SITE INFORMATION

Report Type: Closure Report

General Site Information:						
Site:	State I #16					
Company:	COG Operating LLC					
Section, Township and Range	Sec 29	T17S	R29E			
Lease Number:	API-30-015-03187					
County:	Eddy County					
GPS:	32.80083° N			104.08898° W		
Surface Owner:	State					
Mineral Owner:						
Directions:	From Hwy 82 and Hagerman Cutoff Rd. in Loco Hills travel 6.5 miles west on Hwy 82, turn left onto lease road and travel 0.9 miles, turn left and travel 100 feet to site.					

Release Data:	
Date Released:	4/6/2011
Type Release:	Produced Water
Source of Contamination:	Flowline failure
Fluid Released:	60 bbls
Fluids Recovered:	0 bbls

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

Ranking Criteria		
Depth to Groundwater:	***Ranking Score***	***Site Data***
<50 ft	20	
50-99 ft	10	
>100 ft.	**0**	**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

January 9, 2012

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

Re: Closure Report for the COG Operating LLC., State I #16 Flow Line, Unit P, Section 29, Township 17 South, Range 29 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill at the State I #16 Flow Line located in Unit P, Section 29, Township 17 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.80083°, W 104.08898°. The site location is shown on Figures 1 and 2.

Background

On April 6, 2011, COG discovered the flow line leak and released approximately sixty (60) barrels of produced fluids into the pasture. To alleviate the problem, COG personnel repaired the flow line. Zero (0) barrels of standing fluids were recovered. The spill initiated east of the pad affecting an area in the pasture 105' x 70' (tapering to 40'). The initial C-141 form is enclosed in Appendix A.

Groundwater

The Geology and Groundwater Resources of Eddy County, New Mexico (Report 3) did show one well in Section 29 with a depth to groundwater of 210' below surface. According to the NMOCD groundwater map, the average depth to groundwater in this area appears to be around 150' below surface. The well data are 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 February 19, 2011, Tetra Tech personnel inspected and sampled the spill area. A total of five (5) auger holes (AH-1 through AH-5) were installed using a stainless steel hand auger to assess the impacted soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all auger hole samples were below the RRAL for TPH and BTEX. Elevated chloride concentrations were detected in majority of the auger holes. Auger holes (AH-1 and AH-5) showed the deepest chloride impact at the site, with chloride declining at 7.0' to 9.0' below surface. The areas of auger holes (AH-3 and AH-4) showed a shallow impact (0-1') to the soils, with chloride concentration of 20,500 mg/kg and 4,830 mg/kg, respectively. Auger hole (AH-2) did not show a significant chloride impact the soils.

Closure Activities

Based on the approved work plan, Tetra Tech personnel supervised the excavation of the site. The final excavation depths of the soil remediation were met or exceeded as stated in the approved work plan. A total of 1,780 cubic yards of soil were excavated and hauled to proper disposal. The excavation depths are highlighted in Table 1 and shown on Figure 4.

TETRA TECH

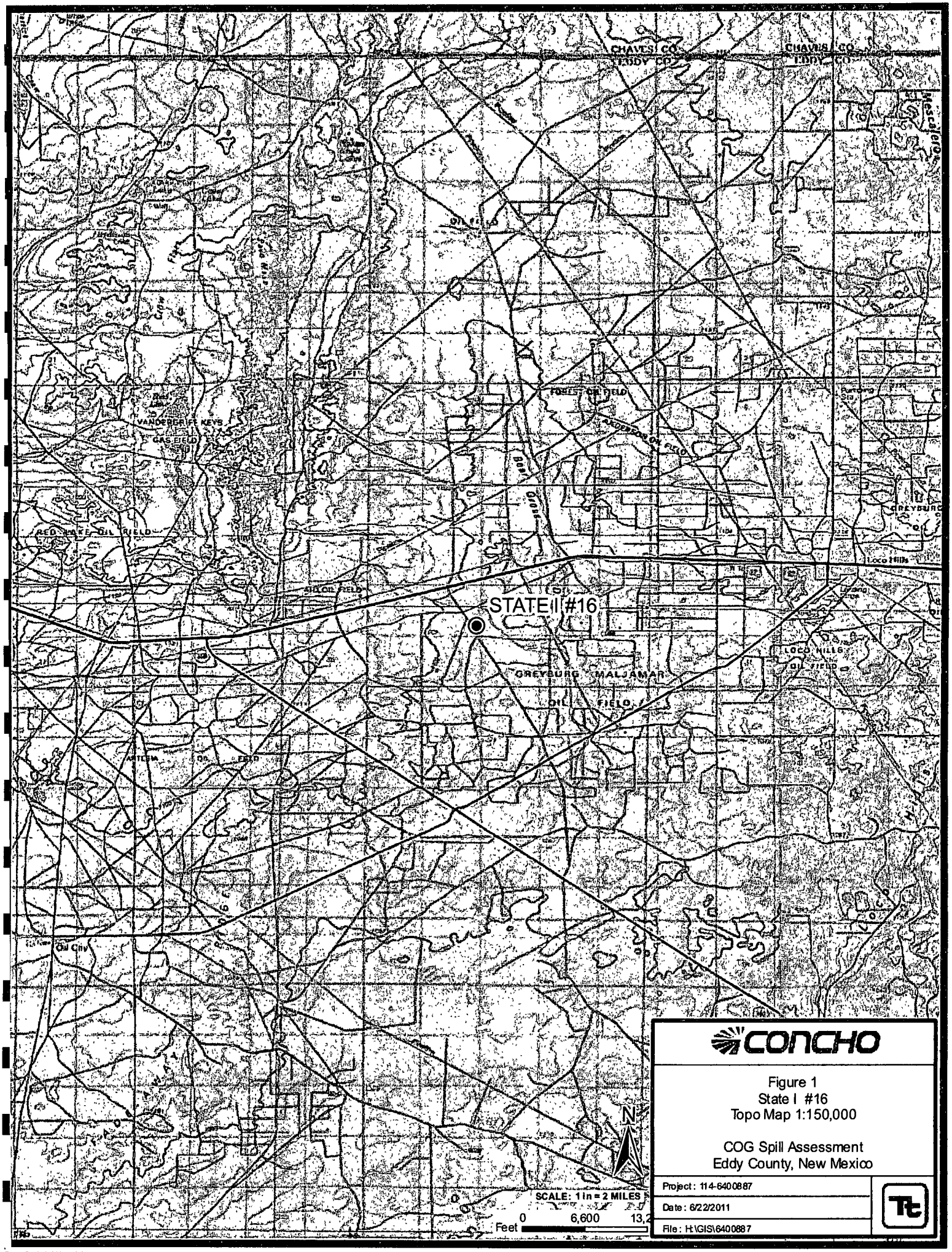
As recommended in the work plan, a trench was installed in the area of AH-1 to define vertical extent of the chloride impact at 9.0' of 1,550 mg/kg. Once excavated to the appropriate depth, a trench was installed using a backhoe to a depth of 23.0' below surface. Referring to Table 1, the chloride concentrations declined with depth. Once excavated to the appropriate depths, the excavations were backfilled with clean soil to grade.

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

Respectfully submitted,
TETRA TECH

Ike Tavarez, PG
Project Manager

cc: Pat Ellis – COG
cc:



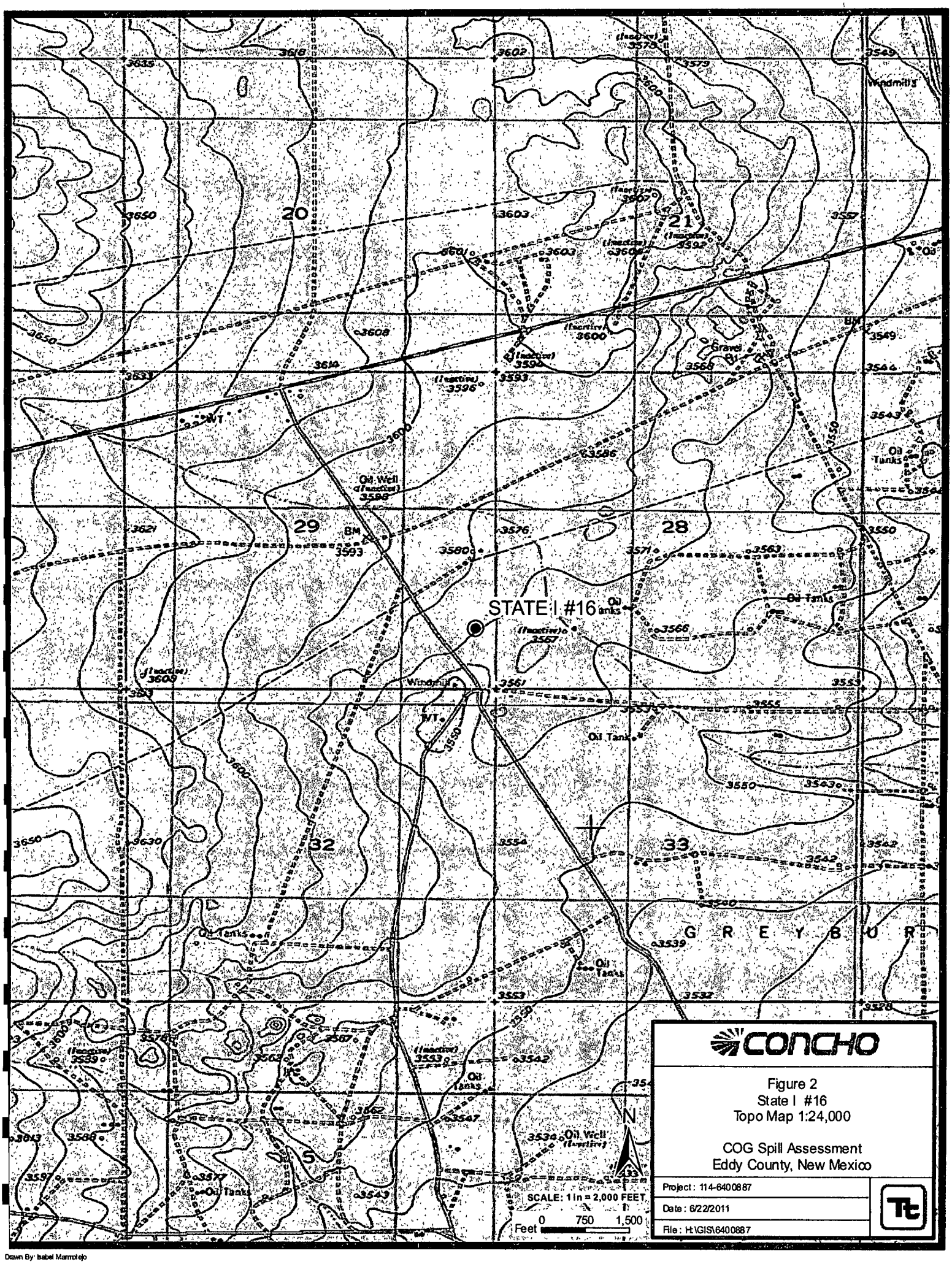
CONCHO

Figure 1
State I #16
Topo Map 1:150,000

COG Spill Assessment
Eddy County, New Mexico

Project: 114-6400887	
Date: 6/22/2011	
File: H:\GIS\6400887	

Down By: Isabel Marmolejo



CONCHO

Figure 2
State I #16
Topo Map 1:24,000

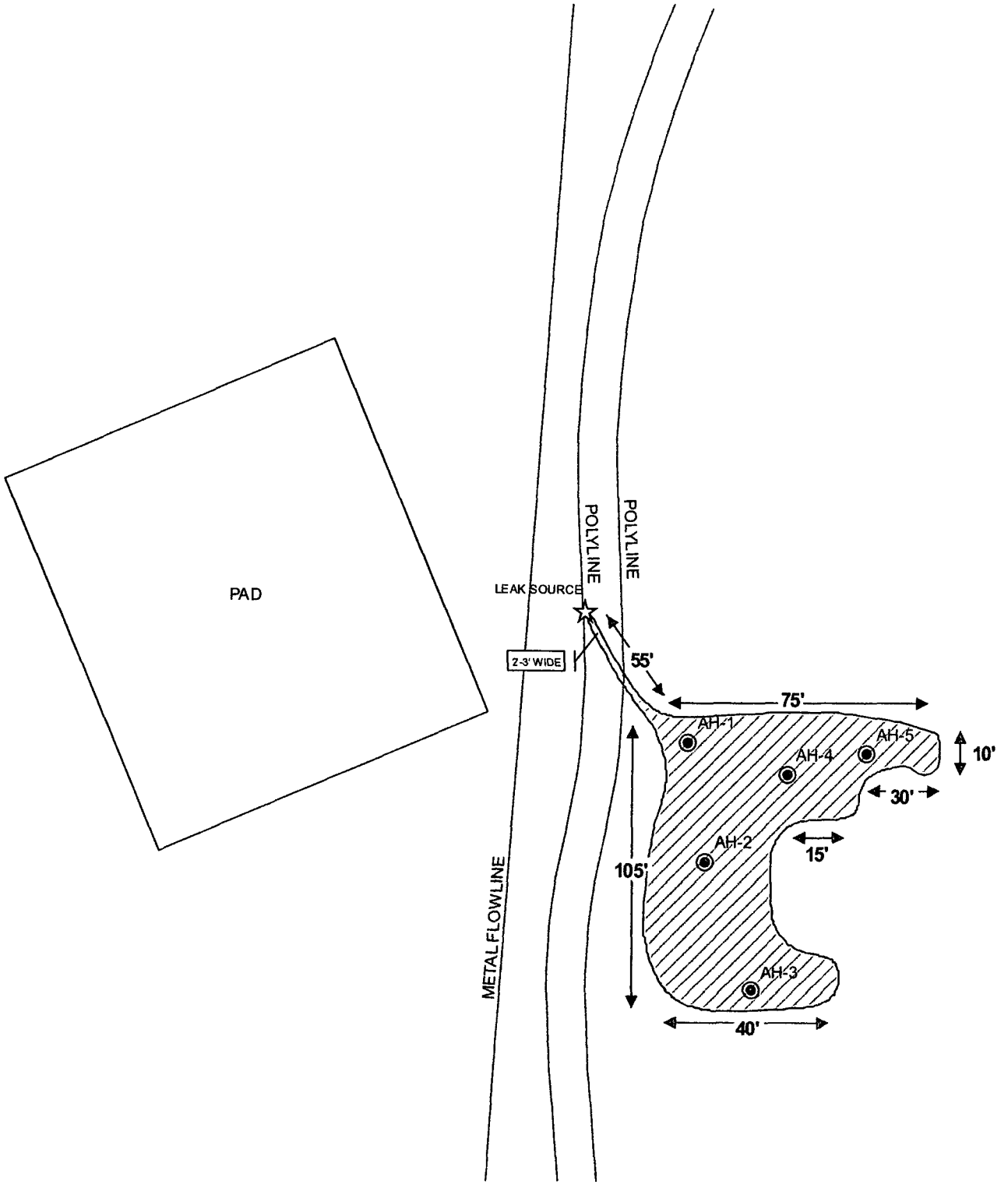
COG Spill Assessment
Eddy County, New Mexico

Project: 114-6400887

Date: 6/22/2011

File: H:\GIS\6400887

Drawn By: Isabel Marmolejo



EXPLANATION

- AUGER HOLE LOCATIONS
- LEAK SOURCE
- SPILL

N

SCALE: 1 IN = 60 FEET

Feet 0 20 40

CONCHO

Figure 3

State I #16
Spill Assessment Map

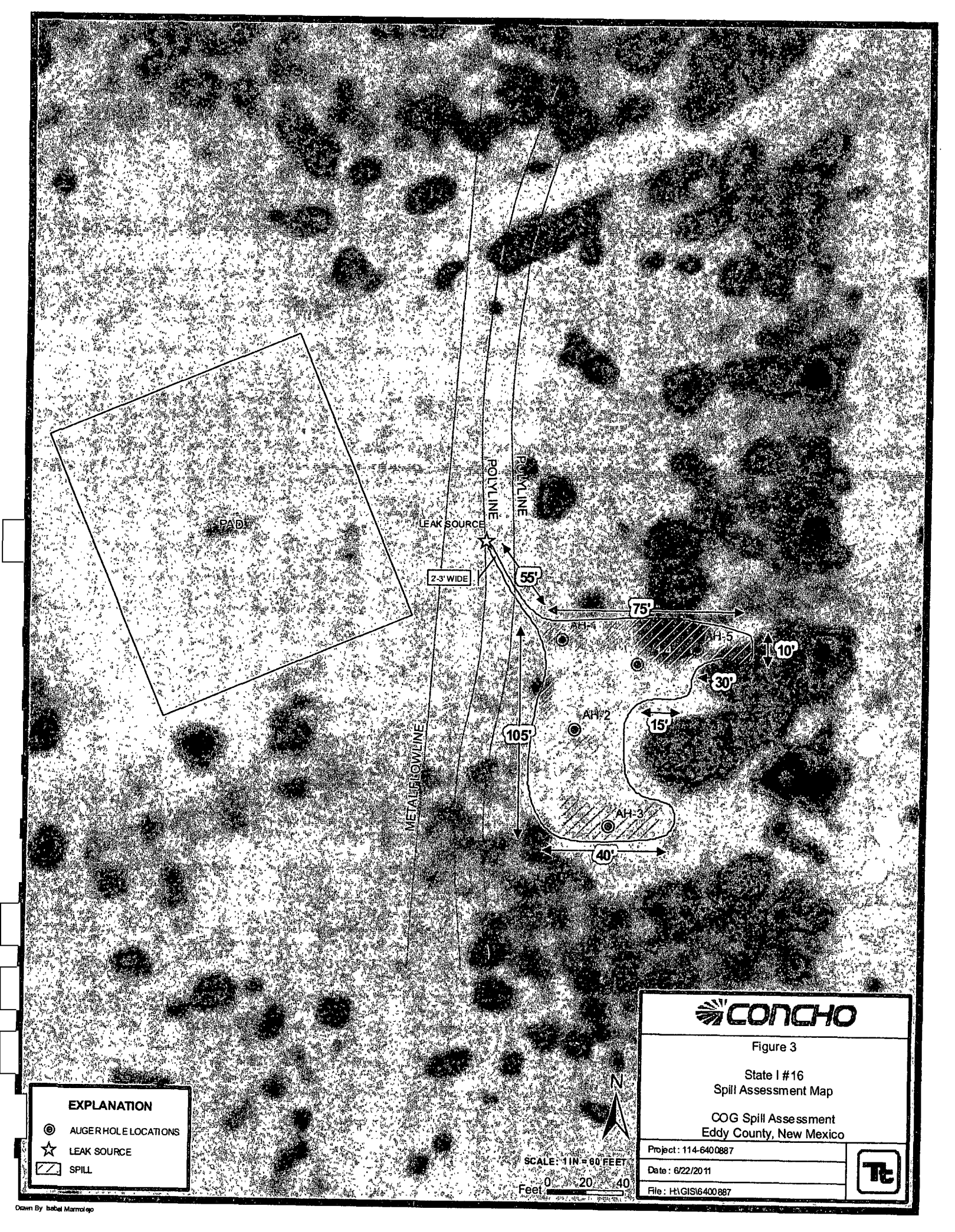
COG Spill Assessment
Eddy County, New Mexico

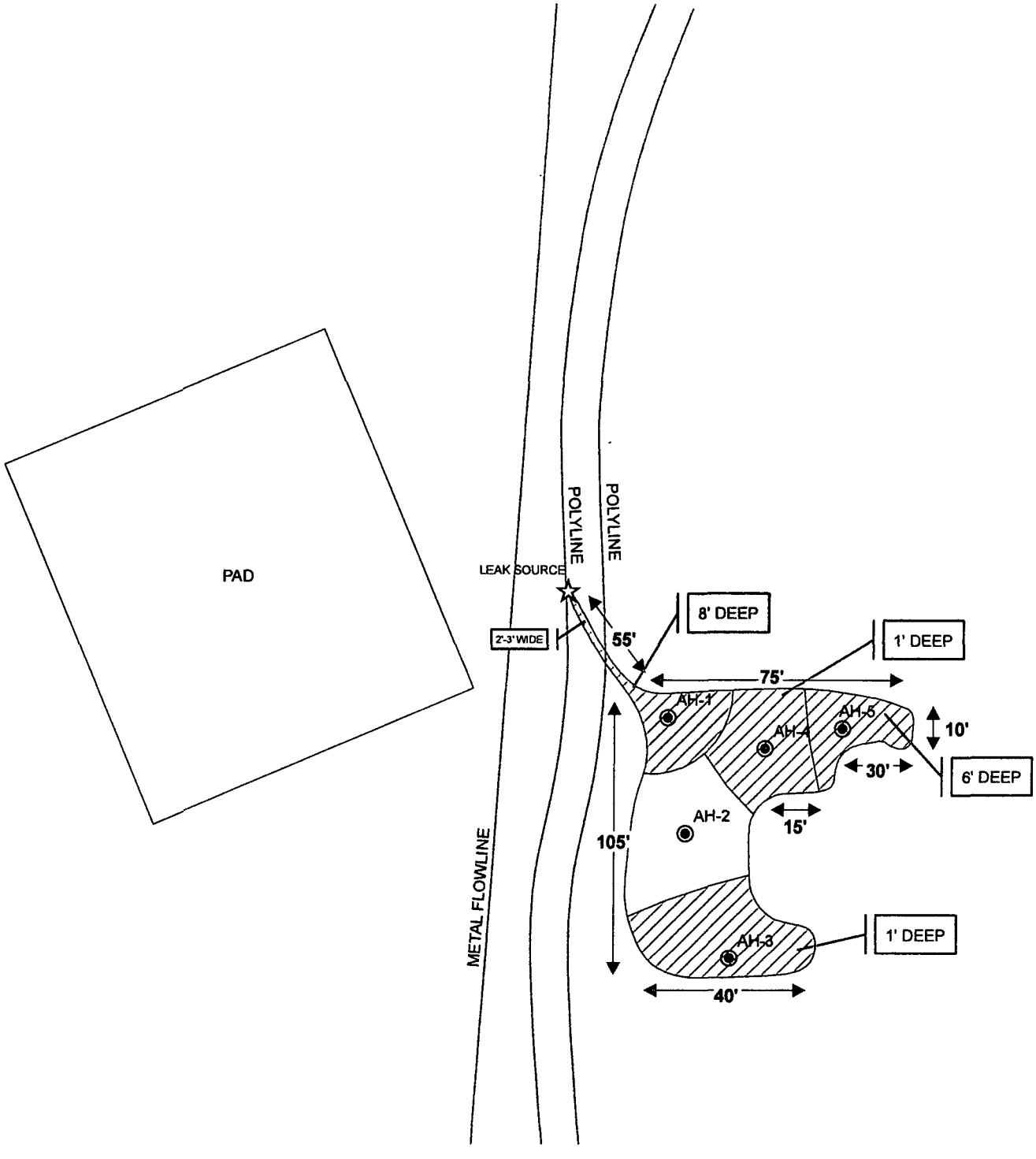
Project : 114-6400887

Date : 6/22/2011

File : H:\GIS\6400887

Drawn By Isabel Marmolejo


PAD
POLYLINE
POLYLINE
LEAK SOURCE
2-3' WIDE
55'
75'
AH-1
AH-5
10'
30'
AH-2
15'
105'
METAL FLOWLINE
AH-3
40'
EXPLANATION
AUGER HOLE LOCATIONS
LEAK SOURCE
SPILL
N
SCALE: 1 IN = 60 FEET
Feet 0 20 40
CONCHO
Figure 3
State I #16
Spill Assessment Map
COG Spill Assessment
Eddy County, New Mexico
Project : 114-6400887
Date : 6/22/2011
File : H:\GIS\6400887
Drawn By Isabel Marmolejo



EXPLANATION

- AUGER HOLE LOCATIONS
- LEAK SOURCE
- EXCAVATED DEPTHS

N

SCALE: 1 IN = 60 FEET

Feet 0 20 40

CONCHO

Figure 4

State I #16
Excavation Area & Depths

COG Spill Assessment
Eddy County, New Mexico

Project : 114-6400887	
Date : 6/22/2011	
File : H:\GIS\6400887	

Drawn By: Isabel Marmolejo

Tables

Table 1
COG Operating LLC.
STATE 1 # 16
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-1	4\19\11	0-1'			X	<2.00	<50.0	<50.0	<.0200	<.0200	<.0200	<.0200	2,550
	"	1-1.5'			X	-	-	-	-	-	-	-	10,400
	"	2-2.5'			X	-	-	-	-	-	-	-	6,910
	"	3-3.5'			X	-	-	-	-	-	-	-	5,300
	"	4-4.5'			X	-	-	-	-	-	-	-	12,000
	"	5-5.5'			X	-	-	-	-	-	-	-	5,550
	"	6-6.5'			X	-	-	-	-	-	-	-	6,480
	"	7-7.5'			X	-	-	-	-	-	-	-	3,340
	"	8-8.5'			X	-	-	-	-	-	-	-	2,040
	"	9-9.5'		X		-	-	-	-	-	-	-	1,550
Trench-1	12/16/11	11		X		-	-	-	-	-	-	-	641
	"	13		X		-	-	-	-	-	-	-	945
	"	15		X		-	-	-	-	-	-	-	839
	"	17		X		-	-	-	-	-	-	-	660
	"	19		X		-	-	-	-	-	-	-	617
	"	21		X		-	-	-	-	-	-	-	463
	"	23		X		-	-	-	-	-	-	-	506

Table 1
COG Operating LLC.
STATE 1 # 16
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-2	4\19\11	0-1'		X		<2.00	<50.0	<50.0	<.0200	<.0200	<.0200	<.0200	451
	"	1-1.5'		X		-	-	-	-	-	-	-	<200
	"	2-2.5'		X		-	-	-	-	-	-	-	<200
	"	3-3.5'		X		-	-	-	-	-	-	-	<200
AH-3	4\19\11	0-1'			X	17.0	77.8	94.8	<.0200	0.11	0.126	0.395	20,500
	"	1-1.5'		X		-	-	-	-	-	-	-	451
	"	2-2.5'		X		-	-	-	-	-	-	-	313
	"	3-3.5'		X		-	-	-	-	-	-	-	<200
	"	4-4.5'		X		-	-	-	-	-	-	-	<200
	'	5-5.5'		X		-	-	-	-	-	-	-	<200
	'	6-6.5'		X		-	-	-	-	-	-	-	<200
	"	7-7.5'		X		-	-	-	-	-	-	-	<200
	"	8-8.5'		X		-	-	-	-	-	-	-	<200
	"'	9-9.5'		X		-	-	-	-	-	-	-	<200

Table 1
COG Operating LLC.
STATE 1 # 16
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-4	4\19\11	0-1'			X	<2.00	<50.0	<50.0	<.0200	<.0200	<.0200	<.0200	4,830
	"	1-1.5'		X		-	-	-	-	-	-	-	592
	"	2-2.5'		X		-	-	-	-	-	-	-	864
	"	3-3.5'		X		-	-	-	-	-	-	-	540
	"	4-4.5'		X		-	-	-	-	-	-	-	512
	"	5-5.5'		X		-	-	-	-	-	-	-	615
	"	6-6.5'		X		-	-	-	-	-	-	-	606
	"	7-7.5'		X		-	-	-	-	-	-	-	451
	"	8-8.5'		X		-	-	-	-	-	-	-	310
	"	9-9.5'		X		-	-	-	-	-	-	-	414
AH-5	4\19\11	0-1'			X	<2.00	<50.0	<50.0	<.0200	<.0200	<.0200	<.0200	6,830
	"	1-1.5'			X	-	-	-	-	-	-	-	5,850
	"	2-2.5'			X	-	-	-	-	-	-	-	7,580
	"	3-3.5'			X	-	-	-	-	-	-	-	7,500
	"	4-4.5'			X	-	-	-	-	-	-	-	7,590
	"	5-5.5'			X	-	-	-	-	-	-	-	12,600
	"	6-6.5'			X	-	-	-	-	-	-	-	3,130
	"	7-7.5'		X		-	-	-	-	-	-	-	684

BEB Below Excavation Bottom
(--) Not Analyzed
[ ] Excavated Material and Depth

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
'220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No:	432-230-0077
Facility Name	State I #16	Facility Type	Flowline

Surface Owner State	Mineral Owner	Lease No. API#(30-015-03187)

LOCATION OF RELEASE

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

Latitude 32 48.055 **Longitude** 104 05.356

NATURE OF RELEASE

Type of Release Produced water	Volume of Release 60bbls	Volume Recovered 0bbls
Source of Release Flowline	Date and Hour of Occurrence 04/06/2011	Date and Hour of Discovery 04/06/2011 11:00 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher-OCD	
By Whom? Josh Russo	Date and Hour 04/08/2011 1:04 p.m.	
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.*

The State I #16 poly flowline ruptured. The line has been fused and returned to service.

Describe Area Affected and Cleanup Action Taken.*

Initially 60bbls of produced water was released from the poly flowline. We were unable to recover any fluid. The spill area measured 100' x 150' in the pasture to the east of the location. 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 OCD for approval prior to any significant remediation work.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Josh Russo	Approved by District Supervisor:	
Title: HSE Coordinator	Approval Date:	Expiration Date:
E-mail Address: jrusso@conchoresources.com	Conditions of Approval:	Attached ☐
Date: 04/15/2011 Phone: 432-212-2399		

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company **COG Operating LLC**	Contact **Pat Ellis**
Address **550 W. Texas, Suite 1300 Midland, Texas 79701**	Telephone No. **(432) 230-0077**
Facility Name **State I #16**	Facility Type **Flow line**

Surface Owner: **State**	Mineral Owner	Lease No. API 30-015--3187

LOCATION OF RELEASE

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

Latitude N 32 48.055 **Longitude** W 104 05.356

NATURE OF RELEASE

Type of Release: Produced water	Volume of Release 60 bbls	Volume Recovered 0 bbls
Source of Release: Water Flow line	Date and Hour of Occurrence 4/6/11	Date and Hour of Discovery 4/6/11 11:00 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher – OCD	
By Whom?	Date and Hour 4/8/11 1:04 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

The State I #16 poly line flow line ruptured. The line has been fused and returned to serviced.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected and assessed the spill area for extents. A work plan was prepared and submitted to NMOCD for approval. Soils exceeding the RRAL were removed and transported to proper disposal. Once excavated to the appropriate depths, the excavation was backfilled with clean soil. Tetra Tech prepared closure report and submitted to NMOCD for review.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Ike Tavarez (agent for COG)	Approved by District Supervisor:	
Title: Project Manager	Approval Date:	Expiration Date:
E-mail Address: ike.tavarez@tetratech.com	Conditions of Approval:	Attached ☐
Date: 1-10-12 Phone: (432) 682-4559		

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - State I #16
Eddy County, New Mexico

16 South 28 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21 **61**	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

16 South 29 East

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

16 South 30 East

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

17 South 28 East

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

17 South 29 East

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

17 South 30 East

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

18 South 28 East

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

18 South 29 East

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

18 South 30 East

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

New Mexico State Engineers Well Reports

USGS Well Reports

Geology and Groundwater Conditions in Southern Eddy, County, NM

NMOCD - Groundwater Data

TABLE 1. RECORDS OF WELLS IN EDDY COUNTY, NEW MEXICO. (Continued)

LOCATION NUMBER	OWNER OR NAME	DATE COMPLETED	TOPOGRAPHIC SITUATION	ALTITUDE ABOVE SEA LEVEL (feet)	DEPTH OF WELL (feet)	DIAMETER OF WELL (inches)	PRINCIPAL WATER-BEARING BED	
							CHARACTER OF MATERIAL	GEOLOGIC UNIT
17.28.2.240	Hal Bogle	–	Flat between mesas	–	–	6 (?)	Redbeds (?)	Dockum (?)
14.220	do.	–	Rolling	–	–	7	do.	do.
19.200	do.	–	do.	–	–	8	Redbeds, gypsum (?)	Chalk Bluff or Rustler
22.230	–	–	Flat between mesas	–	–	6	Redbeds (?)	Rustler or Dockum (?)
17.29.22.110	–	–	Bear Grass draw	3,550	–	6	do.	Dockum (?)
29.400	Bishop (?)	–	Flat	–	–	7	do.	do.
17.31.34.000	–	–	Rolling	–	–	6 (?)	Redbeds	Dockum
18.21.13.310	Andy Teel	1915	–	4,100	520	8	Limestone	San Andres
27.440	do.	1947	Broad valley	4,200	667	10	do.	do.
32.430	George Teel	1946	Rolling	4,300	815	6	do.	do.
18.23.6.140	Couhape Bros.	1941	S. of Rio Penasco	4,060	500	10	do.	do.
18.25.23.111	G. M. Phelps	–	Blackdom Terrace	–	–	–	Alluvium (?)	Quaternary (?)

See explanation at beginning of table.

LOCATION NUMBER	WATER LEVEL		YIELD (g.p.m.)	METHOD OF LIFT	USE OF WATER	REMARKS
	BELOW LAND SURFACE (feet)	DATE OF MEASUREMENT				

LOCATION NUMBER	WATER LEVEL: BELOW LAND SURFACE (feet)	WATER LEVEL: DATE OF MEASUREMENT	YIELD (g.p.m.)	METHOD OF LIFT	USE OF WATER	REMARKS
17.28.2.240	27.6	Dec. 1, 1948	3	W	S	Depth to water measured while pumping.
14.220	80	–	61	W	S & D	Driller: Cy Hinshaw. See analysis, Table 3.
19.200	224.3	Dec. 2, 1948	1.2	W	S	Depth to water measured while pumping.
22.230	45.5	Dec. 1, 1948	–	N	N	Abandoned stock well.
17.29.22.110	79.7	Nov. 29, 1948	3 E.	W	S	Depth to water measured while pumping.
29.400	210	Dec. 3, 1948	1.1	W	S	do.
17.31.34.000	271+	Dec. 6, 1948	3.5	W	S	do. See analysis, Table 3.
18.21.13.310	505	–	10 R.	W	S & D	Formerly C.C.C. well. Cased to 30 ft.
27.440	530	–	–	W	S	Cased to 120 ft.
32.430	800 (?)	–	12 R.	W	S & D	Lowered cylinder 5 ft. in 1948 because water level declined. Cased to 380 ft.
18.23.6.140	440	Jan. 12, 1950	–	W	S & D	
18.25.23.111	117.8	Jan. 1950	–	W	S	

See explanation at beginning of table.
1 Measured Dec. 3, 1948.

Appendix C

Summary Report

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

Report Date: May 3, 2011

Work Order: 11042214

Project Location: Eddy Co., NM
Project Name: COG/State I #16
Project Number: 114-6400887

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
264445	AH-1 0-1'	soil	2011-04-19	00:00	2011-04-21
264446	AH-1 1-1.5'	soil	2011-04-19	00:00	2011-04-21
264447	AH-1 2-2.5'	soil	2011-04-19	00:00	2011-04-21
264448	AH-1 3-3.5'	soil	2011-04-19	00:00	2011-04-21
264449	AH-1 4-4.5'	soil	2011-04-19	00:00	2011-04-21
264450	AH-1 5-5.5'	soil	2011-04-19	00:00	2011-04-21
264451	AH-1 6-6.5'	soil	2011-04-19	00:00	2011-04-21
264452	AH-1 7-7.5'	soil	2011-04-19	00:00	2011-04-21
264453	AH-1 8-8.5'	soil	2011-04-19	00:00	2011-04-21
264454	AH-1 9-9.5'	soil	2011-04-19	00:00	2011-04-21
264455	AH-2 0-1'	soil	2011-04-19	00:00	2011-04-21
264456	AH-2 1-1.5'	soil	2011-04-19	00:00	2011-04-21
264457	AH-2 2-2.5'	soil	2011-04-19	00:00	2011-04-21
264458	AH-2 3-3.5'	soil	2011-04-19	00:00	2011-04-21
264459	AH-3 0-1'	soil	2011-04-19	00:00	2011-04-21
264460	AH-3 1-1.5'	soil	2011-04-19	00:00	2011-04-21
264461	AH-3 2-2.5'	soil	2011-04-19	00:00	2011-04-21
264462	AH-3 3-3.5'	soil	2011-04-19	00:00	2011-04-21
264463	AH-3 4-4.5'	soil	2011-04-19	00:00	2011-04-21
264464	AH-3 5-5.5'	soil	2011-04-19	00:00	2011-04-21
264465	AH-3 6-6.5'	soil	2011-04-19	00:00	2011-04-21
264466	AH-3 7-7.5'	soil	2011-04-19	00:00	2011-04-21
264467	AH-3 8-8.5'	soil	2011-04-19	00:00	2011-04-21
264468	AH-3 9-9.5'	soil	2011-04-19	00:00	2011-04-21
264469	AH-4 0-1'	soil	2011-04-19	00:00	2011-04-21
264470	AH-4 1-1.5'	soil	2011-04-19	00:00	2011-04-21
264471	AH-4 2-2.5'	soil	2011-04-19	00:00	2011-04-21
264472	AH-4 3-3.5'	soil	2011-04-19	00:00	2011-04-21
264473	AH-4 4-4.5'	soil	2011-04-19	00:00	2011-04-21
264474	AH-4 5-5.5'	soil	2011-04-19	00:00	2011-04-21

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
264475	AH-4 6-6.5'	soil	2011-04-19	00:00	2011-04-21
264476	AH-4 7-7.5'	soil	2011-04-19	00:00	2011-04-21
264477	AH-4 8-8.5'	soil	2011-04-19	00:00	2011-04-21
264478	AH-4 9-9.5'	soil	2011-04-19	00:00	2011-04-21
264479	AH-5 0-1'	soil	2011-04-19	00:00	2011-04-21
264480	AH-5 1-1.5'	soil	2011-04-19	00:00	2011-04-21
264481	AH-5 2-2.5'	soil	2011-04-19	00:00	2011-04-21
264482	AH-5 3-3.5'	soil	2011-04-19	00:00	2011-04-21
264483	AH-5 4-4.5'	soil	2011-04-19	00:00	2011-04-21
264484	AH-5 5-5.5'	soil	2011-04-19	00:00	2011-04-21
264485	AH-5 6-6.5'	soil	2011-04-19	00:00	2011-04-21
264486	AH-5 7-7.5'	soil	2011-04-19	00:00	2011-04-21

	BTEX				TPH DRO - NEW	TPH GRO
Sample - Field Code	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
264445 - AH-1 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
264455 - AH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
264459 - AH-3 0-1'	<0.0200	**0.110**	**0.126**	**0.395**	**77.8**	**17.0**
264469 - AH-4 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
264479 - AH-5 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00

Sample: 264445 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**2550**	mg/Kg	4

Sample: 264446 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**10400**	mg/Kg	4

Sample: 264447 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**6910**	mg/Kg	4

Sample: 264448 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**5300**	mg/Kg	4

Sample: 264449 - AH-1 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**12000**	mg/Kg	4

Sample: 264450 - AH-1 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**5550**	mg/Kg	4

Sample: 264451 - AH-1 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**6480**	mg/Kg	4

Sample: 264452 - AH-1 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**3340**	mg/Kg	4

Sample: 264453 - AH-1 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**2040**	mg/Kg	4

Sample: 264454 - AH-1 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**1550**	mg/Kg	4

Sample: 264455 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**451**	mg/Kg	4

Sample: 264456 - AH-2 1-1.5'

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

Sample: 264457 - AH-2 2-2.5'

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

Sample: 264458 - AH-2 3-3.5'

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

Sample: 264459 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**20500**	mg/Kg	4

Sample: 264460 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**451**	mg/Kg	4

Sample: 264461 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**313**	mg/Kg	4

Sample: 264462 - AH-3 3-3.5'

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

Sample: 264463 - AH-3 4-4.5'

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

Sample: 264464 - AH-3 5-5.5'

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

Sample: 264465 - AH-3 6-6.5'

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

Sample: 264466 - AH-3 7-7.5'

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

Sample: 264467 - AH-3 8-8.5'

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

Sample: 264468 - AH-3 9-9.5'

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

Sample: 264469 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**4830**	mg/Kg	4

Sample: 264470 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**592**	mg/Kg	4

Sample: 264471 - AH-4 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**864**	mg/Kg	4

Sample: 264472 - AH-4 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**540**	mg/Kg	4

Sample: 264473 - AH-4 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**512**	mg/Kg	4

Sample: 264474 - AH-4 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**615**	mg/Kg	4

Sample: 264475 - AH-4 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**606**	mg/Kg	4

Sample: 264476 - AH-4 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**451**	mg/Kg	4

Sample: 264477 - AH-4 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**310**	mg/Kg	4

Sample: 264478 - AH-4 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**414**	mg/Kg	4

Sample: 264479 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		**6830**	mg/Kg	4

Sample: 264480 - AH-5 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**5850**	mg/Kg	4

Sample: 264481 - AH-5 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**7580**	mg/Kg	4

Sample: 264482 - AH-5 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**7500**	mg/Kg	4

Sample: 264483 - AH-5 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**7590**	mg/Kg	4

Sample: 264484 - AH-5 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**12600**	mg/Kg	4

Sample: 264485 - AH-5 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**3130**	mg/Kg	4

Sample: 264486 - AH-5 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**684**	mg/Kg	4

TRACEANALYSIS, INC.

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Certifications

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

NELAP Certifications

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

Analytical and Quality Control Report

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

Report Date: May 2, 2011

Work Order: 11042214

Project Location: Eddy Co., NM
Project Name: COG/State I #16
Project Number: 114-6400887

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
264445	AH-1 0-1'	soil	2011-04-19	00:00	2011-04-21
264446	AH-1 1-1.5'	soil	2011-04-19	00:00	2011-04-21
264447	AH-1 2-2.5'	soil	2011-04-19	00:00	2011-04-21
264448	AH-1 3-3.5'	soil	2011-04-19	00:00	2011-04-21
264449	AH-1 4-4.5'	soil	2011-04-19	00:00	2011-04-21
264450	AH-1 5-5.5'	soil	2011-04-19	00:00	2011-04-21
264451	AH-1 6-6.5'	soil	2011-04-19	00:00	2011-04-21
264452	AH-1 7-7.5'	soil	2011-04-19	00:00	2011-04-21
264453	AH-1 8-8.5'	soil	2011-04-19	00:00	2011-04-21
264454	AH-1 9-9.5'	soil	2011-04-19	00:00	2011-04-21

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
264455	AH-2 0-1'	soil	2011-04-19	00:00	2011-04-21
264456	AH-2 1-1.5'	soil	2011-04-19	00:00	2011-04-21
264457	AH-2 2-2.5'	soil	2011-04-19	00:00	2011-04-21
264458	AH-2 3-3.5'	soil	2011-04-19	00:00	2011-04-21
264459	AH-3 0-1'	soil	2011-04-19	00:00	2011-04-21
264460	AH-3 1-1.5'	soil	2011-04-19	00:00	2011-04-21
264461	AH-3 2-2.5'	soil	2011-04-19	00:00	2011-04-21
264462	AH-3 3-3.5'	soil	2011-04-19	00:00	2011-04-21
264463	AH-3 4-4.5'	soil	2011-04-19	00:00	2011-04-21
264464	AH-3 5-5.5'	soil	2011-04-19	00:00	2011-04-21
264465	AH-3 6-6.5'	soil	2011-04-19	00:00	2011-04-21
264466	AH-3 7-7.5'	soil	2011-04-19	00:00	2011-04-21
264467	AH-3 8-8.5'	soil	2011-04-19	00:00	2011-04-21
264468	AH-3 9-9.5'	soil	2011-04-19	00:00	2011-04-21
264469	AH-4 0-1'	soil	2011-04-19	00:00	2011-04-21
264470	AH-4 1-1.5'	soil	2011-04-19	00:00	2011-04-21
264471	AH-4 2-2.5'	soil	2011-04-19	00:00	2011-04-21
264472	AH-4 3-3.5'	soil	2011-04-19	00:00	2011-04-21
264473	AH-4 4-4.5'	soil	2011-04-19	00:00	2011-04-21
264474	AH-4 5-5.5'	soil	2011-04-19	00:00	2011-04-21
264475	AH-4 6-6.5'	soil	2011-04-19	00:00	2011-04-21
264476	AH-4 7-7.5'	soil	2011-04-19	00:00	2011-04-21
264477	AH-4 8-8.5'	soil	2011-04-19	00:00	2011-04-21
264478	AH-4 9-9.5'	soil	2011-04-19	00:00	2011-04-21
264479	AH-5 0-1'	soil	2011-04-19	00:00	2011-04-21
264480	AH-5 1-1.5'	soil	2011-04-19	00:00	2011-04-21
264481	AH-5 2-2.5'	soil	2011-04-19	00:00	2011-04-21
264482	AH-5 3-3.5'	soil	2011-04-19	00:00	2011-04-21
264483	AH-5 4-4.5'	soil	2011-04-19	00:00	2011-04-21
264484	AH-5 5-5.5'	soil	2011-04-19	00:00	2011-04-21
264485	AH-5 6-6.5'	soil	2011-04-19	00:00	2011-04-21
264486	AH-5 7-7.5'	soil	2011-04-19	00:00	2011-04-21

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

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

Standard Flags

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

Case Narrative

Samples for project COG/State I #16 were received by TraceAnalysis, Inc. on 2011-04-21 and assigned to work order 11042214. Samples for work order 11042214 were received intact at a temperature of 9.4 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	68447	2011-04-25 at 09:04	80636	2011-04-25 at 09:04
Chloride (Titration)	SM 4500-Cl B	68435	2011-04-25 at 11:20	80754	2011-04-28 at 11:57
Chloride (Titration)	SM 4500-Cl B	68515	2011-04-27 at 13:40	80827	2011-04-29 at 14:50
Chloride (Titration)	SM 4500-Cl B	68515	2011-04-27 at 13:40	80828	2011-04-29 at 14:51
Chloride (Titration)	SM 4500-Cl B	68515	2011-04-27 at 13:40	80829	2011-04-29 at 14:52
Chloride (Titration)	SM 4500-Cl B	68515	2011-04-27 at 13:40	80830	2011-04-29 at 14:53
TPH DRO - NEW	S 8015 D	68456	2011-04-25 at 09:52	80646	2011-04-25 at 09:52
TPH DRO - NEW	S 8015 D	68529	2011-04-27 at 10:16	80739	2011-04-27 at 10:16
TPH GRO	S 8015 D	68447	2011-04-25 at 09:04	80637	2011-04-25 at 09:04

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 11042214 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Analytical Report

Sample: 264445 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	80636	Date Analyzed:	2011-04-25	Analyzed By:	ME
Prep Batch:	68447	Sample Preparation:	2011-04-25	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.64	mg/Kg	1	2.00	82	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.81	mg/Kg	1	2.00	90	38.4 - 157

Sample: 264445 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80754	Date Analyzed:	2011-04-28	Analyzed By:	AR
Prep Batch:	68435	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**2550**		mg/Kg	100	4.00

Sample: 264445 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	80646	Date Analyzed:	2011-04-25	Analyzed By:	kg
Prep Batch:	68456	Sample Preparation:	2011-04-25	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		91.5	mg/Kg	1	100	92	70 - 130

Sample: 264445 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	80637	Date Analyzed:	2011-04-25	Analyzed By:	ME
Prep Batch:	68447	Sample Preparation:	2011-04-25	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.60	mg/Kg	1	2.00	80	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.60	mg/Kg	1	2.00	80	42 - 159

Sample: 264446 - AH-1 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80754	Date Analyzed:	2011-04-28	Analyzed By:	AR
Prep Batch:	68435	Sample Preparation:	2011-04-27	Prepared By:	AR

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

Sample: 264447 - AH-1 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80754	Date Analyzed:	2011-04-28	Analyzed By:	AR
Prep Batch:	68435	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**6910**	mg/Kg	100	4.00

Sample: 264448 - AH-1 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80827	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**5300**		mg/Kg	100	4.00

Sample: 264449 - AH-1 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80827	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**12000**		mg/Kg	100	4.00

Sample: 264450 - AH-1 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80827	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**5550**		mg/Kg	100	4.00

Sample: 264451 - AH-1 6-6.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80827	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**6480**		mg/Kg	100	4.00

Sample: 264452 - AH-1 7-7.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80827	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**3340**		mg/Kg	100	4.00

Sample: 264453 - AH-1 8-8.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80827	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**2040**		mg/Kg	100	4.00

Sample: 264454 - AH-1 9-9.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80827	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

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

Sample: 264455 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	80636	Date Analyzed:	2011-04-25	Analyzed By:	ME
Prep Batch:	68447	Sample Preparation:	2011-04-25	Prepared By:	ME

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

continued ...

sample 264455 continued ...

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.36	mg/Kg	1	2.00	118	52.8 - 137
4-Bromofluorobenzene (4-BFB)		2.56	mg/Kg	1	2.00	128	38.4 - 157

Sample: 264455 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80827	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**451**	mg/Kg	50	4.00

Sample: 264455 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	80739	Date Analyzed:	2011-04-27	Analyzed By:	kg
Prep Batch:	68529	Sample Preparation:	2011-04-27	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		101	mg/Kg	1	100	101	70 - 130

Sample: 264455 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	80637	Date Analyzed:	2011-04-25	Analyzed By:	ME
Prep Batch:	68447	Sample Preparation:	2011-04-25	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.30	mg/Kg	1	2.00	115	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.23	mg/Kg	1	2.00	112	42 - 159

Sample: 264456 - AH-2 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80827	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

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

Sample: 264457 - AH-2 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80827	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

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

Sample: 264458 - AH-2 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80828	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

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

Sample: 264459 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	80636	Date Analyzed:	2011-04-25	Analyzed By:	ME
Prep Batch:	68447	Sample Preparation:	2011-04-25	Prepared By:	ME

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		<0.0200		mg/Kg	1	0.0200
Toluene		**0.110**		mg/Kg	1	0.0200
Ethylbenzene		**0.126**		mg/Kg	1	0.0200
Xylene		**0.395**		mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.59	mg/Kg	1	2.00	130	52.8 - 137
4-Bromofluorobenzene (4-BFB)		2.64	mg/Kg	1	2.00	132	38.4 - 157

Sample: 264459 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80828	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**20500**		mg/Kg	100	4.00

Sample: 264459 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	80646	Date Analyzed:	2011-04-25	Analyzed By:	kg
Prep Batch:	68456	Sample Preparation:	2011-04-25	Prepared By:	kg

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		**77.8**		mg/Kg	1	50.0

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

Sample: 264459 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	80637	Date Analyzed:	2011-04-25	Analyzed By:	ME
Prep Batch:	68447	Sample Preparation:	2011-04-25	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**17.0**	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.49	mg/Kg	1	2.00	124	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.41	mg/Kg	1	2.00	120	42 - 159

Sample: 264460 - AH-3 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80828	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**451**	mg/Kg	50	4.00

Sample: 264461 - AH-3 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80828	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**313**	mg/Kg	50	4.00

Sample: 264462 - AH-3 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80828	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

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

Sample: 264463 - AH-3 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80828	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

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

Sample: 264464 - AH-3 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80828	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

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

Sample: 264465 - AH-3 6-6.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80828	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

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

Sample: 264466 - AH-3 7-7.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80828	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

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

Sample: 264467 - AH-3 8-8.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80828	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

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

Sample: 264468 - AH-3 9-9.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80829	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

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

Sample: 264469 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	80636	Date Analyzed:	2011-04-25	Analyzed By:	ME
Prep Batch:	68447	Sample Preparation:	2011-04-25	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.48	mg/Kg	1	2.00	124	52.8 - 137
4-Bromofluorobenzene (4-BFB)		2.56	mg/Kg	1	2.00	128	38.4 - 157

Sample: 264469 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80829	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

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

Sample: 264469 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	80646	Date Analyzed:	2011-04-25	Analyzed By:	kg
Prep Batch:	68456	Sample Preparation:	2011-04-25	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		110	mg/Kg	1	100	110	70 - 130

Sample: 264469 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	80637	Date Analyzed:	2011-04-25	Analyzed By:	ME
Prep Batch:	68447	Sample Preparation:	2011-04-25	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.39	mg/Kg	1	2.00	120	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.25	mg/Kg	1	2.00	112	42 - 159

Sample: 264470 - AH-4 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80829	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**592**	mg/Kg	50	4.00

Sample: 264471 - AH-4 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80829	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**864**	mg/Kg	100	4.00

Sample: 264472 - AH-4 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80829	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**540**	mg/Kg	50	4.00

Sample: 264473 - AH-4 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80829	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**512**	mg/Kg	50	4.00

Sample: 264474 - AH-4 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80829	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**615**	mg/Kg	50	4.00

Sample: 264475 - AH-4 6-6.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80829	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**606**	mg/Kg	50	4.00

Sample: 264476 - AH-4 7-7.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80829	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**451**	mg/Kg	50	4.00

Sample: 264477 - AH-4 8-8.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80829	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

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

Sample: 264478 - AH-4 9-9.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80830	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**414**		mg/Kg	50	4.00

Sample: 264479 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	80636	Date Analyzed:	2011-04-25	Analyzed By:	ME
Prep Batch:	68447	Sample Preparation:	2011-04-25	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.47	mg/Kg	1	2.00	124	52.8 - 137
4-Bromofluorobenzene (4-BFB)		2.62	mg/Kg	1	2.00	131	38.4 - 157

Sample: 264479 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80830	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**6830**		mg/Kg	100	4.00

Sample: 264479 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	80646	Date Analyzed:	2011-04-25	Analyzed By:	kg
Prep Batch:	68456	Sample Preparation:	2011-04-25	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		94.0	mg/Kg	1	100	94	70 - 130

Sample: 264479 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	80637	Date Analyzed:	2011-04-25	Analyzed By:	ME
Prep Batch:	68447	Sample Preparation:	2011-04-25	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.36	mg/Kg	1	2.00	118	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.28	mg/Kg	1	2.00	114	42 - 159

Sample: 264480 - AH-5 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80830	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**5850**		mg/Kg	100	4.00

Sample: 264481 - AH-5 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80830	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**7580**	mg/Kg	100	4.00

Sample: 264482 - AH-5 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80830	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**7500**	mg/Kg	100	4.00

Sample: 264483 - AH-5 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80830	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**7590**	mg/Kg	100	4.00

Sample: 264484 - AH-5 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80830	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**12600**	mg/Kg	100	4.00

Sample: 264485 - AH-5 6-6.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80830	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**3130**	mg/Kg	100	4.00

Sample: 264486 - AH-5 7-7.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	80830	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	Sample Preparation:	2011-04-27	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**684**	mg/Kg	50	4.00

Method Blank (1) QC Batch: 80636

QC Batch:	80636	Date Analyzed:	2011-04-25	Analyzed By:	ME
Prep Batch:	68447	QC Preparation:	2011-04-25	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.08	mg/Kg	1	2.00	104	66.6 - 122
4-Bromofluorobenzene (4-BFB)		2.23	mg/Kg	1	2.00	112	55.4 - 124

Method Blank (1) QC Batch: 80637

QC Batch:	80637	Date Analyzed:	2011-04-25	Analyzed By:	ME
Prep Batch:	68447	QC Preparation:	2011-04-25	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.02	mg/Kg	1	2.00	101	67.6 - 150
4-Bromofluorobenzene (4-BFB)		1.93	mg/Kg	1	2.00	96	52.4 - 130

Method Blank (1) QC Batch: 80646

QC Batch: 80646 | Date Analyzed: 2011-04-25 | Analyzed By: kg
Prep Batch: 68456 | QC Preparation: 2011-04-25 | Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		104	mg/Kg	1	100	104	70 - 130

Method Blank (1) QC Batch: 80739

QC Batch: 80739 | Date Analyzed: 2011-04-27 | Analyzed By: kg
Prep Batch: 68529 | QC Preparation: 2011-04-27 | Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		101	mg/Kg	1	100	101	70 - 130

Method Blank (1) QC Batch: 80754

QC Batch: 80754 | Date Analyzed: 2011-04-28 | Analyzed By: AR
Prep Batch: 68435 | QC Preparation: 2011-04-25 | Prepared By: AR

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

Method Blank (1) QC Batch: 80827

QC Batch:	80827	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	QC Preparation:	2011-04-27	Prepared By:	AR

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

Method Blank (1) QC Batch: 80828

QC Batch:	80828	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	QC Preparation:	2011-04-27	Prepared By:	AR

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

Method Blank (1) QC Batch: 80829

QC Batch:	80829	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	QC Preparation:	2011-04-27	Prepared By:	AR

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

Method Blank (1) QC Batch: 80830

QC Batch:	80830	Date Analyzed:	2011-04-29	Analyzed By:	AR
Prep Batch:	68515	QC Preparation:	2011-04-27	Prepared By:	AR

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

Laboratory Control Spike (LCS-1)

QC Batch:	80636	Date Analyzed:	2011-04-25	Analyzed By:	ME
Prep Batch:	68447	QC Preparation:	2011-04-25	Prepared By:	ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.64	mg/Kg	1	2.00	<0.0118	82	81.9 - 108
Toluene	1.98	mg/Kg	1	2.00	<0.00600	99	81.9 - 110
Ethylbenzene	2.09	mg/Kg	1	2.00	<0.00850	104	78.4 - 115
Xylene	6.30	mg/Kg	1	6.00	<0.00613	105	79.1 - 116

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.68	mg/Kg	1	2.00	<0.0118	84	81.9 - 108	2	20
Toluene	2.10	mg/Kg	1	2.00	<0.00600	105	81.9 - 110	6	20
Ethylbenzene	2.06	mg/Kg	1	2.00	<0.00850	103	78.4 - 115	1	20
Xylene	6.40	mg/Kg	1	6.00	<0.00613	107	79.1 - 116	2	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.10	2.11	mg/Kg	1	2.00	105	106	70.2 - 114
4-Bromofluorobenzene (4-BFB)	2.38	2.41	mg/Kg	1	2.00	119	120	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 80637 | Date Analyzed: 2011-04-25 | Analyzed By: ME
Prep Batch: 68447 | QC Preparation: 2011-04-25 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	17.0	mg/Kg	1	20.0	<0.753	85	60.9 - 95.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	16.7	mg/Kg	1	20.0	<0.753	84	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)	2.07	1.95	mg/Kg	1	2.00	104	98	61.9 - 142
4-Bromofluorobenzene (4-BFB)	2.09	2.00	mg/Kg	1	2.00	104	100	68.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 80646 | Date Analyzed: 2011-04-25 | Analyzed By: kg
Prep Batch: 68456 | QC Preparation: 2011-04-25 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	218	mg/Kg	1	250	<15.7	87	47.5 - 144.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	213	mg/Kg	1	250	<15.7	85	47.5 - 144.1	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
n-Tricosane	106	106	mg/Kg	1	100	106	106	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 80739 | Date Analyzed: 2011-04-27 | Analyzed By: kg
Prep Batch: 68529 | QC Preparation: 2011-04-27 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	222	mg/Kg	1	250	<15.7	89	47.5 - 144.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	246	mg/Kg	1	250	<15.7	98	47.5 - 144.1	10	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	115	120	mg/Kg	1	100	115	120	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 80754 | Date Analyzed: 2011-04-28 | Analyzed By: AR
Prep Batch: 68435 | QC Preparation: 2011-04-25 | Prepared By: AR

Param	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	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.

Laboratory Control Spike (LCS-1)

QC Batch: 80827 | Date Analyzed: 2011-04-29 | Analyzed By: AR
Prep Batch: 68515 | QC Preparation: 2011-04-27 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.6	mg/Kg	1	100	<3.85	97	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	104	mg/Kg	1	100	<3.85	104	85 - 115	7	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 80828 | Date Analyzed: 2011-04-29 | Analyzed By: AR
Prep Batch: 68515 | QC Preparation: 2011-04-27 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.2	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	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	105	mg/Kg	1	100	<3.85	105	85 - 115	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: 80829 | Date Analyzed: 2011-04-29 | Analyzed By: AR
Prep Batch: 68515 | QC Preparation: 2011-04-27 | Prepared By: AR

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control spikes continued ...

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.3	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	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	6	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 80830 | Date Analyzed: 2011-04-29 | Analyzed By: AR
Prep Batch: 68515 | QC Preparation: 2011-04-27 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.7	mg/Kg	1	100	<3.85	97	85 - 115

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

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

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

Matrix Spike (MS-1) Spiked Sample: 264496

QC Batch: 80636 | Date Analyzed: 2011-04-25 | Analyzed By: ME
Prep Batch: 68447 | QC Preparation: 2011-04-25 | Prepared By: ME

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1.67	mg/Kg	1	2.00	<0.0118	84	80.5 - 112
Toluene		2.12	mg/Kg	1	2.00	<0.00600	106	82.4 - 113
Ethylbenzene	[1]	2.31	mg/Kg	1	2.00	<0.00850	116	83.9 - 114
Xylene	[2]	7.01	mg/Kg	1	6.00	<0.00613	117	84 - 114

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

[1]Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
[2]Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	[3]	1.50	mg/Kg	1	2.00	<0.0118	75	80.5 - 112	11	20
Toluene		1.93	mg/Kg	1	2.00	<0.00600	96	82.4 - 113	9	20
Ethylbenzene		2.11	mg/Kg	1	2.00	<0.00850	106	83.9 - 114	9	20
Xylene		6.40	mg/Kg	1	6.00	<0.00613	107	84 - 114	9	20

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

Surrogate		MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	[4]	2.40	2.08	mg/Kg	1	2	120	104	41.3 - 117
4-Bromofluorobenzene (4-BFB)	[5]	2.64	2.31	mg/Kg	1	2	132	116	35.5 - 129

Matrix Spike (MS-1) Spiked Sample: 264479

QC Batch: 80637 | Date Analyzed: 2011-04-25 | Analyzed By: ME
Prep Batch: 68447 | QC Preparation: 2011-04-25 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	15.0	mg/Kg	1	20.0	<0.753	75	61.8 - 114

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	17.0	mg/Kg	1	20.0	<0.753	85	61.8 - 114	12	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)	2.16	2.32	mg/Kg	1	2	108	116	50 - 162
4-Bromofluorobenzene (4-BFB)	2.22	2.37	mg/Kg	1	2	111	118	50 - 162

Matrix Spike (MS-1) Spiked Sample: 264479

QC Batch: 80646 | Date Analyzed: 2011-04-25 | Analyzed By: kg
Prep Batch: 68456 | QC Preparation: 2011-04-25 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	208	mg/Kg	1	250	<15.7	83	11.7 - 152.3

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

[3]MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.
[4]High surrogate recovery due to peak interference.
[5]High surrogate recovery due to peak interference.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	236	mg/Kg	1	250	<15.7	94	11.7 - 152.3	13	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	102	110	mg/Kg	1	100	102	110	70 - 130

Matrix Spike (MS-1) Spiked Sample: 264455

QC Batch: 80739 | Date Analyzed: 2011-04-27 | Analyzed By: kg
Prep Batch: 68529 | QC Preparation: 2011-04-27 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	233	mg/Kg	1	250	<15.7	93	11.7 - 152.3

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	224	mg/Kg	1	250	<15.7	90	11.7 - 152.3	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	103	106	mg/Kg	1	100	103	106	70 - 130

Matrix Spike (MS-1) Spiked Sample: 264447

QC Batch: 80754 | Date Analyzed: 2011-04-28 | Analyzed By: AR
Prep Batch: 68435 | QC Preparation: 2011-04-25 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	16700	mg/Kg	100	10000	6910	98	80 - 120

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	17300	mg/Kg	100	10000	6910	104	80 - 120	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: 264457

QC Batch: 80827 | Date Analyzed: 2011-04-29 | Analyzed By: AR
Prep Batch: 68515 | QC Preparation: 2011-04-27 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	9820	mg/Kg	100	10000	<385	98	80 - 120

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10000	mg/Kg	100	10000	<385	100	80 - 120	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: 264467

QC Batch: 80828 | Date Analyzed: 2011-04-29 | Analyzed By: AR
Prep Batch: 68515 | QC Preparation: 2011-04-27 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	9750	mg/Kg	100	10000	<385	98	80 - 120

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10100	mg/Kg	100	10000	<385	101	80 - 120	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: 264477

QC Batch: 80829 | Date Analyzed: 2011-04-29 | Analyzed By: AR
Prep Batch: 68515 | QC Preparation: 2011-04-27 | Prepared By: AR

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

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10900	mg/Kg	100	10000	<385	106	80 - 120	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: 264486

QC Batch: 80830 | Date Analyzed: 2011-04-29 | Analyzed By: AR
Prep Batch: 68515 | QC Preparation: 2011-04-27 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10500	mg/Kg	100	10000	684	98	80 - 120

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	11000	mg/Kg	100	10000	684	103	80 - 120	5	20

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

Standard (CCV-1)

QC Batch: 80636 | Date Analyzed: 2011-04-25 | Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0894	89	80 - 120	2011-04-25
Toluene		mg/Kg	0.100	0.109	109	80 - 120	2011-04-25
Ethylbenzene		mg/Kg	0.100	0.115	115	80 - 120	2011-04-25
Xylene		mg/Kg	0.300	0.349	116	80 - 120	2011-04-25

Standard (CCV-2)

QC Batch: 80636 | Date Analyzed: 2011-04-25 | Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0806	81	80 - 120	2011-04-25
Toluene		mg/Kg	0.100	0.100	100	80 - 120	2011-04-25
Ethylbenzene		mg/Kg	0.100	0.105	105	80 - 120	2011-04-25
Xylene		mg/Kg	0.300	0.318	106	80 - 120	2011-04-25

Standard (CCV-3)

QC Batch: 80636 | Date Analyzed: 2011-04-25 | Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0853	85	80 - 120	2011-04-25
Toluene		mg/Kg	0.100	0.105	105	80 - 120	2011-04-25
Ethylbenzene		mg/Kg	0.100	0.109	109	80 - 120	2011-04-25
Xylene		mg/Kg	0.300	0.327	109	80 - 120	2011-04-25

Standard (CCV-1)

QC Batch: 80637 Date Analyzed: 2011-04-25 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.998	100	80 - 120	2011-04-25

Standard (CCV-2)

QC Batch: 80637 Date Analyzed: 2011-04-25 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.898	90	80 - 120	2011-04-25

Standard (CCV-3)

QC Batch: 80637 Date Analyzed: 2011-04-25 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.08	108	80 - 120	2011-04-25

Standard (CCV-1)

QC Batch: 80646 Date Analyzed: 2011-04-25 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	212	85	80 - 120	2011-04-25

Standard (CCV-2)

QC Batch: 80646 | Date Analyzed: 2011-04-25 | Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	230	92	80 - 120	2011-04-25

Standard (CCV-2)

QC Batch: 80739 | Date Analyzed: 2011-04-27 | Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	294	118	80 - 120	2011-04-27

Standard (CCV-3)

QC Batch: 80739 | Date Analyzed: 2011-04-27 | Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	274	110	80 - 120	2011-04-27

Standard (ICV-1)

QC Batch: 80754 | Date Analyzed: 2011-04-28 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2011-04-28

Standard (CCV-1)

QC Batch: 80754 | Date Analyzed: 2011-04-28 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.0	99	85 - 115	2011-04-28

Standard (ICV-1)

QC Batch: 80827 | Date Analyzed: 2011-04-29 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.1	98	85 - 115	2011-04-29

Standard (CCV-1)

QC Batch: 80827 | Date Analyzed: 2011-04-29 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	102	102	85 - 115	2011-04-29

Standard (ICV-1)

QC Batch: 80828 | Date Analyzed: 2011-04-29 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2011-04-29

Standard (CCV-1)

QC Batch: 80828 | Date Analyzed: 2011-04-29 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.1	99	85 - 115	2011-04-29

Standard (ICV-1)

QC Batch: 80829 | Date Analyzed: 2011-04-29 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2011-04-29

Standard (CCV-1)

QC Batch: 80829 | Date Analyzed: 2011-04-29 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.8	99	85 - 115	2011-04-29

Standard (ICV-1)

QC Batch: 80830 | Date Analyzed: 2011-04-29 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.9	98	85 - 115	2011-04-29

Standard (CCV-1)

QC Batch: 80830 | Date Analyzed: 2011-04-29 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	102	102	85 - 115	2011-04-29

XWO #: 1042214

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 5

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: CCG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400987

PROJECT NAME: State I #16

Eddy Co NM

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	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. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
264445	4/19		S		X	AH-1 0-1'	1				X		X	X											X				
446						AH-1 1-1.5'																							
447						AH-1 2-2.5'																							
448						AH-1 3-3.5'																							
449						AH-1 4-4.5'																							
450						AH-1 5-5.5'																							
451						AH-1 6-6.5'																							
452						AH-1 7-7.5'																							
453						AH-1 8-8.5'																							
454						AH-1 9-9.5'																							

RELINQUISHED BY: (Signature) Date: 4-19-11 Time: 17:00

RECEIVED BY: (Signature) Date: 4/20/11 Time: 17:00

SAMPLED BY: (Print & Initial) TF KD Date: 4-19-11 Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

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

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: Trace

ADDRESS:

CITY: Midland STATE: TX ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: TIME:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 9, 4°C intact

REMARKS: If total TPH exceeds 5000 mg/kg run deeper
If BTEX exceeds 50 or Benzene exceeds 10 run deeper

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

xwo #: 11042214

Analysis Request of Chain of Custody Record

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400887

PROJECT NAME: State I #16

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION (Eddy Co NM)	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
264455	4/19		S		X	AH-2 0-1'	1				X		X	X											X				
456						AH-2 1-1.5'																							
457						AH-2 2-2.5'																							
458						AH-2 3-3.5'																							
459						AH-3 0-1							X	X															
460						AH-3 1-1.5																							
461						AH-3 2-2.5																							
462						AH-3 3-3.5																							
463						AH-3 4-4.5																							
464	↓		↓		↓	AH-3 5-5.5	↓				↓														↓				

RELINQUISHED BY: (Signature)	Date: 4-19-11 Time: 17:00	RECEIVED BY: (Signature)	Date: 4/20/11 Time: 17:00
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:

SAMPLED BY: (Print & Initial) TF KD — Date: 4-19-11 Time:

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

RECEIVING LABORATORY: Xenco
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 9.4 c intact

REMARKS:

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

*WO #: 1104221 4

Analysis Request of Chain of Custody Record

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400887

PROJECT NAME: State I #16

Eddy Co NM

ANALYSIS REQUEST (Circle or Specify Method No.)

PRESERVATIVE METHOD

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 8081/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
264465	4/19		S		X	AH-3 6-6.5'	1				X																	
466						AH-3 7-7.5'																						
467						AH-3 8-8.5'																						
468						AH-3 9-9.5'																						
469						AH-4 0-1'							X	X														
470						AH-4 1-1.5'																						
471						AH-4 2-2.5'																						
472						AH-4 3-3.5'																						
473						AH-4 4-4.5'																						
474						AH-4 5-5.5'																						

RELINQUISHED BY: (Signature) Date: 4-19-11 Time: 12:00

RECEIVED BY: (Signature) Date: 4/19/11 Time: 17:00

SAMPLED BY: (Print & Initial) TF KD Date: 4-19-11 Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

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

AIRBILL #:

OTHER:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: Trace

ADDRESS:

CITY: Midland STATE: TX ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: TIME:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 9,4°C Intact

REMARKS:

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

Xwo #: 11042214

Analysis Request of Chain of Custody Record

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:	SITE MANAGER:
COG	Ike Tavarez

PROJECT NO.:	PROJECT NAME:
114-6400887	State I #16

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C36)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
264475	4/19		S		X	AH-4 6-6.5'	1				X																	
476						AH-4 7-7.5'																						
477						AH-4 8-8.5'																						
478						AH-4 9-9.5'																						
479						AH-5 0-1'							X	X														
480						AH-5 1-1.5'																						
481						AH-5 2-2.5'																						
482						AH-5 3-3.5'																						
483						AH-5 4-4.5'																						
484						AH-5 5-5.5'																						

Eddy Co NM

RELINQUISHED BY: (Signature)	Date: 4-21-11 Time: 17:00	RECEIVED BY: (Signature)	Date: 4/22/11 Time: 7:00
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:

SAMPLED BY: (Print & Initial) TF RD — Date: 4-19-11 Time:

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

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 9.4°c intact

REMARKS:

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

* WO#: 1104221 4

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: 5 OF: 5

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-64000887

PROJECT NAME: State I #16

Eddy Co NM

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
264485	4/19		S		X	AH-5 6-6.5'	1				X													X				
486	4/19		S		X	AH-5 7-7.5'	1				X													V				

RELINQUISHED BY: (Signature) Date: 4-21-11 Time: 17:00

RECEIVED BY: (Signature) Date: 4/21/11 Time: 17:00

SAMPLED BY: (Print & Initial) JF KO Date: 4-19-11 Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

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

AIRBILL #:

OTHER:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RECEIVING LABORATORY: Xenco

ADDRESS:

CITY: Midland STATE: TX ZIP:

CONTACT: PHONE: DATE: TIME:

RECEIVED BY: (Signature)

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: Y & C intact

REMARKS:

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

Summary Report

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

Report Date: January 5, 2012

Work Order: 11122916

Project Location: Eddy Co., NM
Project Name: COG/State I #16
Project Number: 114-6400887

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
285488	Trench-1 @ 11' (AH-1)	soil	2011-12-16	00:00	2011-12-29
285489	Trench-1 @ 13' (AH-1)	soil	2011-12-16	00:00	2011-12-29
285490	Trench-1 @ 15' (AH-1)	soil	2011-12-16	00:00	2011-12-29
285491	Trench-1 @ 17' (AH-1)	soil	2011-12-16	00:00	2011-12-29
285492	Trench-1 @ 19' (AH-1)	soil	2011-12-16	00:00	2011-12-29
285493	Trench-1 @ 21' (AH-1)	soil	2011-12-16	00:00	2011-12-29
285494	Trench-1 @ 23' (AH-1)	soil	2011-12-16	00:00	2011-12-29

Sample: 285488 - Trench-1 @ 11' (AH-1)

Param	Flag	Result	Units	RL
Chloride		**641**	mg/Kg	4

Sample: 285489 - Trench-1 @ 13' (AH-1)

Param	Flag	Result	Units	RL
Chloride		**945**	mg/Kg	4

Sample: 285490 - Trench-1 @ 15' (AH-1)

Param	Flag	Result	Units	RL
Chloride		**839**	mg/Kg	4

Sample: 285491 - Trench-1 @ 17' (AH-1)

Param	Flag	Result	Units	RL
Chloride		**660**	mg/Kg	4

Sample: 285492 - Trench-1 @ 19' (AH-1)

Param	Flag	Result	Units	RL
Chloride		**617**	mg/Kg	4

Sample: 285493 - Trench-1 @ 21' (AH-1)

Param	Flag	Result	Units	RL
Chloride		**463**	mg/Kg	4

Sample: 285494 - Trench-1 @ 23' (AH-1)

Param	Flag	Result	Units	RL
Chloride		**506**	mg/Kg	4

TRACEANALYSIS, INC.

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

Certifications

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: January 5, 2012

Work Order: 11122916

Project Location: Eddy Co., NM
Project Name: COG/State I #16
Project Number: 114-6400887

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
285488	Trench-1 @ 11' (AH-1)	soil	2011-12-16	00:00	2011-12-29
285489	Trench-1 @ 13' (AH-1)	soil	2011-12-16	00:00	2011-12-29
285490	Trench-1 @ 15' (AH-1)	soil	2011-12-16	00:00	2011-12-29
285491	Trench-1 @ 17' (AH-1)	soil	2011-12-16	00:00	2011-12-29
285492	Trench-1 @ 19' (AH-1)	soil	2011-12-16	00:00	2011-12-29
285493	Trench-1 @ 21' (AH-1)	soil	2011-12-16	00:00	2011-12-29
285494	Trench-1 @ 23' (AH-1)	soil	2011-12-16	00:00	2011-12-29

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

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

Report Contents

Case Narrative

Samples for project COG/State I #16 were received by TraceAnalysis, Inc. on 2011-12-29 and assigned to work order 11122916. Samples for work order 11122916 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	74350	2012-01-03 at 09:57	87597	2012-01-04 at 13:58
Chloride (Titration)	SM 4500-Cl B	74350	2012-01-03 at 09:57	87598	2012-01-04 at 13:59

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11122916 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Analytical Report

Sample: 285488 - Trench-1 @ 11' (AH-1)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87597	Date Analyzed:	2012-01-04	Analyzed By:	AR
Prep Batch:	74350	Sample Preparation:	2012-01-03	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**641**	mg/Kg	50	4.00

Sample: 285489 - Trench-1 @ 13' (AH-1)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87597	Date Analyzed:	2012-01-04	Analyzed By:	AR
Prep Batch:	74350	Sample Preparation:	2012-01-03	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**945**	mg/Kg	50	4.00

Sample: 285490 - Trench-1 @ 15' (AH-1)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87597	Date Analyzed:	2012-01-04	Analyzed By:	AR
Prep Batch:	74350	Sample Preparation:	2012-01-03	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**839**	mg/Kg	50	4.00

Sample: 285491 - Trench-1 @ 17' (AH-1)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87597	Date Analyzed:	2012-01-04	Analyzed By:	AR
Prep Batch:	74350	Sample Preparation:	2012-01-03	Prepared By:	AR

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Chloride			**660**		mg/Kg	50	4.00

Sample: 285492 - Trench-1 @ 19' (AH-1)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87597	Date Analyzed:	2012-01-04	Analyzed By:	AR
Prep Batch:	74350	Sample Preparation:	2012-01-03	Prepared By:	AR

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Chloride			**617**		mg/Kg	50	4.00

Sample: 285493 - Trench-1 @ 21' (AH-1)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87597	Date Analyzed:	2012-01-04	Analyzed By:	AR
Prep Batch:	74350	Sample Preparation:	2012-01-03	Prepared By:	AR

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Chloride			**463**		mg/Kg	50	4.00

Sample: 285494 - Trench-1 @ 23' (AH-1)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87598	Date Analyzed:	2012-01-04	Analyzed By:	AR
Prep Batch:	74350	Sample Preparation:	2012-01-03	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**506**	mg/Kg	50	4.00

Method Blanks

Method Blank (1) QC Batch: 87597

QC Batch:	87597	Date Analyzed:	2012-01-04	Analyzed By:	AR
Prep Batch:	74350	QC Preparation:	2012-01-03	Prepared By:	AR

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

Method Blank (1) QC Batch: 87598

QC Batch:	87598	Date Analyzed:	2012-01-04	Analyzed By:	AR
Prep Batch:	74350	QC Preparation:	2012-01-03	Prepared By:	AR

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

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 87597 | Date Analyzed: 2012-01-04 | Analyzed By: AR
Prep Batch: 74350 | QC Preparation: 2012-01-03 | Prepared By: AR

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			104	mg/Kg	1	100	<3.85	104	85 - 115	7	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 87598 | Date Analyzed: 2012-01-04 | Analyzed By: AR
Prep Batch: 74350 | QC Preparation: 2012-01-03 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			96.5	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			105	mg/Kg	1	100	<3.85	105	85 - 115	8	20

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

Matrix Spike (MS-1) Spiked Sample: 285493

QC Batch: 87597 | Date Analyzed: 2012-01-04 | Analyzed By: AR
Prep Batch: 74350 | QC Preparation: 2012-01-03 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10300	mg/Kg	100	10000	463	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			10600	mg/Kg	100	10000	463	101	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: 285505

QC Batch: 87598 | Date Analyzed: 2012-01-04 | Analyzed By: AR
Prep Batch: 74350 | QC Preparation: 2012-01-03 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			31100	mg/Kg	100	10000	21200	99	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			32400	mg/Kg	100	10000	21200	112	79.4 - 120.6	4	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: 87597 | Date Analyzed: 2012-01-04 | 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	2012-01-04

Standard (CCV-1)

QC Batch: 87597 | Date Analyzed: 2012-01-04 | 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	99.6	100	85 - 115	2012-01-04

Standard (ICV-1)

QC Batch: 87598 | Date Analyzed: 2012-01-04 | 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	2012-01-04

Standard (CCV-1)

QC Batch: 87598 | Date Analyzed: 2012-01-04 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.5	100	85 - 115	2012-01-04

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
1	NELAP	T104704392-11-3	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 then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

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

#111627/6

Analysis Request of Chain of Custody Record

PAGE: 1 OF:

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400887

PROJECT NAME: State I #16 Lea County

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
285488	12/16/11		S		X	Trench-1 @ 11' (AH-1)	1				X														X				
489	12/16/11		S		X	Trench-1 @ 13' (AH-1)	1				X														X				
490	12/16/11		S		X	Trench-1 @ 15' (AH-1)	1				X														X				
491	12/16/11		S		X	Trench-1 @ 17' (AH-1)	1				X														X				
492	12/16/11		S		X	Trench-1 @ 19' (AH-1)	1				X														X				
493	12/16/11		S		X	Trench-1 @ 21' (AH-1)	1				X														X				
494	12/16/11		S		X	Trench-1 @ 23' (AH-1)	1				X														X				

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature) Brian Schavee	Date: 12/23/11 Time: 600	RECEIVED BY: (Signature)	Date: 12/23/11 Time: 0600
RELINQUISHED BY: (Signature)	Date: 12/23/11 Time: 1200	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: 12/29/11 Time: 1:31	RECEIVED BY: (Signature)	Date: 12-29-11 Time: 1330

SAMPLED BY: (Print & Initial) BRIAN Schavee / BRS Date: 12/20/11 Time: 1200

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

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

RECEIVING LABORATORY:
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:

SAMPLE CONDITION WHEN RECEIVED: 4°C

REMARKS:

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