SITE INFORMATION

Report Type: Closure Report

General Site Information:						
Site:	Continental A State Tank Battery					
Company:	COG Operating LLC					
Section, Township and Range	Unit I	Sec. 30	T-17-S	R-29-E		
Lease Number:	API-30-015-35052					
County:	Eddy County					
GPS:	32.81210			104.11641		
Surface Owner:	State					
Mineral Owner:						
Directions:	Intersection of Hwy 82 and CR-212 (West of Loco Hills), travel west on Hwy 82 2.4 mi, turn right 0.2 mi, turn left 500' to location - Injection well location west of wellhead					

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Release Data:	
Date Released:	5/23/2012
Type Release:	Produced Water
Source of Contamination:	2" bull plug failed at tank
Fluid Released:	30 bbls
Fluids Recovered:	27 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

October 8, 2012

Mr. Mike Bratcher
Environmental Engineer Specialist
NMOCD, District 2
811 S. First Street
Artesia, New Mexico 88210

Re: Closure Report for the COG Operating LLC., Continental A State Tank Battery Located in Unit C, Section 30, Township 17 South, Range 29 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Continental A State Tank Battery located in Unit C, Section 30, Township 17 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.81210°, W 104.11641°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico Oil Conservation Division (NMOCD) Form C-141 Initial Report, the leak was discovered on May 23, 2012, and released approximately thirty (30) barrels of crude oil due to a 2" bull plug failed used at the sales tank at the facility. COG personnel replaced the defective bull plug. Approximately twenty-seven (27) barrels of oil were recovered from the spill area.

The spill initiated inside the facility firewalls impacting the area west of the tanks measuring approximately 5' x 300'. The crude oil breached the northeast and southwest firewalls measuring approximately 5' x 20' and 10' x 25'. The footprint of the spill is shown on Figure 3. The initial Form C-141 is enclosed in Appendix A.

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

Groundwater

No wells were located in Section 30. According to the NMOCD groundwater map, the depth to groundwater in this area is approximately 175' below surface. The groundwater data is shown in Appendix B.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the 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

On July 3, 2012, Tetra Tech personnel inspected and sampled the spill area. A total of eight (8) auger holes (AH-1 through AH-8) were installed using a stainless steel hand auger to assess the impacted soils. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C.

Referring to Table 1, auger holes (AH-2, AH-3, AH-7, AH-8 and AH-9) either exceeded the RRAL for TPH, benzene or total BTEX. Auger holes (AH-8 and AH-9) did not show a chloride impact to the areas. The remaining auger holes showed elevated chloride concentrations and were not vertically defined. Due to a dense caliche layer, deeper samples could not be collected with a hand auger. During the excavation phase of remediation, backhoe trenches will be installed to collect deeper samples.

Remediation and Conclusion

Based on the approved work plan, Tetra Tech personnel supervised the excavation of the site. The excavated area and depths are highlighted in Table 1. The final excavation depths of the soil remediation were met as

stated in the approved work plan. Approximately 260 cubic yards of soil were excavated and transported to R360 facility for proper disposal.

The excavated area measured approximately 5' x 275' at a depth of approximately 1.0' to 3.0' below surface. Due to the facility equipment, tanks and lines, the area of AH-1 was excavated to a depth of approximately 1.0' and deeper excavation could be performed in the area for safety concerns. The remaining areas were excavated to a depth of 3.0' below surface. Once excavated, bottom hole confirmation samples were collected from the areas of auger holes (AH-2, AH-3, AH-4, AH-5, AH-7, AH-8 and AH-9) for either TPH, BTEX or chlorides. The sampling results are shown in Table 1.

Referring to Table 1, none of the selected samples were above the RRAL for TPH and BTEX. Elevated chloride concentrations were detected at AH-3 and AH-4 and further excavation was not practical in this area due to the proximity of the production tanks. Based on the results, these areas were capped with clay material in the excavation bottom (0.5' to 1.0' thick). The excavations were then backfilled to grade with clean material.

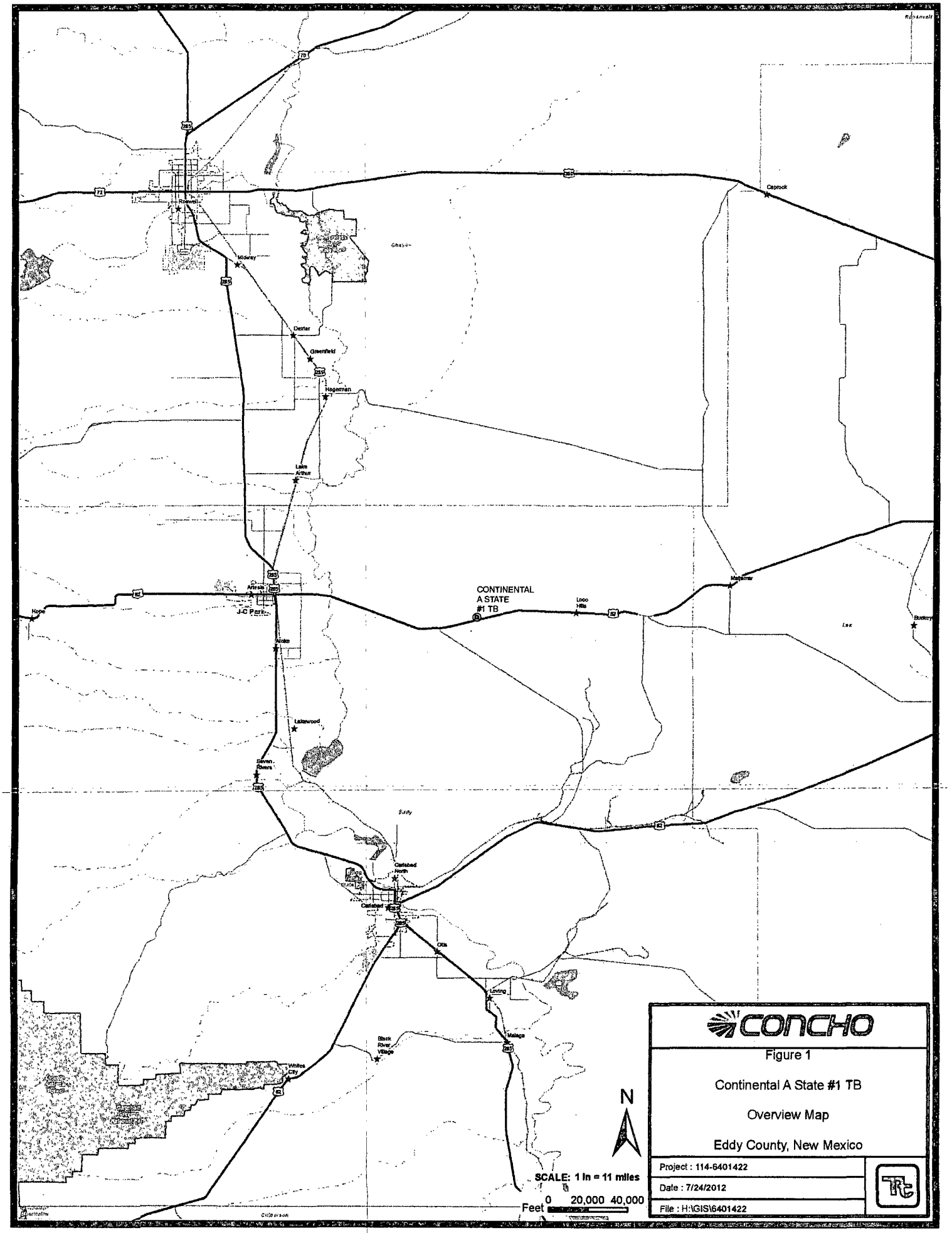
Based on the remedial activities performed, COG request closure of the site. A copy of the C-141 (Final) is included in Appendix A. If you have any questions or comments concerning the remedial activities, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Ike Tavarez
Senior Project Manager

cc: Pat Ellis – COG

Figures



CONCHO

Figure 1

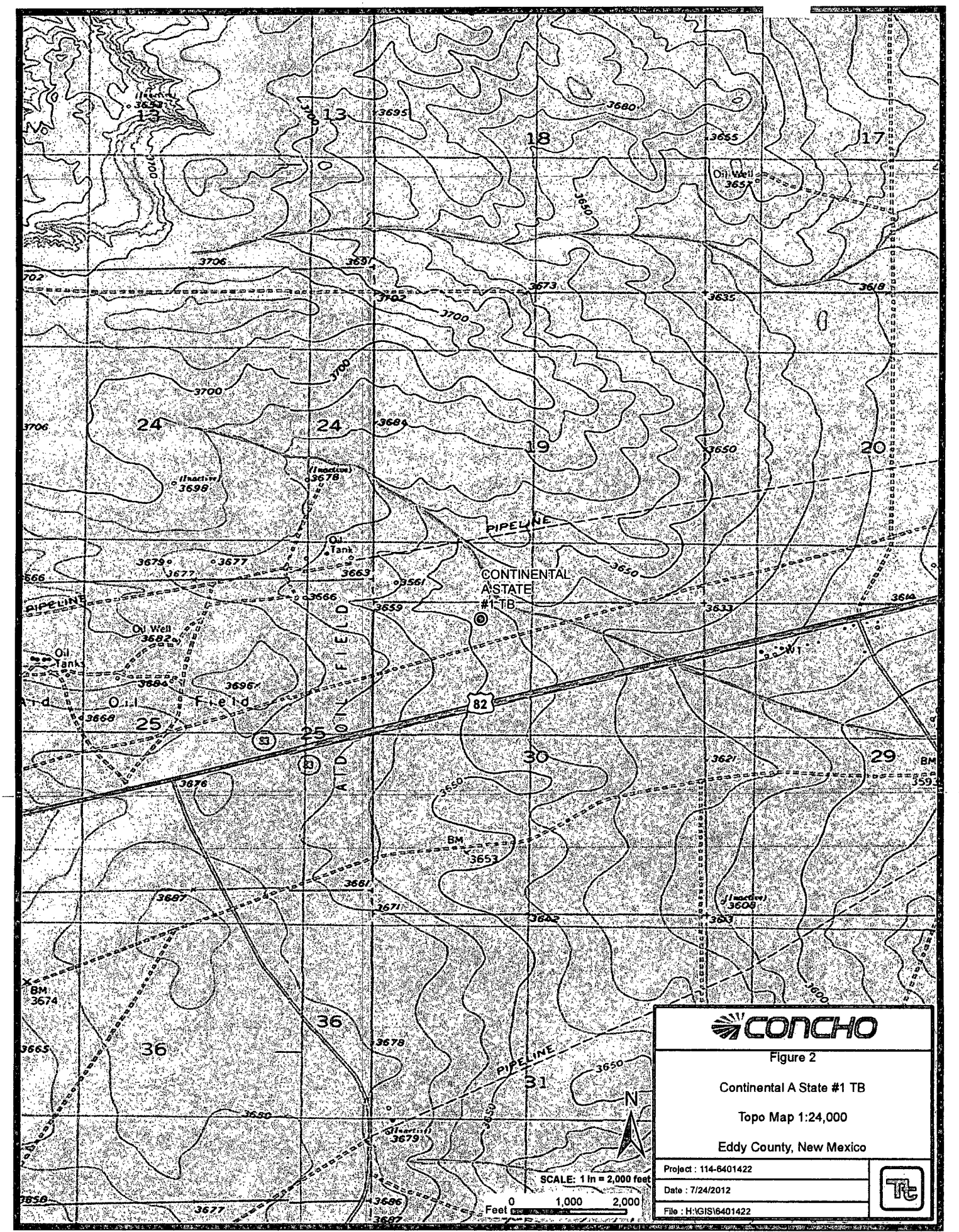
Continental A State #1 TB

Overview Map

Eddy County, New Mexico

Project : 114-6401422	
Date : 7/24/2012	
File : H:\GIS\6401422	

Drawn By: Isabel Mermolejo



CONCHO

Figure 2

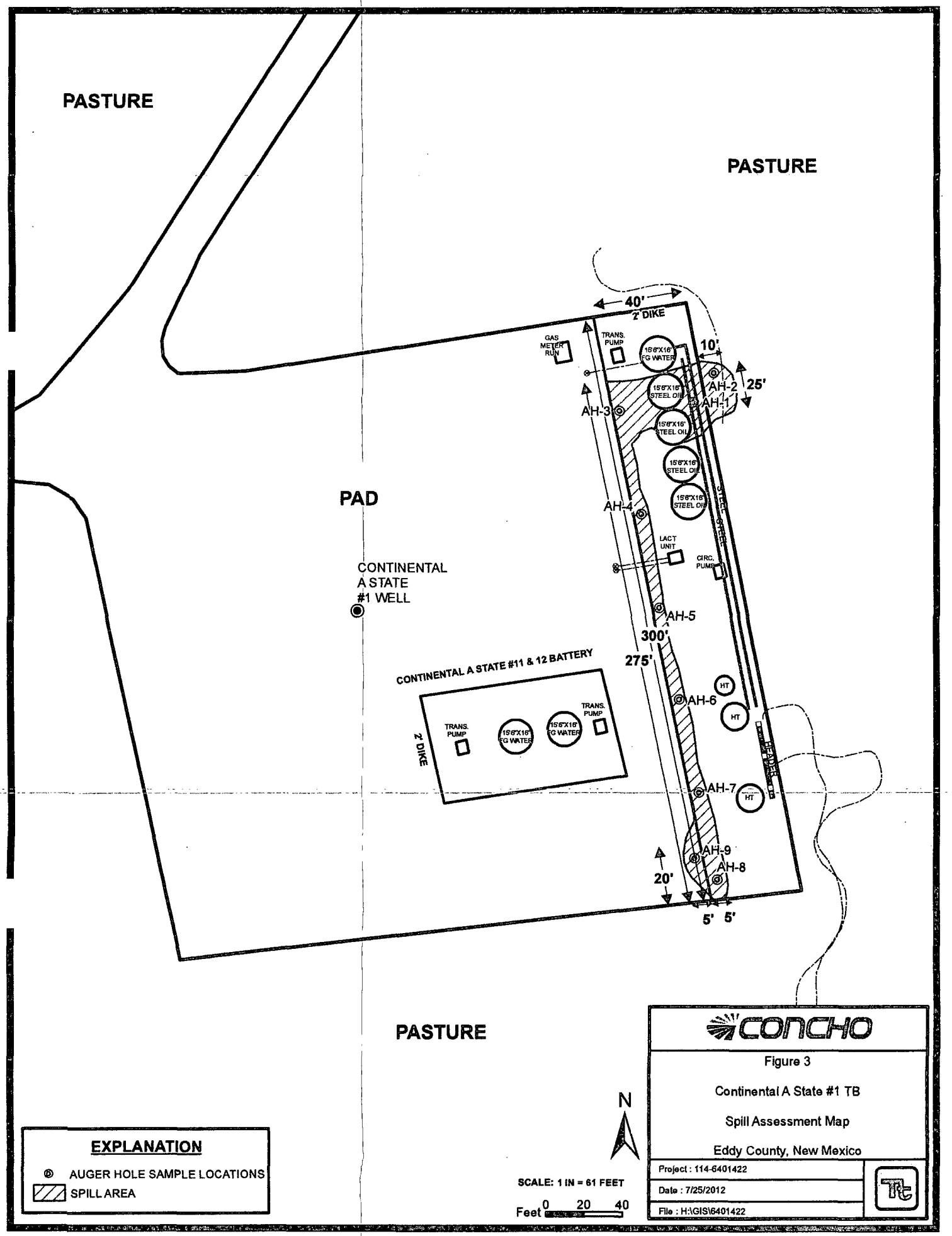
Continental A State #1 TB

Topo Map 1:24,000

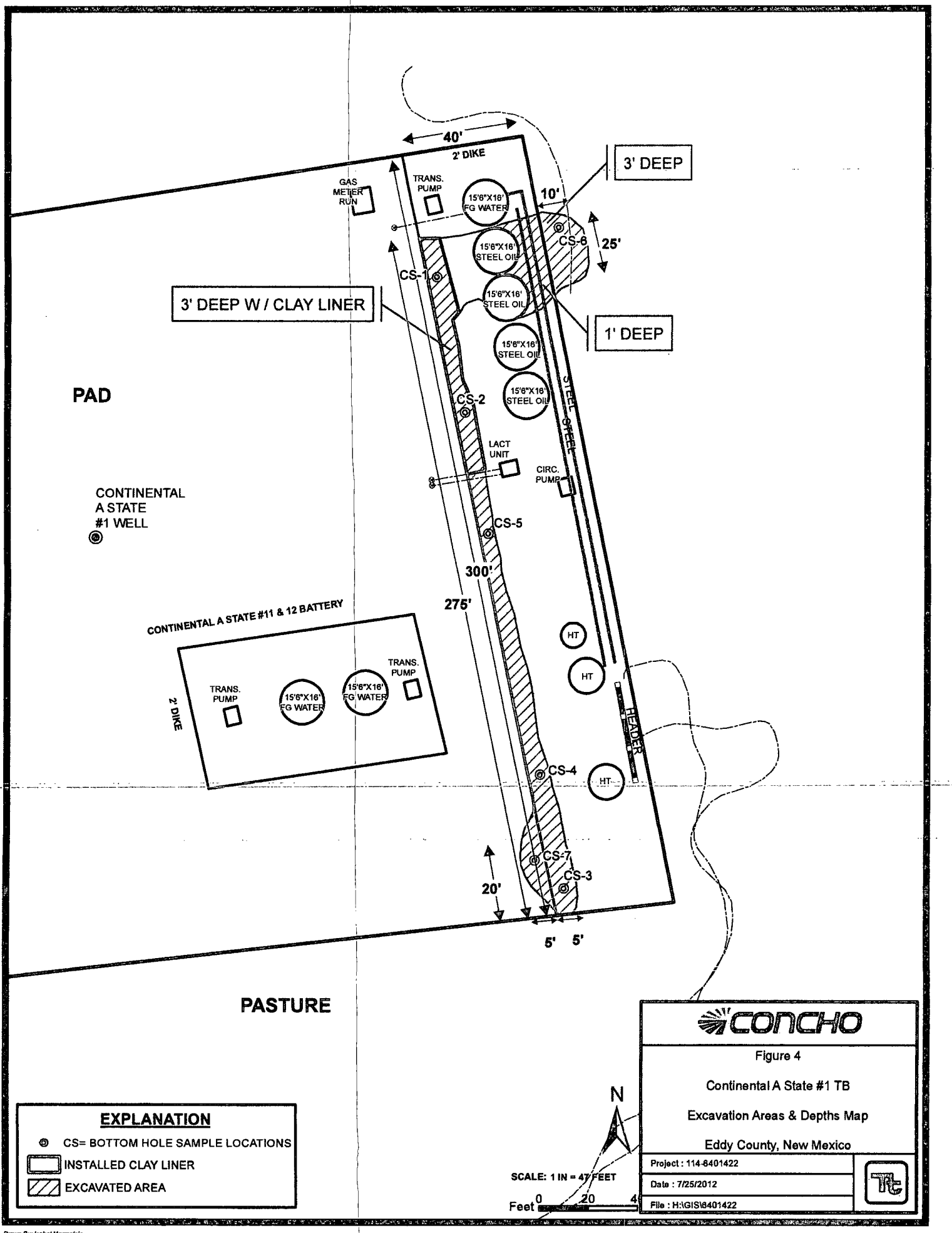
Eddy County, New Mexico

Project : 114-6401422	
Date : 7/24/2012	
File : H:\GIS\6401422	

Drawn By: Isabel Marmolejo



Drawn By: Isabel Marmolejo



Drawn By: Isabel Marmolejo

Tables

Table 1
COG Operating LLC.
Continental A State Tank Battery
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
AH-1	7/3/2012	0-1		X	22.2	1,210	1,232	<0.0200	<0.0200	0.0411	0.603	0.644	2,240
	"	1-1.5		X	-	-	-	-	-	-	-	-	1,900
AH-2	7/3/2012	0-1		X	806	4,240	**5,046**	0.665	7.88	12.0	8.15	28.7	<20.0
CS-6	8/17/2012	3' Bottom	X		<4.00	<50.0	<50.0	-	-	-	-	-	-
AH-3	7/3/2012	0-1		X	746	2,280	3,026	4.04	64.1	37.2	82.8	**188**	16,700
	"	1-1.5		X	-	-	-	<0.200	16.0	33.6	67.6	**117**	13,900
	"	2-2.5		X	-	-	-	<0.100	<0.100	1.04	3.43	4.47	5,760
CS-1	8/15/2012	3' Bottom	X		-	-	-	<0.0200	<0.0200	0.333	1.48	1.81	2,290
	"	4	X		-	-	-	-	-	-	-	-	5.84
AH-4	7/3/2012	0-1		X	194	1,200	1,394	2.68	0.162	1.31	2.89	7.04	12,100
CS-2	8/15/2012	3' Bottom	X		-	-	-	-	-	-	-	-	2,750
	"	4	X		-	-	-	-	-	-	-	-	7.33
AH-5	7/3/2012	0-1		X	141	1,070	1,211	<0.100	<0.100	0.213	0.494	0.707	6,920
	"	1-1.5		X	-	-	-	-	-	-	-	-	2,070
CS-5	8/16/2012	3' Bottom	X		-	-	-	-	-	-	-	-	24.3
	"	4	X		-	-	-	-	-	-	-	-	14.6

Table 1
COG Operating LLC.
Continental A State Tank Battery
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
AH-6	7/3/2012	0-1		X	164	377	541	<0.100	0.260	4.13	4.75	9.14	2,650
	"	1-1.5		X	-	-	-	-	-	-	-	-	556
	"	2-2.5		X	-	-	-	-	-	-	-	-	1,420
	"	3-3.5	X		-	-	-	-	-	-	-	-	1,730
	"	4-4.5	X		-	-	-	-	-	-	-	-	1,270
	"	5-5.5	X		-	-	-	-	-	-	-	-	886
AH-7	7/3/2012	0-1		X	5,360	4,940	**10,300**	**24.3**	219	130	191	**564**	1,490
	"	1-1.5		X	3,100	8,500	**11,600**	**30.5**	258	134	193	**616**	1,490
CS-4	8/16/2012	3' Bottom	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	6.93
AH-8	7/3/2012	0-1		X	11,800	8,060	**19,860**	**79.2**	532	266	379	**1,256**	103
	"	1-1.5		X	4,190	8,570	**12,760**	**75.1**	405	184	273	**937**	44.3
CS-3	8/16/2012	3' Bottom	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	-
AH-9	7/3/2012	0-1		X	5,880	6,580	**12,460**	**18.4**	88.7	54.4	39.4	**201**	39.4
	"	1-1.5		X	3,960	5,020	**8,980**	**39.2**	259	126	182	**606**	78.4
CS-7	8/20/2012	3' Bottom	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	-

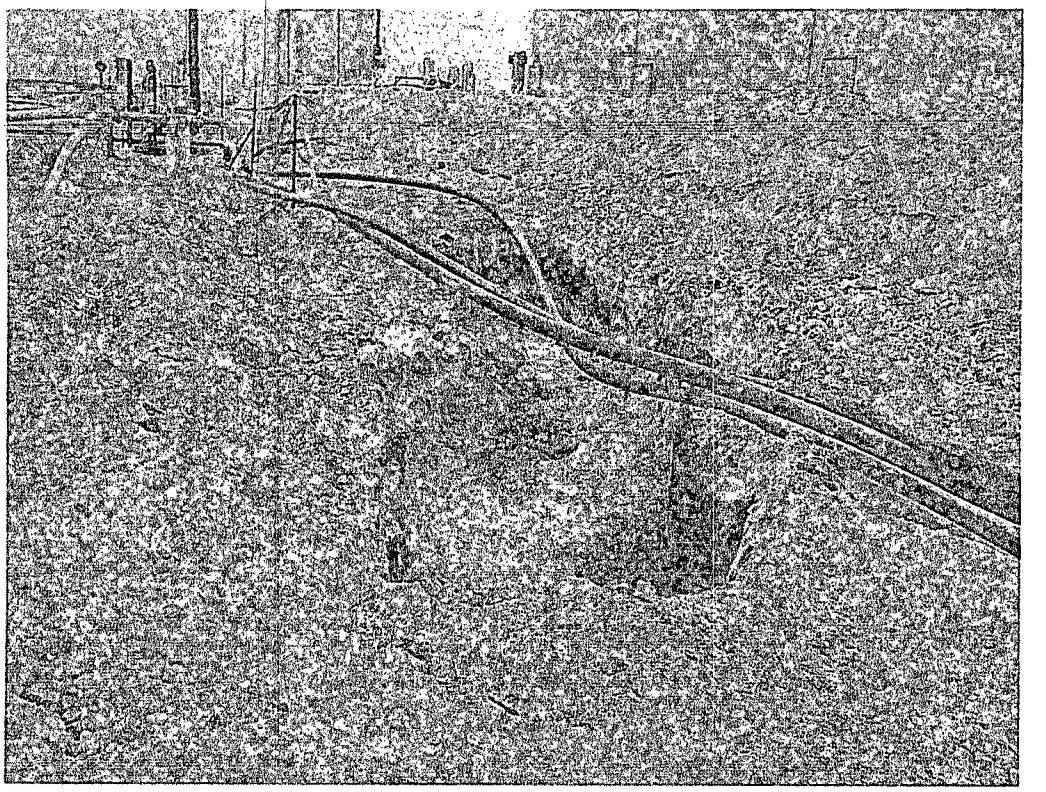
(--) Not Analyzed

Excavated Material

Photos

COG Operating LLC
Continental A State Tank Battery
Eddy County, New Mexico

TETRA TECH



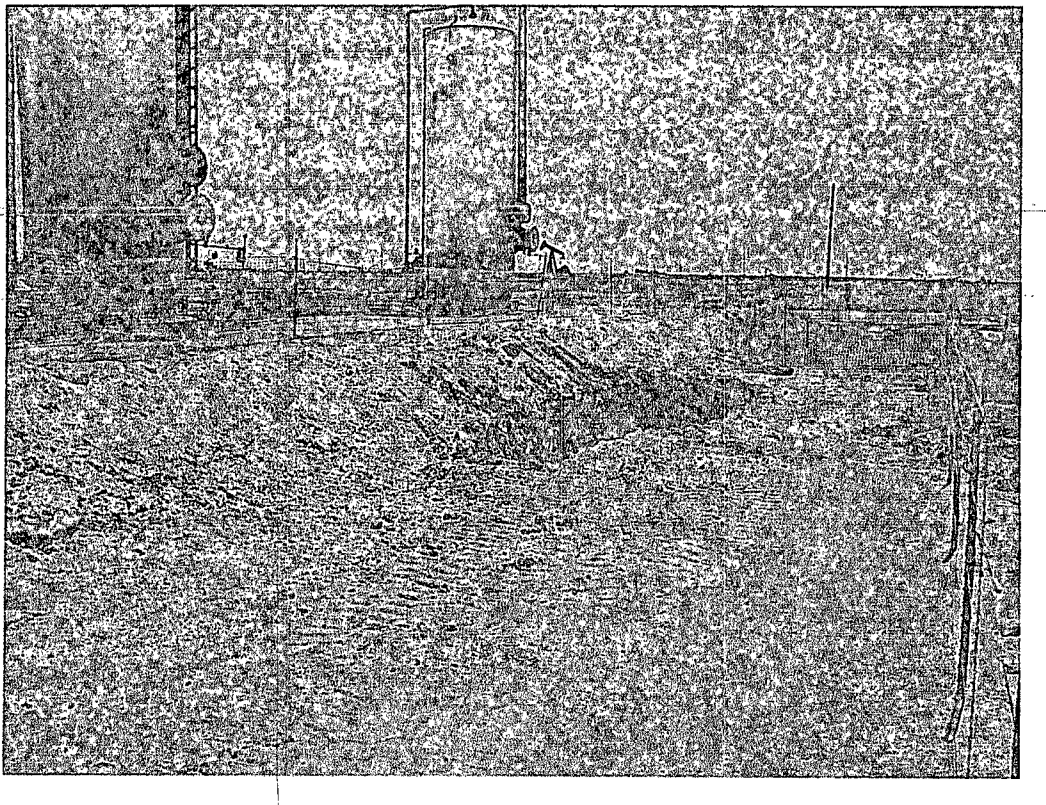
View Southwest – Area of AH-1 and AH-2

View South – Area of AH-3 and AH-4

COG Operating LLC
Continental A State Tank Battery
Eddy County, New Mexico

TETRA TECH

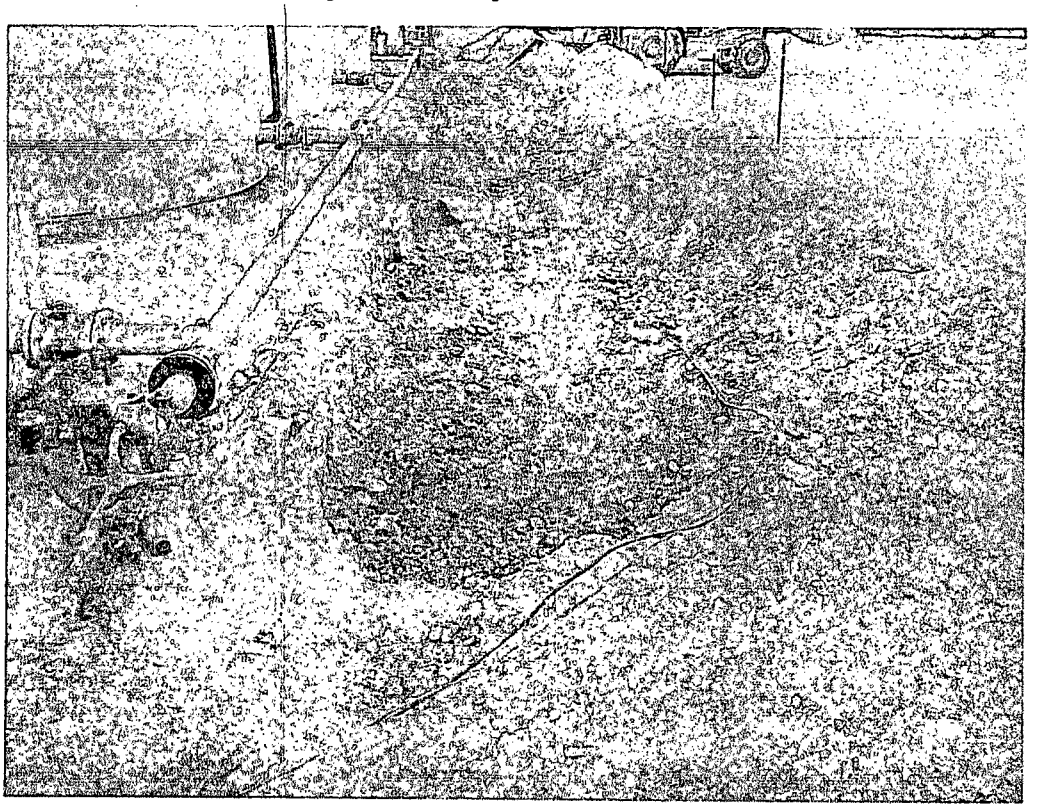
View South – Area of AH-5 , AH-6, AH-7 and AH-8



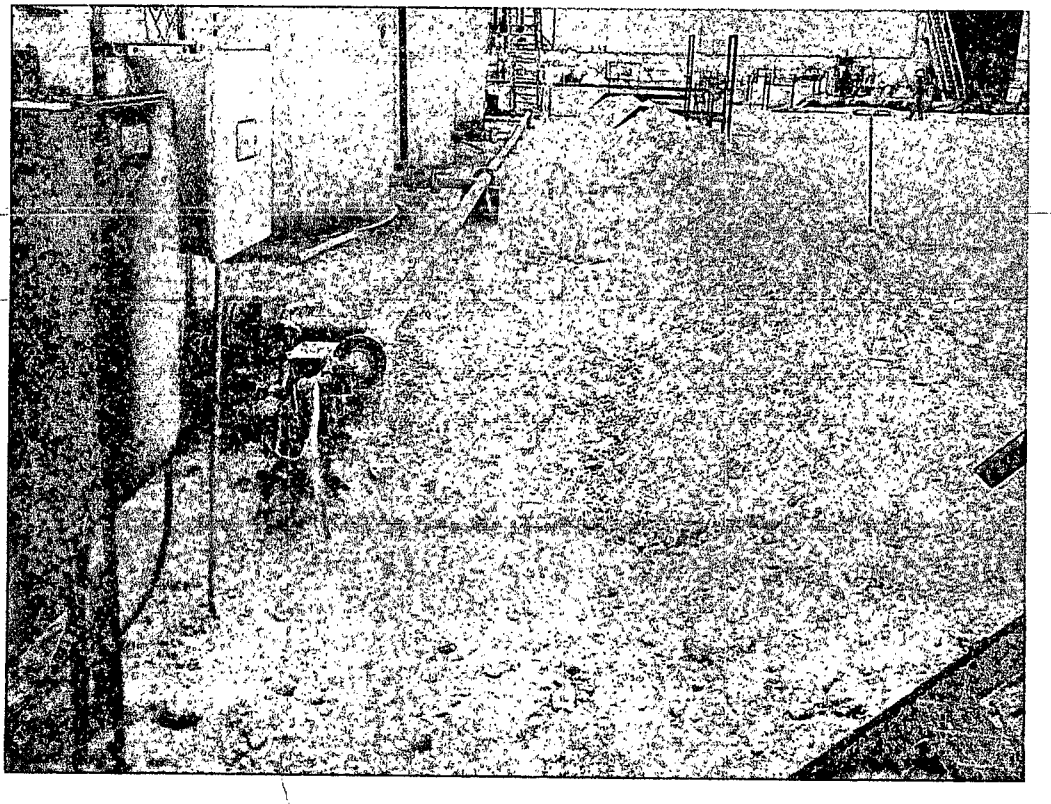
View Southeast – Area of AH-9

COG Operating LLC
Continental A State Tank Battery
Eddy County, New Mexico

TETRA TECH



Clay Liner



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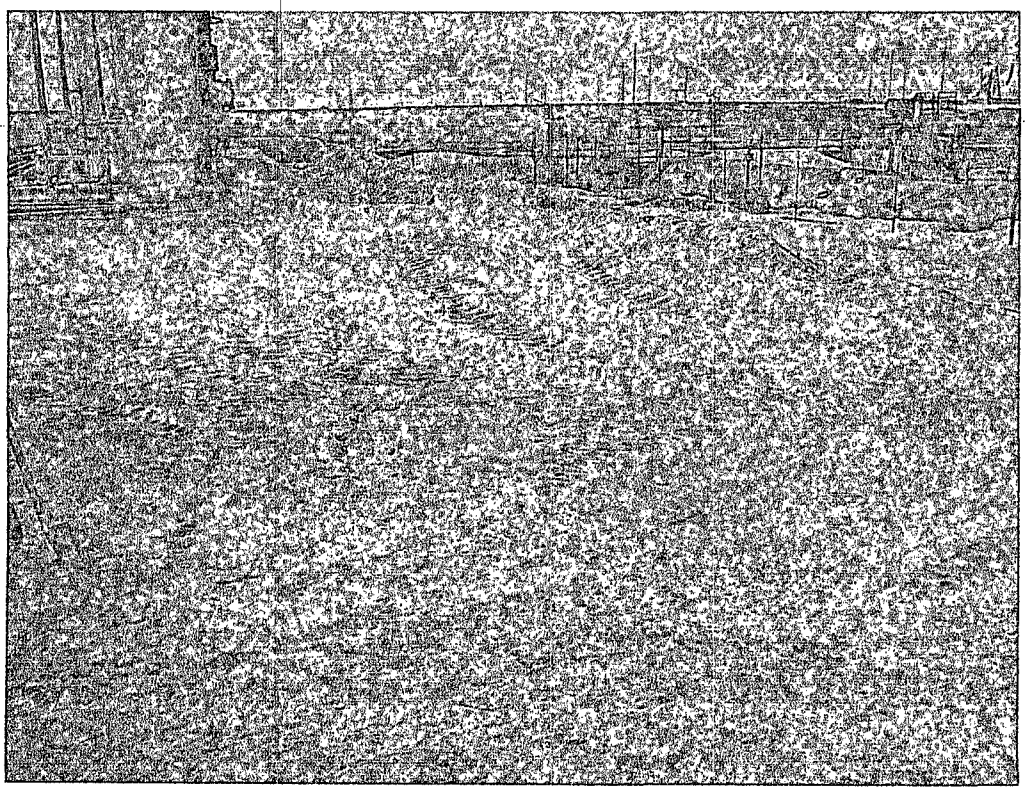
COG Operating LLC
Continental A State Tank Battery
Eddy County, New Mexico

TETRA TECH



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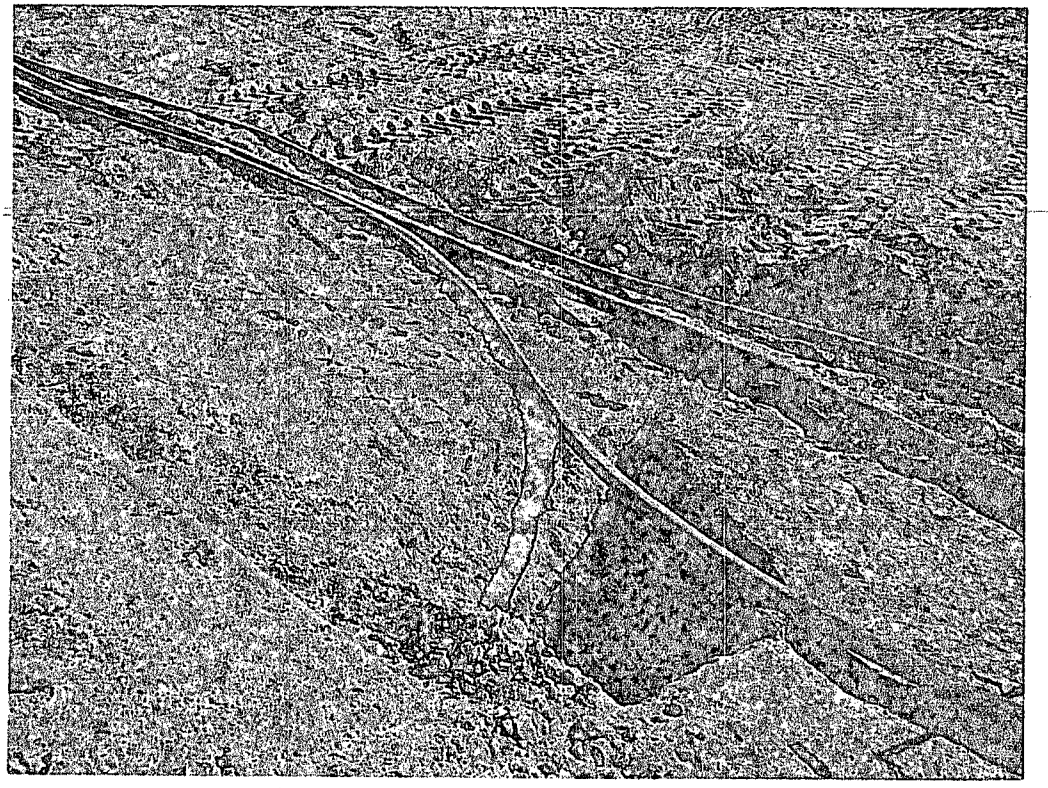

Backfill

Appendix A

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

State of New Mexico
Energy Minerals and Natural Resources

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

RECEIVED
NOV 01 2012
NMOCD ARTESIA

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	**Continental A State Tank Battery**	Facility Type	**Tank Battery**

Surface Owner: State	Mineral Owner	Lease No. (API#) 30-015-29696 Closest well location

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	30	17S	29E					Eddy

Latitude N 32.81210° **Longitude** W 104.11641°

NATURE OF RELEASE

Type of Release: Oil	Volume of Release 30 bbls	Volume Recovered 27 bbls
Source of Release: 2" Bull plug at tank	Date and Hour of Occurrence 05/23/2012	Date and Hour of Discovery 05/23/2012 7:00 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher-OCD	
By Whom? Michelle Mullins	Date and Hour 05/23/2010 8:55 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A 2" bull plug came out at the sales tank releasing oil into the facility. The bull plug has been replaced.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech personnel inspected the site and collected samples to define the spills extent. Soil that exceeded RRAL was removed and hauled away for proper disposal. The site was then brought up to surface grade with clean backfill material. Tetra Tech prepared a closure report and submitted it 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: 10-5-12 Phone: (432) 682-4559		

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Continental A State Tank Battery	Facility Type	Tank Battery

Surface Owner State	Mineral Owner	Lease No. (API#) 30-015-29696 Closest well location

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	30	17S	29E					Eddy

Latitude 32 48.726 **Longitude** 104 06.985

NATURE OF RELEASE

Type of Release Oil	Volume of Release 30bbls	Volume Recovered 27bbls
Source of Release 2" bull plug at tank	Date and Hour of Occurrence 05/23/2012	Date and Hour of Discovery 05/23/2012 7:00 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher-OCD	
By Whom? Michelle Mullins	Date and Hour 05/23/2012 8:55 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.*

A 2" bull plug came out at the sales tank releasing oil into the facility. The bull plug has been replaced.

Describe Area Affected and Cleanup Action Taken.*

Initially 30bbls of oil was released from the sales tank and we were able to recover 27bbls with a vacuum truck. All free fluids have been recovered and several inches of the contaminated soil has been removed and hauled to disposal. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation work.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Josh Russo	Approved by District Supervisor:
Title: HSE Coordinator	Approval Date: / Expiration Date:
E-mail Address: jrusso@conchoresources.com	Conditions of Approval: / Attached ☐
Date: 06/04/2012 Phone: 432-212-2399	

* Attach Additional Sheets If Necessary

Appendix B

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

16 South 28 East

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

16 South 29 East

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

16 South 30 East

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

17 South 28 East

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

17 South 29 East

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

17 South 30 East

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

18 South 28 East

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

18 South 29 East

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

18 South 30 East

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

New Mexico State Engineers Well Reports

USGS Well Reports

Site Location - Continental A State Tank Battery

Appendix C

Summary Report

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

Report Date: August 23, 2012

Work Order: 12082207

Project Location: Eddy Co., NM
Project Name: COG/Continental A State TB
Project Number: 114-6401422

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
307341	CS-7 3' Bottom AH-9 3'	soil	2012-08-20	00:00	2012-08-21

Sample - Field Code	BTEX Benzene (mg/Kg)	BTEX Toluene (mg/Kg)	BTEX Ethylbenzene (mg/Kg)	BTEX Xylene (mg/Kg)	MTBE MTBE (mg/Kg)	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
307341 - CS-7 3' Bottom AH-9 3'	<0.0200	<0.0200	<0.0200	<0.0200		<50.0	<4.00

TRACEANALYSIS, INC.

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(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972-242-7750
E-Mail: lab@traceanalysis.com WEB: www.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: August 23, 2012

Work Order: 12082207

Project Location: Eddy Co., NM
Project Name: COG/Continental A State TB
Project Number: 114-6401422

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
307341	CS-7 3' Bottom AH-9 3'	soil	2012-08-20	00:00	2012-08-21

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.

This report consists of a total of 15 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

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

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Case Narrative

Samples for project COG/Continental A State TB were received by TraceAnalysis, Inc. on 2012-08-21 and assigned to work order 12082207. Samples for work order 12082207 were received intact at a temperature of 2.3 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	79813	2012-08-22 at 12:56	94162	2012-08-22 at 12:56
TPH DRO - NEW	S 8015 D	79795	2012-08-22 at 14:00	94141	2012-08-22 at 14:19
TPH GRO	S 8015 D	79813	2012-08-22 at 12:56	94163	2012-08-22 at 12:56

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 12082207 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: 307341 - CS-7 3' Bottom AH-9 3'

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	94162	Date Analyzed:	2012-08-22	Analyzed By:	MT
Prep Batch:	79813	Sample Preparation:	2012-08-22	Prepared By:	MT

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.78	mg/Kg	1	2.00	89	70 - 130
4-Bromofluorobenzene (4-BFB)			1.78	mg/Kg	1	2.00	89	70 - 130

Sample: 307341 - CS-7 3' Bottom AH-9 3'

Laboratory:	Lubbock				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	94141	Date Analyzed:	2012-08-22	Analyzed By:	DS
Prep Batch:	79795	Sample Preparation:	2012-08-22	Prepared By:	DS

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			91.5	mg/Kg	1	100	91	70 - 130

Sample: 307341 - CS-7 3' Bottom AH-9 3'

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	94163	Date Analyzed:	2012-08-22	Analyzed By:	MT
Prep Batch:	79813	Sample Preparation:	2012-08-22	Prepared By:	MT

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.02	mg/Kg	1	2.00	101	70 - 130
4-Bromofluorobenzene (4-BFB)			1.96	mg/Kg	1	2.00	98	70 - 130

Method Blanks

Method Blank (1) QC Batch: 94141

QC Batch: 94141 | Date Analyzed: 2012-08-22 | Analyzed By: DS
Prep Batch: 79795 | QC Preparation: 2012-08-22 | Prepared By: DS

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	<15.3	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			85.7	mg/Kg	1	100	86	70 - 130

Method Blank (1) QC Batch: 94162

QC Batch: 94162 | Date Analyzed: 2012-08-22 | Analyzed By: MT
Prep Batch: 79813 | QC Preparation: 2012-08-22 | Prepared By: MT

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00365	mg/Kg	0.02
Toluene		1	<0.00816	mg/Kg	0.02
Ethylbenzene		1	<0.00560	mg/Kg	0.02
Xylene		1	<0.00460	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.10	mg/Kg	1	2.00	105	70 - 130
4-Bromofluorobenzene (4-BFB)			1.97	mg/Kg	1	2.00	98	70 - 130

Method Blank (1) QC Batch: 94163

QC Batch: 94163 | Date Analyzed: 2012-08-22 | Analyzed By: MT
Prep Batch: 79813 | QC Preparation: 2012-08-22 | Prepared By: MT

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<0.359	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.38	mg/Kg	1	2.00	119	70 - 130
4-Bromofluorobenzene (4-BFB)			2.15	mg/Kg	1	2.00	108	70 - 130

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 94141 | Date Analyzed: 2012-08-22 | Analyzed By: DS
Prep Batch: 79795 | QC Preparation: 2012-08-22 | Prepared By: DS

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	208	mg/Kg	1	250	<15.3	83	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	214	mg/Kg	1	250	<15.3	86	70 - 130	3	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	81.1	82.4	mg/Kg	1	100	81	82	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 94162 | Date Analyzed: 2012-08-22 | Analyzed By: MT
Prep Batch: 79813 | QC Preparation: 2012-08-22 | Prepared By: MT

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.79	mg/Kg	1	2.00	<0.00365	90	75.4 - 120
Toluene		1	1.74	mg/Kg	1	2.00	<0.00816	87	74.9 - 120
Ethylbenzene		1	1.74	mg/Kg	1	2.00	<0.00560	87	78.1 - 120
Xylene		1	5.19	mg/Kg	1	6.00	<0.00460	86	77.3 - 120

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.72	mg/Kg	1	2.00	<0.00365	86	75.4 - 120	4	20
Toluene		1	1.68	mg/Kg	1	2.00	<0.00816	84	74.9 - 120	4	20
Ethylbenzene		1	1.69	mg/Kg	1	2.00	<0.00560	84	78.1 - 120	3	20
Xylene		1	5.04	mg/Kg	1	6.00	<0.00460	84	77.3 - 120	3	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.76	1.66	mg/Kg	1	2.00	88	83	70 - 130
4-Bromofluorobenzene (4-BFB)	1.73	1.67	mg/Kg	1	2.00	86	84	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 94163 | Date Analyzed: 2012-08-22 | Analyzed By: MT
Prep Batch: 79813 | QC Preparation: 2012-08-22 | Prepared By: MT

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	17.9	mg/Kg	1	20.0	<0.359	89	68.9 - 120

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	18.2	mg/Kg	1	20.0	<0.359	91	68.9 - 120	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)	2.05	2.08	mg/Kg	1	2.00	102	104	70 - 130
4-Bromofluorobenzene (4-BFB)	1.97	1.99	mg/Kg	1	2.00	98	99	70 - 130

Matrix Spike (MS-1) Spiked Sample: 307341

QC Batch: 94141 | Date Analyzed: 2012-08-22 | Analyzed By: DS
Prep Batch: 79795 | QC Preparation: 2012-08-22 | Prepared By: DS

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	243	mg/Kg	1	250	<15.3	97	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	234	mg/Kg	1	250	<15.3	94	70 - 130	3	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	99.0	98.1	mg/Kg	1	100	99	98	70 - 130

Matrix Spike (MS-1) Spiked Sample: 306910

QC Batch: 94162 Date Analyzed: 2012-08-22 Analyzed By: MT
Prep Batch: 79813 QC Preparation: 2012-08-22 Prepared By: MT

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.76	mg/Kg	1	2.00	<0.00365	88	37.6 - 142
Toluene		1	1.96	mg/Kg	1	2.00	<0.00816	98	38.6 - 153
Ethylbenzene		1	2.02	mg/Kg	1	2.00	<0.00560	101	36.7 - 172
Xylene		1	6.03	mg/Kg	1	6.00	<0.00460	100	36.7 - 173

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.81	mg/Kg	1	2.00	<0.00365	90	37.6 - 142	3	20
Toluene		1	2.03	mg/Kg	1	2.00	<0.00816	102	38.6 - 153	4	20
Ethylbenzene		1	2.13	mg/Kg	1	2.00	<0.00560	106	36.7 - 172	5	20
Xylene		1	6.36	mg/Kg	1	6.00	<0.00460	106	36.7 - 173	5	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.84	1.94	mg/Kg	1	2	92	97	70 - 130
4-Bromofluorobenzene (4-BFB)	1.93	1.98	mg/Kg	1	2	96	99	70 - 130

Matrix Spike (MS-1) Spiked Sample: 306910

QC Batch: 94163 Date Analyzed: 2012-08-22 Analyzed By: MT
Prep Batch: 79813 QC Preparation: 2012-08-22 Prepared By: MT

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	19.9	mg/Kg	1	20.0	1.92	90	68.9 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	21.1	mg/Kg	1	20.0	1.92	96	68.9 - 120	6	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.88	1.82	mg/Kg	1	2	94	91	70 - 130
4-Bromofluorobenzene (4-BFB)	2.44	2.36	mg/Kg	1	2	122	118	70 - 130

Calibration Standards

Standard (CCV-1)

QC Batch: 94141 Date Analyzed: 2012-08-22 Analyzed By: DS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	209	84	80 - 120	2012-08-22

Standard (CCV-2)

QC Batch: 94141 Date Analyzed: 2012-08-22 Analyzed By: DS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	236	94	80 - 120	2012-08-22

Standard (CCV-1)

QC Batch: 94162 Date Analyzed: 2012-08-22 Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0865	86	80 - 120	2012-08-22
Toluene		1	mg/kg	0.100	0.0852	85	80 - 120	2012-08-22
Ethylbenzene		1	mg/kg	0.100	0.0860	86	80 - 120	2012-08-22
Xylene		1	mg/kg	0.300	0.256	85	80 - 120	2012-08-22

Standard (CCV-2)

QC Batch: 94162 Date Analyzed: 2012-08-22 Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0865	86	80 - 120	2012-08-22
Toluene		1	mg/kg	0.100	0.0840	84	80 - 120	2012-08-22
Ethylbenzene		1	mg/kg	0.100	0.0832	83	80 - 120	2012-08-22
Xylene		1	mg/kg	0.300	0.248	83	80 - 120	2012-08-22

Standard (CCV-3)

QC Batch: 94162 Date Analyzed: 2012-08-22 Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0874	87	80 - 120	2012-08-22
Toluene		1	mg/kg	0.100	0.0851	85	80 - 120	2012-08-22
Ethylbenzene		1	mg/kg	0.100	0.0846	85	80 - 120	2012-08-22
Xylene		1	mg/kg	0.300	0.251	84	80 - 120	2012-08-22

Standard (CCV-1)

QC Batch: 94163 Date Analyzed: 2012-08-22 Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.851	85	80 - 120	2012-08-22

Standard (CCV-2)

QC Batch: 94163 Date Analyzed: 2012-08-22 Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.834	83	80 - 120	2012-08-22

Standard (CCV-3)

QC Batch: 94163 Date Analyzed: 2012-08-22 Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.867	87	80 - 120	2012-08-22

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	T104704219-12-8	Lubbock

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.

Analysis Request of Chain of Custody Record

12082207

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

PAGE: 1 OF: 1

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-GW01422

PROJECT NAME: COG / Continental A State TB
Eddy Co, TX

LAB I.D. NUMBER	DATE 2012	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH TX1005 (Ext. to C35)	TPH 8015 MOD.	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
307341	8/20		S		X	CS-7 3' Bottom AH-9 3'	1				X		X	X															

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature)	Date: 8/21/12 Time: 1600	RECEIVED BY: (Signature)	Date: 8/21/12 Time: 1600
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:

SAMPLED BY: (Print & Initial) JT — Date: 8/20/12 Time:

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

TETRA TECH CONTACT PERSON: Ike Tavarez — Results by:

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature)
DATE: 8/22/12 TIME: 8:55

RUSH Charges Authorized: Yes / No

SAMPLE CONDITION WHEN RECEIVED: Intact (iR2) 2.1/2.3

REMARKS:

AS: ZP 36004

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: August 23, 2012

Work Order: 12082011

Project Location: Eddy Co., NM
Project Name: COG/Continental A State TB
Project Number: 114-6401422

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
307203	CS-6 Bottom 3' (AH-2)	soil	2012-08-17	00:00	2012-08-20

Sample - Field Code		TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
307203 - CS-6 Bottom 3' (AH-2)		<50.0	<4.00

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800-378-1296 806-794-1296 FAX 806-794-1298
200 East Sunset Road, Suite E El Paso, Texas 79922 915-585-3443 FAX 915-585-4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432-689-6301 FAX 432-689-6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972-242-7750
E-Mail: lab@traceanalysis.com WEB: www.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: August 23, 2012

Work Order: 12082011

Project Location: Eddy Co., NM
Project Name: COG/Continental A State TB
Project Number: 114-6401422

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
307203	CS-6 Bottom 3' (AH-2)	soil	2012-08-17	00:00	2012-08-20

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

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

Report Contents

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Case Narrative

Samples for project COG/Continental A State TB were received by TraceAnalysis, Inc. on 2012-08-20 and assigned to work order 12082011. Samples for work order 12082011 were received intact at a temperature of 7.5 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
TPH DRO - NEW	S 8015 D	79749	2012-08-20 at 08:00	94083	2012-08-21 at 08:25
TPH GRO	S 8015 D	79813	2012-08-22 at 12:56	94163	2012-08-22 at 12:56

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 12082011 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: 307203 - CS-6 Bottom 3' (AH-2)

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	94083	Date Analyzed:	2012-08-21	Analyzed By:	CW
Prep Batch:	79749	Sample Preparation:	2012-08-20	Prepared By:	CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	U	2	<50.0	mg/Kg	1	50.0

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

Sample: 307203 - CS-6 Bottom 3' (AH-2)

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	94163	Date Analyzed:	2012-08-22	Analyzed By:	MT
Prep Batch:	79813	Sample Preparation:	2012-08-22	Prepared By:	MT

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.26	mg/Kg	1	2.00	113	70 - 130
4-Bromofluorobenzene (4-BFB)			2.02	mg/Kg	1	2.00	101	70 - 130

Method Blanks

Method Blank (1) QC Batch: 94083

QC Batch: 94083 | Date Analyzed: 2012-08-21 | Analyzed By: CW
Prep Batch: 79749 | QC Preparation: 2012-08-20 | Prepared By: CW

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		2	<14.5	mg/Kg	50

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

Method Blank (1) QC Batch: 94163

QC Batch: 94163 | Date Analyzed: 2012-08-22 | Analyzed By: MT
Prep Batch: 79813 | QC Preparation: 2012-08-22 | Prepared By: MT

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<0.359	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.38	mg/Kg	1	2.00	119	70 - 130
4-Bromofluorobenzene (4-BFB)			2.15	mg/Kg	1	2.00	108	70 - 130

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 94083 | Date Analyzed: 2012-08-21 | Analyzed By: CW
Prep Batch: 79749 | QC Preparation: 2012-08-20 | Prepared By: CW

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		2	220	mg/Kg	1	250	<14.5	88	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		2	239	mg/Kg	1	250	<14.5	96	70 - 130	8	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	118	126	mg/Kg	1	100	118	126	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 94163 | Date Analyzed: 2012-08-22 | Analyzed By: MT
Prep Batch: 79813 | QC Preparation: 2012-08-22 | Prepared By: MT

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	17.9	mg/Kg	1	20.0	<0.359	89	68.9 - 120

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	18.2	mg/Kg	1	20.0	<0.359	91	68.9 - 120	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)	2.05	2.08	mg/Kg	1	2.00	102	104	70 - 130
4-Bromofluorobenzene (4-BFB)	1.97	1.99	mg/Kg	1	2.00	98	99	70 - 130

Matrix Spike (MS-1) Spiked Sample: 307094

QC Batch: 94083 | Date Analyzed: 2012-08-21 | Analyzed By: CW
Prep Batch: 79749 | QC Preparation: 2012-08-20 | Prepared By: CW

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		2	244	mg/Kg	1	250	<14.5	98	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		2	239	mg/Kg	1	250	<14.5	96	70 - 130	2	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	115	117	mg/Kg	1	100	115	117	70 - 130

Matrix Spike (MS-1) Spiked Sample: 306910

QC Batch: 94163 | Date Analyzed: 2012-08-22 | Analyzed By: MT
Prep Batch: 79813 | QC Preparation: 2012-08-22 | Prepared By: MT

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	19.9	mg/Kg	1	20.0	1.92	90	68.9 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	21.1	mg/Kg	1	20.0	1.92	96	68.9 - 120	6	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.88	1.82	mg/Kg	1	2	94	91	70 - 130
4-Bromofluorobenzene (4-BFB)	2.44	2.36	mg/Kg	1	2	122	118	70 - 130

Calibration Standards

Standard (CCV-1)

QC Batch: 94083 Date Analyzed: 2012-08-21 Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		2	mg/Kg	250	244	98	80 - 120	2012-08-21

Standard (CCV-2)

QC Batch: 94083 Date Analyzed: 2012-08-21 Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		2	mg/Kg	250	240	96	80 - 120	2012-08-21

Standard (CCV-3)

QC Batch: 94083 Date Analyzed: 2012-08-21 Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		2	mg/Kg	250	233	93	80 - 120	2012-08-21

Standard (CCV-1)

QC Batch: 94163 Date Analyzed: 2012-08-22 Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.851	85	80 - 120	2012-08-22

Standard (CCV-2)

QC Batch: 94163 Date Analyzed: 2012-08-22 Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.834	83	80 - 120	2012-08-22

Standard (CCV-3)

QC Batch: 94163 Date Analyzed: 2012-08-22 Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.867	87	80 - 120	2012-08-22

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	T104704219-12-8	Lubbock
2	NELAP	T104704392-12-4	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.

Analysis Request of Chain of Custody Record

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

12082011

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG | SITE MANAGER: Mike Taylor

PROJECT NO.: 114-640 1422 | PROJECT NAME: COG/Continental A. State TB

Eddy Co., NM.

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
30 7203	8/17/12		S		✓	CS-6 Bottom 3' (AH-2)	1				✓			X														
30 7204	8/17/12		S		✓	CS-6 4' (AH-2)	1				✓					Hold													

RELINQUISHED BY: (Signature) Date: Time: | RECEIVED BY: (Signature) Date: 20 Aug 2012 Time: 1130

RELINQUISHED BY: (Signature) Date: 20 Aug 2012 Time: 1135 | RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time: | RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Initial) JT Date: 8/17/12 Time:

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

TETRA TECH CONTACT PERSON: Mike Taylor | Results by: | RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: 8/20/12 TIME: 11:30

SAMPLE CONDITION WHEN RECEIVED:

REMARKS: Run deeper depth if TPH exceeds 5,000 mg/kg. 7.5°C

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

Thanks!

Summary Report

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

Report Date: August 28, 2012

Work Order: 12082003

Project Location: Eddy Co., NM
Project Name: COG/Continental A State TB
Project Number: 114-6401422

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
307161	CS-1 3' AH-3 3' Bottom	soil	2012-08-15	00:00	2012-08-17
307162	CS-1 4' AH-3 4'	soil	2012-08-15	00:00	2012-08-17
307163	CS-2 3' AH-4 3' Bottom	soil	2012-08-15	00:00	2012-08-17
307164	CS-2 4' AH-4 4'	soil	2012-08-15	00:00	2012-08-17
307165	CS-3 3' AH-8 3' Bottom	soil	2012-08-16	00:00	2012-08-17
307166	CS-4 3' AH-7 3' Bottom	soil	2012-08-16	00:00	2012-08-17
307167	CS-5 3' AH-5 3' Bottom	soil	2012-08-16	00:00	2012-08-17
307168	CS-5 4'	soil	2012-08-16	00:00	2012-08-17

	BTEX				MTBE	TPH DRO - NEW	TPH GRO
	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
307161 - CS-1 3' AH-3 3' Bottom	<0.0200	<0.0200	**0.333**	**1.48**			
307165 - CS-3 3' AH-8 3' Bottom	<0.0200	<0.0200	<0.0200	<0.0200		<50.0	<4.00
307166 - CS-4 3' AH-7 3' Bottom	<0.0200	<0.0200	<0.0200	<0.0200		<50.0	<4.00

Sample: 307161 - CS-1 3' AH-3 3' Bottom

Param	Flag	Result	Units	RL
Chloride		**2290**	mg/Kg	5

Sample: 307162 - CS-1 4' AH-3 4'

Param	Flag	Result	Units	RL
Chloride		**5.84**	mg/Kg	5

Sample: 307163 - CS-2 3' AH-4 3' Bottom

Param	Flag	Result	Units	RL
Chloride		**2750**	mg/Kg	5

Sample: 307164 - CS-2 4' AH-4 4'

Param	Flag	Result	Units	RL
Chloride		**7.33**	mg/Kg	5

Sample: 307166 - CS-4 3' AH-7 3' Bottom

Param	Flag	Result	Units	RL
Chloride		**6.93**	mg/Kg	5

Sample: 307167 - CS-5 3' AH-5 3' Bottom

Param	Flag	Result	Units	RL
Chloride		**24.3**	mg/Kg	5

Sample: 307168 - CS-5 4'

Param	Flag	Result	Units	RL
Chloride		**14.6**	mg/Kg	5

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 915-585-3443 FAX 915-585-4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432-689-6301 FAX 432-689-6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972-242-7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report
(Corrected Report)

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

Report Date: August 28, 2012

Work Order: 12082003

Project Location: Eddy Co., NM
Project Name: COG/Continental A State TB
Project Number: 114-6401422

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
307161	CS-1 3' AH-3 3' Bottom	soil	2012-08-15	00:00	2012-08-17
307162	CS-1 4' AH-3 4'	soil	2012-08-15	00:00	2012-08-17
307163	CS-2 3' AH-4 3' Bottom	soil	2012-08-15	00:00	2012-08-17
307164	CS-2 4' AH-4 4'	soil	2012-08-15	00:00	2012-08-17
307165	CS-3 3' AH-8 3' Bottom	soil	2012-08-16	00:00	2012-08-17
307166	CS-4 3' AH-7 3' Bottom	soil	2012-08-16	00:00	2012-08-17
307167	CS-5 3' AH-5 3' Bottom	soil	2012-08-16	00:00	2012-08-17
307168	CS-5 4'	soil	2012-08-16	00:00	2012-08-17

Report Corrections (Work Order 12082003)

- 8/28/12: Correct project name per CoC.

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

This report consists of a total of 22 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

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

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- Sample 307165 (CS-3 3' AH-8 3' Bottom) . . . 7
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Case Narrative

Samples for project COG/Continental A State TB were received by TraceAnalysis, Inc. on 2012-08-17 and assigned to work order 12082003. Samples for work order 12082003 were received intact at a temperature of 3.9 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	79758	2012-08-20 at 10:27	94090	2012-08-20 at 10:27
BTEX	S 8021B	79759	2012-08-20 at 10:27	94092	2012-08-20 at 10:27
Chloride (Titration)	SM 4500-Cl B	79778	2012-08-22 at 00:40	94120	2012-08-22 at 07:10
TPH DRO - NEW	S 8015 D	79775	2012-08-21 at 17:00	94118	2012-08-21 at 17:21
TPH GRO	S 8015 D	79759	2012-08-20 at 10:27	94093	2012-08-20 at 10:27

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 12082003 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: 307161 - CS-1 3' AH-3 3' Bottom

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	94090	Date Analyzed:	2012-08-20	Analyzed By:	MT
Prep Batch:	79758	Sample Preparation:	2012-08-20	Prepared By:	MT

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	1	<0.0200	mg/Kg	1	0.0200
Toluene	U	1	<0.0200	mg/Kg	1	0.0200
Ethylbenzene		1	**0.333**	mg/Kg	1	0.0200
Xylene		1	**1.48**	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.51	mg/Kg	1	2.00	76	70 - 130
4-Bromofluorobenzene (4-BFB)			2.23	mg/Kg	1	2.00	112	70 - 130

Sample: 307161 - CS-1 3' AH-3 3' Bottom

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94120	Date Analyzed:	2012-08-22	Analyzed By:	AH
Prep Batch:	79778	Sample Preparation:	2012-08-22	Prepared By:	AH

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**2290**	mg/Kg	50	5.00

Sample: 307162 - CS-1 4' AH-3 4'

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94120	Date Analyzed:	2012-08-22	Analyzed By:	AH
Prep Batch:	79778	Sample Preparation:	2012-08-22	Prepared By:	AH

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**5.84**	mg/Kg	1	5.00

Sample: 307163 - CS-2 3' AH-4 3' Bottom

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94120	Date Analyzed:	2012-08-22	Analyzed By:	AH
Prep Batch:	79778	Sample Preparation:	2012-08-22	Prepared By:	AH

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**2750**	mg/Kg	20	5.00

Sample: 307164 - CS-2 4' AH-4 4'

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94120	Date Analyzed:	2012-08-22	Analyzed By:	AH
Prep Batch:	79778	Sample Preparation:	2012-08-22	Prepared By:	AH

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**7.33**	mg/Kg	1	5.00

Sample: 307165 - CS-3 3' AH-8 3' Bottom

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	94092	Date Analyzed:	2012-08-20	Analyzed By:	MT
Prep Batch:	79759	Sample Preparation:	2012-08-20	Prepared By:	MT

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

continued ...

sample 307165 continued ...

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.71	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			1.77	mg/Kg	1	2.00	88	70 - 130

Sample: 307165 - CS-3 3' AH-8 3' Bottom

Laboratory:	Lubbock				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	94118	Date Analyzed:	2012-08-21	Analyzed By:	DS
Prep Batch:	79775	Sample Preparation:	2012-08-21	Prepared By:	DS

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			98.2	mg/Kg	1	100	98	70 - 130

Sample: 307165 - CS-3 3' AH-8 3' Bottom

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	94093	Date Analyzed:	2012-08-20	Analyzed By:	MT
Prep Batch:	79759	Sample Preparation:	2012-08-20	Prepared By:	MT

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.72	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			1.99	mg/Kg	1	2.00	100	70 - 130

Sample: 307166 - CS-4 3' AH-7 3' Bottom

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	94092	Date Analyzed:	2012-08-20	Analyzed By:	MT
Prep Batch:	79759	Sample Preparation:	2012-08-20	Prepared By:	MT

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.81	mg/Kg	1	2.00	90	70 - 130
4-Bromofluorobenzene (4-BFB)			1.83	mg/Kg	1	2.00	92	70 - 130

Sample: 307166 - CS-4 3' AH-7 3' Bottom

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94120	Date Analyzed:	2012-08-22	Analyzed By:	AH
Prep Batch:	79778	Sample Preparation:	2012-08-22	Prepared By:	AH

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**6.93**	mg/Kg	1	5.00

Sample: 307166 - CS-4 3' AH-7 3' Bottom

Laboratory:	Lubbock				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	94118	Date Analyzed:	2012-08-21	Analyzed By:	DS
Prep Batch:	79775	Sample Preparation:	2012-08-21	Prepared By:	DS

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			99.0	mg/Kg	1	100	99	70 - 130

Sample: 307166 - CS-4 3' AH-7 3' Bottom

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	94093	Date Analyzed:	2012-08-20	Analyzed By:	MT
Prep Batch:	79759	Sample Preparation:	2012-08-20	Prepared By:	MT

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.89	mg/Kg	1	2.00	94	70 - 130
4-Bromofluorobenzene (4-BFB)			1.95	mg/Kg	1	2.00	98	70 - 130

Sample: 307167 - CS-5 3' AH-5 3' Bottom

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94120	Date Analyzed:	2012-08-22	Analyzed By:	AH
Prep Batch:	79778	Sample Preparation:	2012-08-22	Prepared By:	AH

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**24.3**	mg/Kg	1	5.00

Sample: 307168 - CS-5 4'

Laboratory:	Lubbock				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	94120	Date Analyzed:	2012-08-22	Analyzed By:	AH
Prep Batch:	79778	Sample Preparation:	2012-08-22	Prepared By:	AH

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**14.6**	mg/Kg	1	5.00

Method Blanks

Method Blank (1) QC Batch: 94090

QC Batch: 94090 | Date Analyzed: 2012-08-20 | Analyzed By: MT
Prep Batch: 79758 | QC Preparation: 2012-08-20 | Prepared By: MT

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00365	mg/Kg	0.02
Toluene		1	<0.00816	mg/Kg	0.02
Ethylbenzene		1	<0.00560	mg/Kg	0.02
Xylene		1	<0.00460	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.86	mg/Kg	1	2.00	93	70 - 130
4-Bromofluorobenzene (4-BFB)			1.82	mg/Kg	1	2.00	91	70 - 130

Method Blank (1) QC Batch: 94092

QC Batch: 94092 | Date Analyzed: 2012-08-20 | Analyzed By: MT
Prep Batch: 79759 | QC Preparation: 2012-08-20 | Prepared By: MT

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00365	mg/Kg	0.02
Toluene		1	<0.00816	mg/Kg	0.02
Ethylbenzene		1	<0.00560	mg/Kg	0.02
Xylene		1	<0.00460	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.61	mg/Kg	1	2.00	80	70 - 130
4-Bromofluorobenzene (4-BFB)			1.67	mg/Kg	1	2.00	84	70 - 130

Method Blank (1) QC Batch: 94093

QC Batch: 94093 | Date Analyzed: 2012-08-20 | Analyzed By: MT
Prep Batch: 79759 | QC Preparation: 2012-08-20 | Prepared By: MT

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<0.359	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.72	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			1.76	mg/Kg	1	2.00	88	70 - 130

Method Blank (1) QC Batch: 94118

QC Batch: 94118 | Date Analyzed: 2012-08-21 | Analyzed By: DS
Prep Batch: 79775 | QC Preparation: 2012-08-21 | Prepared By: DS

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	<15.3	mg/Kg	50

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

Method Blank (1) QC Batch: 94120

QC Batch: 94120 | Date Analyzed: 2012-08-22 | Analyzed By: AH
Prep Batch: 79778 | QC Preparation: 2012-08-22 | Prepared By: AH

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.05	mg/Kg	5

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 94090 | Date Analyzed: 2012-08-20 | Analyzed By: MT
Prep Batch: 79758 | QC Preparation: 2012-08-20 | Prepared By: MT

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.88	mg/Kg	1	2.00	<0.00365	94	75.4 - 120
Toluene		1	1.81	mg/Kg	1	2.00	<0.00816	90	74.9 - 120
Ethylbenzene		1	1.84	mg/Kg	1	2.00	<0.00560	92	78.1 - 120
Xylene		1	5.54	mg/Kg	1	6.00	<0.00460	92	77.3 - 120

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.89	mg/Kg	1	2.00	<0.00365	94	75.4 - 120	0	20
Toluene		1	1.85	mg/Kg	1	2.00	<0.00816	92	74.9 - 120	2	20
Ethylbenzene		1	1.88	mg/Kg	1	2.00	<0.00560	94	78.1 - 120	2	20
Xylene		1	5.65	mg/Kg	1	6.00	<0.00460	94	77.3 - 120	2	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.94	1.92	mg/Kg	1	2.00	97	96	70 - 130
4-Bromofluorobenzene (4-BFB)	1.84	1.88	mg/Kg	1	2.00	92	94	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 94092 | Date Analyzed: 2012-08-20 | Analyzed By: MT
Prep Batch: 79759 | QC Preparation: 2012-08-20 | Prepared By: MT

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.83	mg/Kg	1	2.00	<0.00365	92	75.4 - 120
Toluene		1	1.80	mg/Kg	1	2.00	<0.00816	90	74.9 - 120
Ethylbenzene		1	1.79	mg/Kg	1	2.00	<0.00560	89	78.1 - 120
Xylene		1	5.35	mg/Kg	1	6.00	<0.00460	89	77.3 - 120

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.80	mg/Kg	1	2.00	<0.00365	90	75.4 - 120	2	20
Toluene		1	1.74	mg/Kg	1	2.00	<0.00816	87	74.9 - 120	3	20
Ethylbenzene		1	1.76	mg/Kg	1	2.00	<0.00560	88	78.1 - 120	2	20
Xylene		1	5.27	mg/Kg	1	6.00	<0.00460	88	77.3 - 120	2	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.69	1.69	mg/Kg	1	2.00	84	84	70 - 130
4-Bromofluorobenzene (4-BFB)	1.74	1.76	mg/Kg	1	2.00	87	88	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 94093 | Date Analyzed: 2012-08-20 | Analyzed By: MT
Prep Batch: 79759 | QC Preparation: 2012-08-20 | Prepared By: MT

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	16.8	mg/Kg	1	20.0	<0.359	84	68.9 - 120

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	17.3	mg/Kg	1	20.0	<0.359	86	68.9 - 120	3	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.71	1.85	mg/Kg	1	2.00	86	92	70 - 130
4-Bromofluorobenzene (4-BFB)	1.98	1.93	mg/Kg	1	2.00	99	96	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 94118 | Date Analyzed: 2012-08-21 | Analyzed By: DS
Prep Batch: 79775 | QC Preparation: 2012-08-21 | Prepared By: DS

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	259	mg/Kg	1	250	<15.3	104	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	250	mg/Kg	1	250	<15.3	100	70 - 130	4	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	99.3	98.1	mg/Kg	1	100	99	98	70 - 130

Matrix Spike (MS-1) Spiked Sample: 306704

QC Batch: 94090 | Date Analyzed: 2012-08-20 | Analyzed By: MT
Prep Batch: 79758 | QC Preparation: 2012-08-20 | Prepared By: MT

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.83	mg/Kg	1	2.00	<0.00365	92	37.6 - 142
Toluene		1	1.94	mg/Kg	1	2.00	<0.00816	97	38.6 - 153
Ethylbenzene		1	2.03	mg/Kg	1	2.00	<0.00560	102	36.7 - 172
Xylene		1	6.06	mg/Kg	1	6.00	<0.00460	101	36.7 - 173

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.81	mg/Kg	1	2.00	<0.00365	90	37.6 - 142	1	20
Toluene		1	1.93	mg/Kg	1	2.00	<0.00816	96	38.6 - 153	0	20
Ethylbenzene		1	2.05	mg/Kg	1	2.00	<0.00560	102	36.7 - 172	1	20
Xylene		1	6.14	mg/Kg	1	6.00	<0.00460	102	36.7 - 173	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.98	1.98	mg/Kg	1	2	99	99	70 - 130
4-Bromofluorobenzene (4-BFB)	1.92	1.91	mg/Kg	1	2	96	96	70 - 130

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 94092 | Date Analyzed: 2012-08-20 | Analyzed By: MT
Prep Batch: 79759 | QC Preparation: 2012-08-20 | Prepared By: MT

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.82	mg/Kg	1	2.00	<0.00365	91	37.6 - 142
Toluene		1	1.88	mg/Kg	1	2.00	<0.00816	94	38.6 - 153
Ethylbenzene		1	2.02	mg/Kg	1	2.00	<0.00560	101	36.7 - 172
Xylene		1	6.03	mg/Kg	1	6.00	<0.00460	100	36.7 - 173

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.72	mg/Kg	1	2.00	<0.00365	86	37.6 - 142	6	20
Toluene		1	1.79	mg/Kg	1	2.00	<0.00816	90	38.6 - 153	5	20
Ethylbenzene		1	1.89	mg/Kg	1	2.00	<0.00560	94	36.7 - 172	7	20
Xylene		1	5.64	mg/Kg	1	6.00	<0.00460	94	36.7 - 173	7	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.95	1.76	mg/Kg	1	2	98	88	70 - 130
4-Bromofluorobenzene (4-BFB)	1.86	1.75	mg/Kg	1	2	93	88	70 - 130

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 94093 | Date Analyzed: 2012-08-20 | Analyzed By: MT
Prep Batch: 79759 | QC Preparation: 2012-08-20 | Prepared By: MT

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	13.9	mg/Kg	1	20.0	<0.359	70	68.9 - 120

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	14.7	mg/Kg	1	20.0	<0.359	74	68.9 - 120	6	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)	Qsr	Qsr	1.39	1.57	mg/Kg	1	2	70	78	70 - 130
4-Bromofluorobenzene (4-BFB)			1.86	1.93	mg/Kg	1	2	93	96	70 - 130

Matrix Spike (MS-1) Spiked Sample: 307166

QC Batch: 94118 | Date Analyzed: 2012-08-21 | Analyzed By: DS
Prep Batch: 79775 | QC Preparation: 2012-08-21 | Prepared By: DS

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	187	mg/Kg	1	250	<15.3	75	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	206	mg/Kg	1	250	<15.3	82	70 - 130	10	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	81.2	88.0	mg/Kg	1	100	81	88	70 - 130

Matrix Spike (MS-1) Spiked Sample: 307168

QC Batch: 94120 | Date Analyzed: 2012-08-22 | Analyzed By: AH
Prep Batch: 79778 | QC Preparation: 2012-08-22 | Prepared By: AH

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			105	mg/Kg	1	100	<3.05	105	80 - 120

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			105	mg/Kg	1	100	<3.05	105	80 - 120	0	20

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

Calibration Standards

Standard (CCV-1)

QC Batch: 94090 | Date Analyzed: 2012-08-20 | Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0928	93	80 - 120	2012-08-20
Toluene		1	mg/kg	0.100	0.0904	90	80 - 120	2012-08-20
Ethylbenzene		1	mg/kg	0.100	0.0903	90	80 - 120	2012-08-20
Xylene		1	mg/kg	0.300	0.274	91	80 - 120	2012-08-20

Standard (CCV-2)

QC Batch: 94090 | Date Analyzed: 2012-08-20 | Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0934	93	80 - 120	2012-08-20
Toluene		1	mg/kg	0.100	0.0918	92	80 - 120	2012-08-20
Ethylbenzene		1	mg/kg	0.100	0.0914	91	80 - 120	2012-08-20
Xylene		1	mg/kg	0.300	0.272	91	80 - 120	2012-08-20

Standard (CCV-3)

QC Batch: 94090 | Date Analyzed: 2012-08-20 | Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0921	92	80 - 120	2012-08-20
Toluene		1	mg/kg	0.100	0.0902	90	80 - 120	2012-08-20
Ethylbenzene		1	mg/kg	0.100	0.0923	92	80 - 120	2012-08-20
Xylene		1	mg/kg	0.300	0.276	92	80 - 120	2012-08-20

Standard (CCV-1)

QC Batch: 94092 | Date Analyzed: 2012-08-20 | Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0923	92	80 - 120	2012-08-20
Toluene		1	mg/kg	0.100	0.0901	90	80 - 120	2012-08-20
Ethylbenzene		1	mg/kg	0.100	0.0882	88	80 - 120	2012-08-20
Xylene		1	mg/kg	0.300	0.264	88	80 - 120	2012-08-20

Standard (CCV-2)

QC Batch: 94092 | Date Analyzed: 2012-08-20 | Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0928	93	80 - 120	2012-08-20
Toluene		1	mg/kg	0.100	0.0903	90	80 - 120	2012-08-20
Ethylbenzene		1	mg/kg	0.100	0.0899	90	80 - 120	2012-08-20
Xylene		1	mg/kg	0.300	0.271	90	80 - 120	2012-08-20

Standard (CCV-3)

QC Batch: 94092 | Date Analyzed: 2012-08-20 | Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0902	90	80 - 120	2012-08-20
Toluene		1	mg/kg	0.100	0.0865	86	80 - 120	2012-08-20
Ethylbenzene		1	mg/kg	0.100	0.0863	86	80 - 120	2012-08-20
Xylene		1	mg/kg	0.300	0.257	86	80 - 120	2012-08-20

Standard (CCV-1)

QC Batch: 94093 | Date Analyzed: 2012-08-20 | Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.853	85	80 - 120	2012-08-20

Standard (CCV-2)

QC Batch: 94093 Date Analyzed: 2012-08-20 Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.906	90	80 - 120	2012-08-20

Standard (CCV-3)

QC Batch: 94093 Date Analyzed: 2012-08-20 Analyzed By: MT

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.806	80	80 - 120	2012-08-20

Standard (CCV-1)

QC Batch: 94118 Date Analyzed: 2012-08-21 Analyzed By: DS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	248	99	80 - 120	2012-08-21

Standard (CCV-2)

QC Batch: 94118 Date Analyzed: 2012-08-21 Analyzed By: DS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	200	80	80 - 120	2012-08-21

Standard (ICV-1)

QC Batch: 94120 Date Analyzed: 2012-08-22 Analyzed By: AH

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.4	99	85 - 115	2012-08-22

Standard (CCV-1)

QC Batch: 94120 Date Analyzed: 2012-08-22 Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-08-22

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	T104704219-12-8	Lubbock

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.

Analysis Request of Chain of Custody Record

12082003

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

PAGE: 1 OF:

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-4101422

PROJECT NAME: COG / Continental A State TB Eddy Co NM

LAB I.D. NUMBER	DATE 2012	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
30716	8/15		S		X	CS-1 3' AH-3 3' bottom	1				X		X												X				
162						CS-1 4' AH-3 4'																			X				
163						CS-2 3' AH-4 3' bottom																			X				
164						CS-2 4' AH-4 4'																			X				
165	8/16					CS-3 3' AH-8 3' bottom							X	X															
166						CS-4 3' AH-7 3' bottom							X	X											X				
167						CS-5 3' AH-5 3' bottom																			X				
168						CS-5 4'																			X				

RELINQUISHED BY: (Signature)	Date: 8/17/12 Time: 1205	RECEIVED BY: (Signature)	Date: 8/17/12 Time: 1205
RELINQUISHED BY: (Signature)	Date: 8/17/12 Time: 1530	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:

SAMPLED BY: (Print & Initial) JT Date: 8/16/12 Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS OTHER: AIRBILL #: 789963875

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature) +TA
DATE: 8/18/12 TIME: 10:30

SAMPLE CONDITION WHEN RECEIVED: 8S IR 3.7/3.9

REMARKS: Hold - Rush - Mail results Wed Morning

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