analyzed: 2011-09-28

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	98.7	99	85 - 115	2011-09-28

Standard (CCV-1)

QC Batch: 85100

Date Analyzed: 2011-09-28

Analyzed By: AR

Report Date: September 30, 2011
114-6401026

Work Order: 11092015
COG/Antelope State TB

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Eddy Co., NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2011-09-28

Standard (ICV-1)

QC Batch: 85101

Date Analyzed: 2011-09-28

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2011-09-28

Standard (CCV-1)

QC Batch: 85101

Date Analyzed: 2011-09-28

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.3	99	85 - 115	2011-09-28

Appendix

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-10-TX	Midland

Standard Flags

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

Attachments

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

Analysis Request of Chain of Custody Record



TETRA TECH

1910 N. Big Spring St.

Midland, Texas 79705

(432) 682-4559 • Fax (432) 682-3946

PAGE: 1 OF: 3

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:

COG

SITE MANAGER:

Ike Tavaraz

PROJECT NO.:

114-6401026

PROJECT NAME:

COG / Antelope State TB

Eddy Co, NM

SAMPLE IDENTIFICATION

LAB I.D. NUMBER

DATE

TIME

MATRIX

COMP

GRAB

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 Cr Pb 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

277856

9/19

S

X

AH-1

0-1'

1

X

X

X

X

857

AH-1

1'-1.5'

858

AH-1

2'-2.5'

859

AH-1

3'-3.5'

860

AH-1

4'-4.5'

861

AH-1

5'-5.5'

862

AH-1

6'-6.5'

863

AH-2

0-1'

864

AH-2

1'-1.5'

WO#: 11092015

Analysis Request of Chain of Custody Record

PAGE: 2 OF: 3

**TETRA TECH**

1910 N. Big Spring St.

Midland, Texas 79705

(432) 682-4559 • Fax (432) 682-3946

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:

COG

SITE MANAGER:

Ike Tavaraz

PROJECT NO.:

114-440102L

PROJECT NAME:

COG / Antelope State TB

Eddy Co. NM

SAMPLE IDENTIFICATION

LAB I.D.
NUMBER

DATE

TIME

MATRIX

COMP

GRAB

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 Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8260/624

GC/MS Semi. Vol. 8270/625

PCB's 8080/608

Pest. 808/608

Chlorides

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

877806

9/14

S

X

AH-2 3'-3.5'

1

X

XX

867

AH-2 4'-4.5'

868

AH-2 5'-5.5'

869

AH-2 6'-6.5'

870

AH-3 0'-1'

871

AH-3 1'-1.5'

872

AH-3 2'-2.5'

873

AH-3 3'-3.5'

874

AH-3 4'-4.5'

875

AH-3 5'-5.5'

RELINQUISHED BY: (Signature)

Date: 9/20/11

Time: 1146

RECEIVED BY: (Signature)

Date: _____

Time: _____

SAMPLED BY: (Print & Initial)

Date: 9/15/11

Time: _____

RELINQUISHED BY: (Signature)

Date: _____

Time: _____

RECEIVED BY: (Signature)

Date: _____

Time: _____

SAMPLE SHIPPED BY: (Circle)

AIRBILL #: _____

FEDEX

BUS

HAND DELIVERED

UPS

OTHER: _____

RELINQUISHED BY: (Signature)

Date: _____

Time: _____

RECEIVED BY: (Signature)

Date: _____

Time: _____

TETRA TECH CONTACT PERSON:

Results by:

RECEIVING LABORATORY:

ADDRESS:

CITY:

CONTACT:

Tract

Address

City

Contact

STATE:

ZIP:

PHONE:

RECEIVED BY: (Signature)

Date: 9.20.11

Time: 11:40

Ike Tavaraz

RUSH Charges

Authorized:

Yes No

SAMPLE CONDITION WHEN RECEIVED:

REMARKS:

9.9°C on ice

If total TPH exceeds 5,000 mg/kg run deeper samples
If total BTEX exceeds 50 mg/kg run deeper samples
If Benzene exceeds 10 mg/kg run deeper samples

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

Analysis Request of Chain of Custody Record



TETRA TECH

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

PAGE: 3 OF: 3

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:

COG

SITE MANAGER:

Ilka Tavaraz

PROJECT NO.:

114-L401026

PROJECT NAME:

COG / Antelope State TB

Eddy Co. NM
SAMPLE IDENTIFICATION

LAB I.D.
NUMBER

DATE

TIME

MATRIX

COMP.

GRAB

NUMBER OF CONTAINERS

FILTERED (Y/N)

PRESERVATIVE
METHOD

HCL

HNO3

ICE

NONE

BTX 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 Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

FCI

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

27876	9/14		S	X	AH-3 6'-6.5'
877					AH-3 7'-7.5'
878					AH-4 0-1'
879					AH-4 1'-1.5'
880					AH-4 2'-2.5'
881					AH-4 3'-3.5'
882					AH-4 4'-4.5'
883					AH-4 5'-5.5'
884					AH-4 6'-6.5'
885					AH-4 7'-7.5'

RELINQUISHED BY: (Signature)

Date: 9/20/11

RECEIVED BY: (Signature)

Date: 9/14/11

SAMPLED BY: (Print & Initial)

Date: 9/14/11

RELINQUISHED BY: (Signature)

Date: 9/14/11

RECEIVED BY: (Signature)

Date: 9/14/11

SAMPLE SHIPPED BY: (Circle)

AIRBILL #: 57

RELINQUISHED BY: (Signature)

Date: 9/14/11

RECEIVED BY: (Signature)

Date: 9/14/11

FEDEX BUS
HAND DELIVERED UPS

OTHER: 57

RECEIVING LABORATORY:

ADDRESS:

CITY: Midland

STATE: TX

ZIP:

CONTACT:

PHONE:

RECEIVED BY: (Signature)

Date: 9.20.11

TIME: 11:40

TETRA TECH CONTACT PERSON:

Ilka Tavaraz

Results by:

RUSH Charges

Authorized:

Yes No

SAMPLE CONDITION WHEN RECEIVED:

9.9°C on ice

REMARKS:

If total TPH exceeds 5000 mg/kg run deeper samples / If total BTX exceeds 50 mg/kg or Benzene exceeds 10 mg/kg run deeper samples

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



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
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E-Mail: lab@traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: February 9, 2012

Work Order: 12020118

Project Location: Eddy Co., NM
Project Name: COG/Antelope State TB
Project Number: 114-6401026

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
287974	BH-1 @ AH-1 0-1'	soil	2012-01-31	00:00	2012-02-01
287975	BH-1 @ AH-1 2-3'	soil	2012-01-31	00:00	2012-02-01
287976	BH-1 @ AH-1 4-5'	soil	2012-01-31	00:00	2012-02-01
287977	BH-1 @ AH-1 6-7'	soil	2012-01-31	00:00	2012-02-01
287978	BH-1 @ AH-1 9-10'	soil	2012-01-31	00:00	2012-02-01
287979	BH-1 @ AH-1 14-15'	soil	2012-01-31	00:00	2012-02-01
287980	BH-1 @ AH-1 19-20'	soil	2012-01-31	00:00	2012-02-01
287981	BH-1 @ AH-1 24-25'	soil	2012-01-31	00:00	2012-02-01
287982	BH-1 @ AH-1 29-30'	soil	2012-01-31	00:00	2012-02-01
287983	BH-1 @ AH-1 39-40'	soil	2012-01-31	00:00	2012-02-01
287986	BH-2 @ AH-2 0-1'	soil	2012-01-31	00:00	2012-02-01
287987	BH-2 @ AH-2 2-3'	soil	2012-01-31	00:00	2012-02-01
287988	BH-2 @ AH-2 4-5'	soil	2012-01-31	00:00	2012-02-01
287989	BH-2 @ AH-2 6-7'	soil	2012-01-31	00:00	2012-02-01
287990	BH-2 @ AH-2 9-10'	soil	2012-01-31	00:00	2012-02-01
287991	BH-2 @ AH-2 14-15'	soil	2012-01-31	00:00	2012-02-01
287992	BH-2 @ AH-2 19-20'	soil	2012-01-31	00:00	2012-02-01
287993	BH-2 @ AH-2 24-25'	soil	2012-01-31	00:00	2012-02-01

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
287994	BH-2 @ AH-2 29-30'	soil	2012-01-31	00:00	2012-02-01
287995	BH-2 @ AH-2 39-40'	soil	2012-01-31	00:00	2012-02-01
287998	BH-3 @ AH-3 0-1'	soil	2012-01-31	00:00	2012-02-01
287999	BH-3 @ AH-3 2-3'	soil	2012-01-31	00:00	2012-02-01
288000	BH-3 @ AH-3 4-5'	soil	2012-01-31	00:00	2012-02-01
288001	BH-3 @ AH-3 6-7'	soil	2012-01-31	00:00	2012-02-01
288002	BH-3 @ AH-3 9-10'	soil	2012-01-31	00:00	2012-02-01
288003	BH-3 @ AH-3 14-15'	soil	2012-01-31	00:00	2012-02-01
288004	BH-3 @ AH-3 19-20'	soil	2012-01-31	00:00	2012-02-01
288005	BH-3 @ AH-3 24-25'	soil	2012-01-31	00:00	2012-02-01
288006	BH-3 @ AH-3 29-30'	soil	2012-01-31	00:00	2012-02-01
288007	BH-3 @ AH-3 39-40'	soil	2012-01-31	00:00	2012-02-01
288008	BH-4 @ AH-4 0-1'	soil	2012-01-31	00:00	2012-02-01
288009	BH-4 @ AH-4 2-3'	soil	2012-01-31	00:00	2012-02-01
288010	BH-4 @ AH-4 4-5'	soil	2012-01-31	00:00	2012-02-01
288011	BH-4 @ AH-4 6-7'	soil	2012-01-31	00:00	2012-02-01
288012	BH-4 @ AH-4 9-10'	soil	2012-01-31	00:00	2012-02-01
288013	BH-4 @ AH-4 14-15'	soil	2012-01-31	00:00	2012-02-01
288014	BH-4 @ AH-4 19-20'	soil	2012-01-31	00:00	2012-02-01
288015	BH-4 @ AH-4 24-25'	soil	2012-01-31	00:00	2012-02-01

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



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

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Sample 288009 (BH-4 @AH-4 2-3')	14
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Case Narrative

Samples for project COG/Antelope State TB were received by TraceAnalysis, Inc. on 2012-02-01 and assigned to work order 12020118. Samples for work order 12020118 were received intact at a temperature of 4.0 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	75016	2012-02-06 at 09:29	88377	2012-02-07 at 13:57
Chloride (Titration)	SM 4500-Cl B	75016	2012-02-06 at 09:29	88378	2012-02-07 at 13:57
Chloride (Titration)	SM 4500-Cl B	75016	2012-02-06 at 09:29	88379	2012-02-07 at 13:58
Chloride (Titration)	SM 4500-Cl B	75016	2012-02-06 at 09:29	88380	2012-02-07 at 13:59
Chloride (Titration)	SM 4500-Cl B	75016	2012-02-06 at 09:29	88381	2012-02-07 at 14:00

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 12020118 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Report Date: February 9, 2012
114-6401026

Work Order: 12020118
COG/Antelope State TB

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Eddy Co., NM

Analytical Report

Sample: 287974 - BH-1 @ AH-1 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88377	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			3760	mg/Kg	100	4.00

Sample: 287975 - BH-1 @ AH-1 2-3'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88378	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1910	mg/Kg	100	4.00

Sample: 287976 - BH-1 @ AH-1 4-5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88378	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			3610	mg/Kg	100	4.00

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Eddy Co., NM

Sample: 287977 - BH-1 @ AH-1 6-7'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88378	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

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

Sample: 287978 - BH-1 @ AH-1 9-10'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88378	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			9410	mg/Kg	100	4.00

Sample: 287979 - BH-1 @ AH-1 14-15'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88378	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1510	mg/Kg	100	4.00

Sample: 287980 - BH-1 @ AH-1 19-20'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88378	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

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Eddy Co., NM

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			507	mg/Kg	50	4.00

Sample: 287981 - BH-1 @ AH-1 24-25'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 88378 Date Analyzed: 2012-02-07 Analyzed By: AR
Prep Batch: 75016 Sample Preparation: 2012-02-07 Prepared By: AR

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

Sample: 287982 - BH-1 @ AH-1 29-30'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 88378 Date Analyzed: 2012-02-07 Analyzed By: AR
Prep Batch: 75016 Sample Preparation: 2012-02-07 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			474	mg/Kg	50	4.00

Sample: 287983 - BH-1 @ AH-1 39-40'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 88378 Date Analyzed: 2012-02-07 Analyzed By: AR
Prep Batch: 75016 Sample Preparation: 2012-02-07 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			388	mg/Kg	50	4.00

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Sample: 287986 - BH-2 @ AH-2 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88378	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			5220	mg/Kg	100	4.00

Sample: 287987 - BH-2 @ AH-2 2-3'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88379	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			4130	mg/Kg	100	4.00

Sample: 287988 - BH-2 @ AH-2 4-5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88379	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1490	mg/Kg	100	4.00

Sample: 287989 - BH-2 @ AH-2 6-7'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88379	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

Report Date: February 9, 2012
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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			11400	mg/Kg	100	4.00

Sample: 287990 - BH-2 @ AH-2 9-10'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 88379 Date Analyzed: 2012-02-07 Analyzed By: AR
Prep Batch: 75016 Sample Preparation: 2012-02-07 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			778	mg/Kg	50	4.00

Sample: 287991 - BH-2 @ AH-2 14-15'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 88379 Date Analyzed: 2012-02-07 Analyzed By: AR
Prep Batch: 75016 Sample Preparation: 2012-02-07 Prepared By: AR

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

Sample: 287992 - BH-2 @ AH-2 19-20'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 88379 Date Analyzed: 2012-02-07 Analyzed By: AR
Prep Batch: 75016 Sample Preparation: 2012-02-07 Prepared By: AR

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

Report Date: February 9, 2012
114-6401026

Work Order: 12020118
COG/Antelope State TB

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Eddy Co., NM

Sample: 287993 - BH-2 @ AH-2 24-25'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88379	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			246	mg/Kg	50	4.00

Sample: 287994 - BH-2 @ AH-2 29-30'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88379	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

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

Sample: 287995 - BH-2 @ AH-2 39-40'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88379	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

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

Sample: 287998 - BH-3 @ AH-3 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88379	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

Report Date: February 9, 2012
114-6401026

Work Order: 12020118
COG/Antelope State TB

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			4680	mg/Kg	100	4.00

Sample: 287999 - BH-3 @ AH-3 2-3'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 88380 Date Analyzed: 2012-02-07 Analyzed By: AR
Prep Batch: 75016 Sample Preparation: 2012-02-07 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			5160	mg/Kg	100	4.00

Sample: 288000 - BH-3 @ AH-3 4-5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 88380 Date Analyzed: 2012-02-07 Analyzed By: AR
Prep Batch: 75016 Sample Preparation: 2012-02-07 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			2280	mg/Kg	100	4.00

Sample: 288001 - BH-3 @ AH-3 6-7'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 88380 Date Analyzed: 2012-02-07 Analyzed By: AR
Prep Batch: 75016 Sample Preparation: 2012-02-07 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			16700	mg/Kg	100	4.00

Report Date: February 9, 2012
114-6401026

Work Order: 12020118
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Eddy Co., NM

Sample: 288002 - BH-3 @ AH-3 9-10'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88380	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1360	mg/Kg	100	4.00

Sample: 288003 - BH-3 @ AH-3 14-15'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88380	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			397	mg/Kg	50	4.00

Sample: 288004 - BH-3 @ AH-3 19-20'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88380	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

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

Sample: 288005 - BH-3 @ AH-3 24-25'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88380	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			628	mg/Kg	50	4.00

Sample: 288006 - BH-3 @ AH-3 29-30'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 88380 Date Analyzed: 2012-02-07 Analyzed By: AR
Prep Batch: 75016 Sample Preparation: 2012-02-07 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			226	mg/Kg	50	4.00

Sample: 288007 - BH-3 @ AH-3 39-40'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 88380 Date Analyzed: 2012-02-07 Analyzed By: AR
Prep Batch: 75016 Sample Preparation: 2012-02-07 Prepared By: AR

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

Sample: 288008 - BH-4 @ AH-4 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 88380 Date Analyzed: 2012-02-07 Analyzed By: AR
Prep Batch: 75016 Sample Preparation: 2012-02-07 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			7610	mg/Kg	100	4.00

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Sample: 288009 - BH-4 @ AH-4 2-3'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88381	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			3180	mg/Kg	100	4.00

Sample: 288010 - BH-4 @ AH-4 4-5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88381	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1580	mg/Kg	100	4.00

Sample: 288011 - BH-4 @ AH-4 6-7'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88381	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			13000	mg/Kg	100	4.00

Sample: 288012 - BH-4 @ AH-4 9-10'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2012-02-07	Analyzed By:	AR
QC Batch:	88381	Sample Preparation:	2012-02-07	Prepared By:	AR
Prep Batch:	75016				

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

Sample: 288013 - BH-4 @ AH-4 14-15'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 88381 Date Analyzed: 2012-02-07 Analyzed By: AR
Prep Batch: 75016 Sample Preparation: 2012-02-07 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			377	mg/Kg	50	4.00

Sample: 288014 - BH-4 @ AH-4 19-20'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 88381 Date Analyzed: 2012-02-07 Analyzed By: AR
Prep Batch: 75016 Sample Preparation: 2012-02-07 Prepared By: AR

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

Sample: 288015 - BH-4 @ AH-4 24-25'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 88381 Date Analyzed: 2012-02-07 Analyzed By: AR
Prep Batch: 75016 Sample Preparation: 2012-02-07 Prepared By: AR

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

Method Blanks

Method Blank (1) QC Batch: 88377

QC Batch: 88377 Date Analyzed: 2012-02-07 Analyzed By: AR
Prep Batch: 75016 QC Preparation: 2012-02-06 Prepared By: AR

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

Method Blank (1) QC Batch: 88378

QC Batch: 88378 Date Analyzed: 2012-02-07 Analyzed By: AR
Prep Batch: 75016 QC Preparation: 2012-02-06 Prepared By: AR

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

Method Blank (1) QC Batch: 88379

QC Batch: 88379 Date Analyzed: 2012-02-07 Analyzed By: AR
Prep Batch: 75016 QC Preparation: 2012-02-06 Prepared By: AR

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

Method Blank (1) QC Batch: 88380

QC Batch: 88380 Date Analyzed: 2012-02-07 Analyzed By: AR
Prep Batch: 75016 QC Preparation: 2012-02-06 Prepared By: AR

Report Date: February 9, 2012
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Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Method Blank (1) QC Batch: 88381

QC Batch: 88381
Prep Batch: 75016

Date Analyzed: 2012-02-07
QC Preparation: 2012-02-06

Analyzed By: AR
Prepared By: AR

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

Report Date: February 9, 2012
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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 88377
Prep Batch: 75016

Date Analyzed: 2012-02-07
QC Preparation: 2012-02-06

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			93.5	mg/Kg	1	100	<3.85	94	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			102	mg/Kg	1	100	<3.85	102	85 - 115	9	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 88378
Prep Batch: 75016

Date Analyzed: 2012-02-07
QC Preparation: 2012-02-06

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			96.1	mg/Kg	1	100	<3.85	96	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			104	mg/Kg	1	100	<3.85	104	85 - 115	8	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 88379
Prep Batch: 75016

Date Analyzed: 2012-02-07
QC Preparation: 2012-02-06

Analyzed By: AR
Prepared By: AR

Report Date: February 9, 2012
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Eddy Co., NM

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

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			106	mg/Kg	1	100	<3.85	106	85 - 115	9	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 88380
Prep Batch: 75016

Date Analyzed: 2012-02-07
QC Preparation: 2012-02-06

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			95.5	mg/Kg	1	100	<3.85	96	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			104	mg/Kg	1	100	<3.85	104	85 - 115	8	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 88381
Prep Batch: 75016

Date Analyzed: 2012-02-07
QC Preparation: 2012-02-06

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			94.4	mg/Kg	1	100	<3.85	94	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			102	mg/Kg	1	100	<3.85	102	85 - 115	8	20

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

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Matrix Spike (MS-1) Spiked Sample: 287974

QC Batch: 88377
Prep Batch: 75016

Date Analyzed: 2012-02-07
QC Preparation: 2012-02-06

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			14600	mg/Kg	100	10000	3760	108	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			15100	mg/Kg	100	10000	3760	113	79.4 - 120.6	3	20

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

Matrix Spike (MS-1) Spiked Sample: 287986

QC Batch: 88378
Prep Batch: 75016

Date Analyzed: 2012-02-07
QC Preparation: 2012-02-06

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			15000	mg/Kg	100	10000	5220	98	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			15700	mg/Kg	100	10000	5220	105	79.4 - 120.6	5	20

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

Matrix Spike (MS-1) Spiked Sample: 287998

QC Batch: 88379
Prep Batch: 75016

Date Analyzed: 2012-02-07
QC Preparation: 2012-02-06

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			15000	mg/Kg	100	10000	4680	103	79.4 - 120.6

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

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114-6401026

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Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			15600	mg/Kg	100	10000	4680	109	79.4 - 120.6	4	20

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

Matrix Spike (MS-1) Spiked Sample: 288008

QC Batch: 88380
Prep Batch: 75016

Date Analyzed: 2012-02-07
QC Preparation: 2012-02-06

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			17300	mg/Kg	100	10000	7610	97	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			18000	mg/Kg	100	10000	7610	104	79.4 - 120.6	4	20

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

Matrix Spike (MS-1) Spiked Sample: 288019

QC Batch: 88381
Prep Batch: 75016

Date Analyzed: 2012-02-07
QC Preparation: 2012-02-06

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10200	mg/Kg	100	10000	<385	102	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			10800	mg/Kg	100	10000	<385	108	79.4 - 120.6	6	20

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

Calibration Standards

Standard (ICV-1)

QC Batch: 88377 Date Analyzed: 2012-02-07 Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	96.4	96	85 - 115	2012-02-07

Standard (CCV-1)

QC Batch: 88377 Date Analyzed: 2012-02-07 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	104	104	85 - 115	2012-02-07

Standard (ICV-1)

QC Batch: 88378 Date Analyzed: 2012-02-07 Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.5	100	85 - 115	2012-02-07

Standard (CCV-1)

QC Batch: 88378 Date Analyzed: 2012-02-07 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2012-02-07

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Standard (ICV-1)

QC Batch: 88379 Date Analyzed: 2012-02-07 Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2012-02-07

Standard (CCV-1)

QC Batch: 88379 Date Analyzed: 2012-02-07 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	98.6	99	85 - 115	2012-02-07

Standard (ICV-1)

QC Batch: 88380 Date Analyzed: 2012-02-07 Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-02-07

Standard (CCV-1)

QC Batch: 88380 Date Analyzed: 2012-02-07 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-02-07

Standard (ICV-1)

QC Batch: 88381 Date Analyzed: 2012-02-07 Analyzed By: AR

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114-6401026

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Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.8	100	85 - 115	2012-02-07

Standard (CCV-1)

QC Batch: 88381

Date Analyzed: 2012-02-07

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-02-07

Appendix

Report Definitions

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

Laboratory Certifications

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

Standard Flags

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

Attachments

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

Analysis Request of Chain of Custody Record



TETRA TECH

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

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ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:
COG

SITE MANAGER:
Ike Tavares

PROJECT NO.:
114-6401026

PROJECT NAME:
Anklope 36 Tank Battery
Eddy Co., NM

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF FILTERED (Y)	HCL	HNO3	IOE	NONE	BTEX 8021B	TPH 8015	PAH 8270	RCRA Metals	TCLP Metals	TCLP Volatiles	TCLP Semi	RCI	GC/MS Vol. i	GC/MS Semi	PCB's 8080/	Pest. 808/60	Chloride	Gamma Spe	Alpha Beta (	PLM (Asbes	Major Anion	
287974	1/31		S	X		BH-1 @ AH-1 0-1'	1			X															X				
975						2-3'	1			X															X				
976						4-5'	1			X															X				
977						6-7'	1			X															X				
978						9-10'	1			X															X				
979						14-15'	1			X															X				
980						19-20'	1			X															X				
981						24-25'	1			X															X				
982						29-30'	1			X															X				
983						39-40'	1			X															X				

RELINQUISHED BY: (Signature)

Date: 2-1-12

RECEIVED BY: (Signature)

Date: 2-1-12

SAMPLED BY: (Print & Initial)

Kim

Date: 2/1/12

RELINQUISHED BY: (Signature)

Date: 1/31/12

RECEIVED BY: (Signature)

Date: 1/31/12

SAMPLE SHIPPED BY: (Circle)

FEDEX

AIRBILL #: _____

RELINQUISHED BY: (Signature)

Date: _____

RECEIVED BY: (Signature)

Date: _____

FEDEX

BUS

OTHER: _____

RELINQUISHED BY: (Signature)

Date: _____

RECEIVED BY: (Signature)

Date: _____

HAND DELIVERED

UPS

OTHER: _____

RELINQUISHED BY: (Signature)

Date: _____

RECEIVED BY: (Signature)

Date: _____

TETRA TECH CONTACT PERSON:

Ike Tavares

Results by:

RECEIVING LABORATORY: TRACE

RECEIVED BY: (Signature)

ADDRESS: _____

CITY: MIDLAND STATE: TX ZIP: _____

CONTACT: _____ PHONE: _____ DATE: _____ TIME: _____

SAMPLE CONDITION WHEN RECEIVED: 4°C

REMARKS:

all test Substances Midland

RUSH Charges Authorized:
Yes No

DA

Analysis Request of Chain of Custody Record

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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 Taurer

PROJECT NO.:

114-6401026

PROJECT NAME:

Anklape 36 Tank Battery

Edley G., NM
SAMPLE IDENTIFICATION

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	
<u>984</u>	<u>1/31</u>		<u>S</u>	<u>X</u>		<u>BH-1 @ AH-1 49-50'</u>
<u>985</u>	<u>/</u>		<u>/</u>	<u>/</u>		<u>59-60'</u>
<u>986</u>	<u>/</u>		<u>/</u>	<u>/</u>		<u>BH-2 @ AH-2 0-1'</u>
<u>987</u>	<u>/</u>		<u>/</u>	<u>/</u>		<u>2-3'</u>
<u>988</u>	<u>/</u>		<u>/</u>	<u>/</u>		<u>4-5'</u>
<u>989</u>	<u>/</u>		<u>/</u>	<u>/</u>		<u>6-7'</u>
<u>990</u>	<u>/</u>		<u>/</u>	<u>/</u>		<u>9-10'</u>
<u>991</u>	<u>/</u>		<u>/</u>	<u>/</u>		<u>14-15'</u>
<u>992</u>	<u>/</u>		<u>/</u>	<u>/</u>		<u>19-20'</u>
<u>993</u>	<u>/</u>		<u>/</u>	<u>/</u>		<u>24-25'</u>

NUMBER OF CONTAINERS
FILTERED (Y/N)

HCL	HNO3	ICE	NONE
<u>/</u>	<u>/</u>	<u>X</u>	<u>/</u>
<u>/</u>	<u>/</u>	<u>X</u>	<u>/</u>
<u>/</u>	<u>/</u>	<u>X</u>	<u>/</u>
<u>/</u>	<u>/</u>	<u>X</u>	<u>/</u>
<u>/</u>	<u>/</u>	<u>X</u>	<u>/</u>
<u>/</u>	<u>/</u>	<u>X</u>	<u>/</u>
<u>/</u>	<u>/</u>	<u>X</u>	<u>/</u>
<u>/</u>	<u>/</u>	<u>X</u>	<u>/</u>
<u>/</u>	<u>/</u>	<u>X</u>	<u>/</u>

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 Cr Pb 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

RELINQUISHED BY: (Signature)

Date: 2-7-12

RECEIVED BY: (Signature)

Date: 2-7-12

SAMPLED BY: (Print & Initial)

Kim

Date: 2/1/12

RELINQUISHED BY: (Signature)

Date: 1/31/12

RECEIVED BY: (Signature)

Date: 1/31/12

SAMPLE SHIPPED BY: (Circle)

FEDEX / BUS

HAND DELIVERED / UPS

AIRBILL #:

OTHER:

RELINQUISHED BY: (Signature)

Date:

RECEIVED BY: (Signature)

Date:

TETRA TECH CONTACT PERSON:

Ike Taurer

Results by:

RUSH Charges Authorized:

Yes No

RECEIVING LABORATORY:

TRACE

ADDRESS:

CITY: MIDLAND STATE: TX ZIP:

CONTACT:

PHONE:

RECEIVED BY: (Signature)

Date:

TIME:

SAMPLE CONDITION WHEN RECEIVED:

4°C

REMARKS:

All tests Submittal Midland

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

DA

Analysis Request of Chain of Custody Record

PAGE: 3 OF: 5



TETRA TECH

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:
COG

SITE MANAGER:
Ike Tavares

PROJECT NO.:
1146401026

PROJECT NAME:
Antelope 36 Tank Battery
Eddy Co., NM
SAMPLE IDENTIFICATION

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB		NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	IOE	NONE	PRESERVATIVE METHOD	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. 8240/8260/824	GC/MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 809/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
994	1/31		S	X		BH-2 @ AH-2 29-30'	1				X															X				
995						39-40'	1				X															X				
996						49-50'	1				X																			
997						59-60'	1				X																			
998						BH-3 @ AH-3 0-1'	1				X															X				
999						2-3'	1				X															X				
288000						4-5'	1				X															X				
001						6-7'	1				X															X				
002						9-10'	1				X															X				
003						14-15'	1				X															X				

RELINQUISHED BY: (Signature) **TRC** Date: **2-1-12** Time: **1326**
RELINQUISHED BY: (Signature) Date: Time:
RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) **ARK** Date: **2-1-12** Time: **1326**
RECEIVED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Initial) **Kim** Date: **2/1/12** Time: **1326**
SAMPLE SHIPPED BY: (Circle) FEDEX ☒ BUS ☐ HAND DELIVERED ☐ UPS ☐ AIRBILL #: OTHER:
TETRA TECH CONTACT PERSON: **Ike Tavares** Results by: RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: **TRACE** RECEIVED BY: (Signature)
ADDRESS: **MIDLAND** CITY: **TX** STATE: **TX** ZIP: PHONE: DATE: TIME:

SAMPLE CONDITION WHEN RECEIVED: **4°C** REMARKS: **All tests Lubbed Midland**

Analysis Request of Chain of Custody Record

PAGE: 4 OF: 5



TETRA TECH

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:

COG

SITE MANAGER:

Ike Tavaraz

PROJECT NO.:

114-6401026

PROJECT NAME:

Antelope 36 Tank Battery

Eddy Co., NM
SAMPLE IDENTIFICATION

LAB I.D. NUMBER	DATE 2012	TIME	MATRIX	COMP.	GRAB	Eddy Co., NM SAMPLE IDENTIFICATION	NUMBER OF FILTERED (Y)	HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015	PAH 8270	RCRA Metals	TCLP Metals	TCLP Volatiles	TCLP Semi V	RCI	GC-MS Vol. 8	GC-MS Semi	PCB's 8080/	Pest. 808/60	Chloride	Gamma Spec	Alpha Beta (	PLM (Asbes	Major Anion	
004	1/31		S		X	BH-3 @ AH-3 19-20'	1			X														X					
005						24-25'	1			X														X					
006						29-30'	1			X														X					
007						39-40'	1			X														X					
008	1/30					BH-4 @ AH-4 0-1'	1			X														X					
009						2-3'	1			X														X					
010						4-5'	1			X														X					
011						6-7'	1			X														X					
012						9-10'	1			X														X					
013						14-15'	1			X														X					

RELINQUISHED BY: (Signature)

Date: 2-1-12

Time: 1326

RECEIVED BY: (Signature)

Date: 2-1-12

Time: 1326

SAMPLED BY: (Print & Initial)

Kim

Date: 2/1/12

Time: 1326

RELINQUISHED BY: (Signature)

Date: _____

Time: _____

RECEIVED BY: (Signature)

Date: _____

Time: _____

SAMPLE SHIPPED BY: (Circle)

FEDEX

HAND DELIVERED

BUS

UPS

AIRBILL #: _____

OTHER: _____

RELINQUISHED BY: (Signature)

Date: _____

Time: _____

RECEIVED BY: (Signature)

Date: _____

Time: _____

TETRA TECH CONTACT PERSON:

Ike Tavaraz

Results by:

RUSH Charges Authorized:

Yes No

RECEIVING LABORATORY:

TRAC

ADDRESS:

CITY: MIDLAND

STATE: TX

ZIP: _____

CONTACT:

PHONE: _____

DATE: _____

TIME: _____

SAMPLE CONDITION WHEN RECEIVED:

4°C

REMARKS:

All tests Submittal Midland

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

DP



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 Tavares			NUMBER OF CONTAINERS		PRESERVATIVE METHOD																																													
PROJECT NO.: 114-6401026			PROJECT NAME: Antelope 36 Tank Battery																																																		
LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION		NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE																																								
014	4/30		S	X		BH-4 @ AH-4 19-20'		1				X																																									
015						24-25'		1				X																																									
016						29-30'		1				X																																									
017						39-40'		1				X																																									
																		BTEX 8021B		TPH 8015 MOD. TX100		PAH 8270		RCRA Metals Ag As Ba C		TCLP Metals Ag As Ba C		TCLP Volatiles		TCLP Semi Volatiles		RCI		GC/MS Vol. 8240/8260/824		GC/MS Semi. Vol. 8270/825		PCB's 8080/808		Pest. 808/608		Chloride		Gamma Spec.		Alpha Beta (Air)		PLM (Asbestos)		Major Anions/Cations, pH,			