SITE INFORMATION

Report Type: Closure Report

General Site Information:						
Site:	BKU Central Tank Battery					
Company:	COG Operating LLC					
Section, Township and Range	Unit P	Sec 24	T17S	R29E		
Lease Number:	API-30-015-29809					
County:	Eddy County					
GPS:	32.81926° N			104.02614° W		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	In Loco Hills, from the intersection of CR 217 and Hwy 82, travel west on 82 (2.1 miles), turn south (300 feet), turn left (400 feet) to location.					

Release Data:	
Date Released:	12/3/2011
Type Release:	Oil
Source of Contamination:	Oil Tank
Fluid Released:	120 bbls
Fluids Recovered:	115 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

August 15, 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., BKU Central Tank Battery, Unit P, Section 24, 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 BKU Central Tank Battery located in Unit P, Section 24, Township 17 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.81926°, W 104.02614°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on December 3, 2011, and released approximately ten (120) barrels of oil from a hole in an oil tank. To alleviate the problem, COG personnel have isolated the tank and repaired it. One hundred fifteen (115) barrels of standing fluids were recovered. The spill was contained within the firewalls of the tank battery, measuring 105' X 165'. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 23. According to the NMOCD groundwater map, the depth to groundwater in this area is approximately 125' below surface. The groundwater data is shown on Figure 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 December 20, 2011, Tetra Tech personnel inspected and sampled the spill area. Seven (7) auger holes (AH-1 through AH-7) 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, none of the samples exceeded the TPH RRAL, AH-2, AH-3 and AH-4 were above the RRAL for total BTEX, but declined at 0-1', showing concentrations of 196 mg/kg, 118 mg/kg and 109 mg/kg, respectively. The deeper samples at 1.0-1.5' declined below the RRAL. A shallow chloride impact was detected in the areas of AH-1, AH-4 and AH-7, and declined at a depth of 1.0-1.5' below surface.

Site Remediation and Conclusion

Based on the approved work plan, Tetra Tech personnel supervised the excavation of the site. The spill foot print and final excavation depths of the soil remediation were met or exceeded as stated in the approved work plan. The excavation depths are highlighted in Table 1 and shown on Figure 4. Approximately 1,280 yards^3 of impacted material was removed and disposed of at CRI.

TETRA TECH

As requested by the BLM, confirmation samples were collected from the excavation. Thirteen (13) confirmation samples (CS-1 through CS-13) were collected from excavation bottoms and side walls. The confirmation sample locations are shown on Figure 5. The sampling results are summarized on Table 1. Referring to Table 1, all confirmation samples did not showed a significant chloride impact. Based on the results, the BLM approved the backfilling of the site.

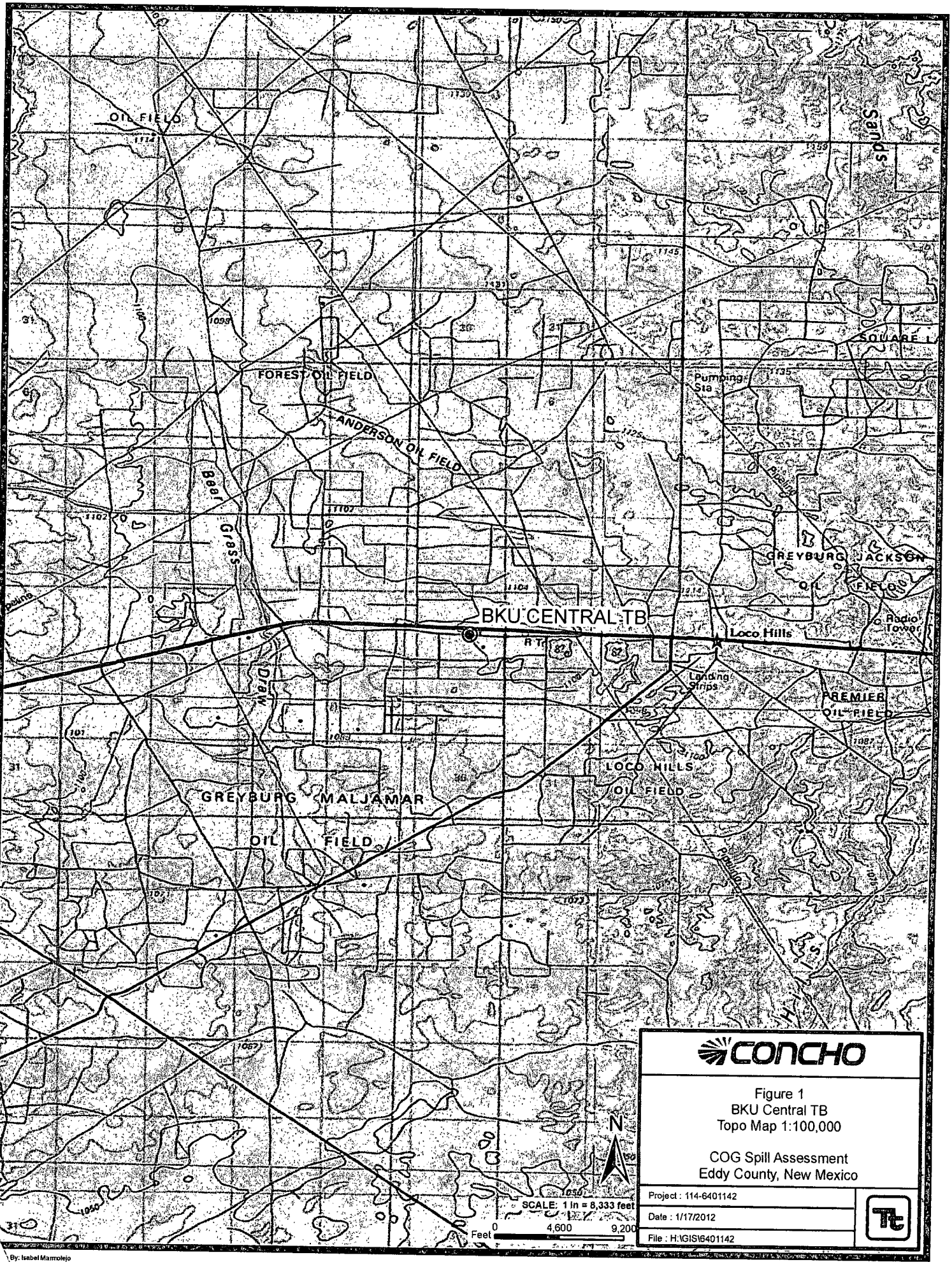
Based on the remediation activities performed at this location, COG request closure for site. The C-141 (Final) is included in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities performed at the site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Ike Tavarez
Senior Project Manager

cc: Pat Ellis – COG
cc: Terry Gregston – BLM

Figures



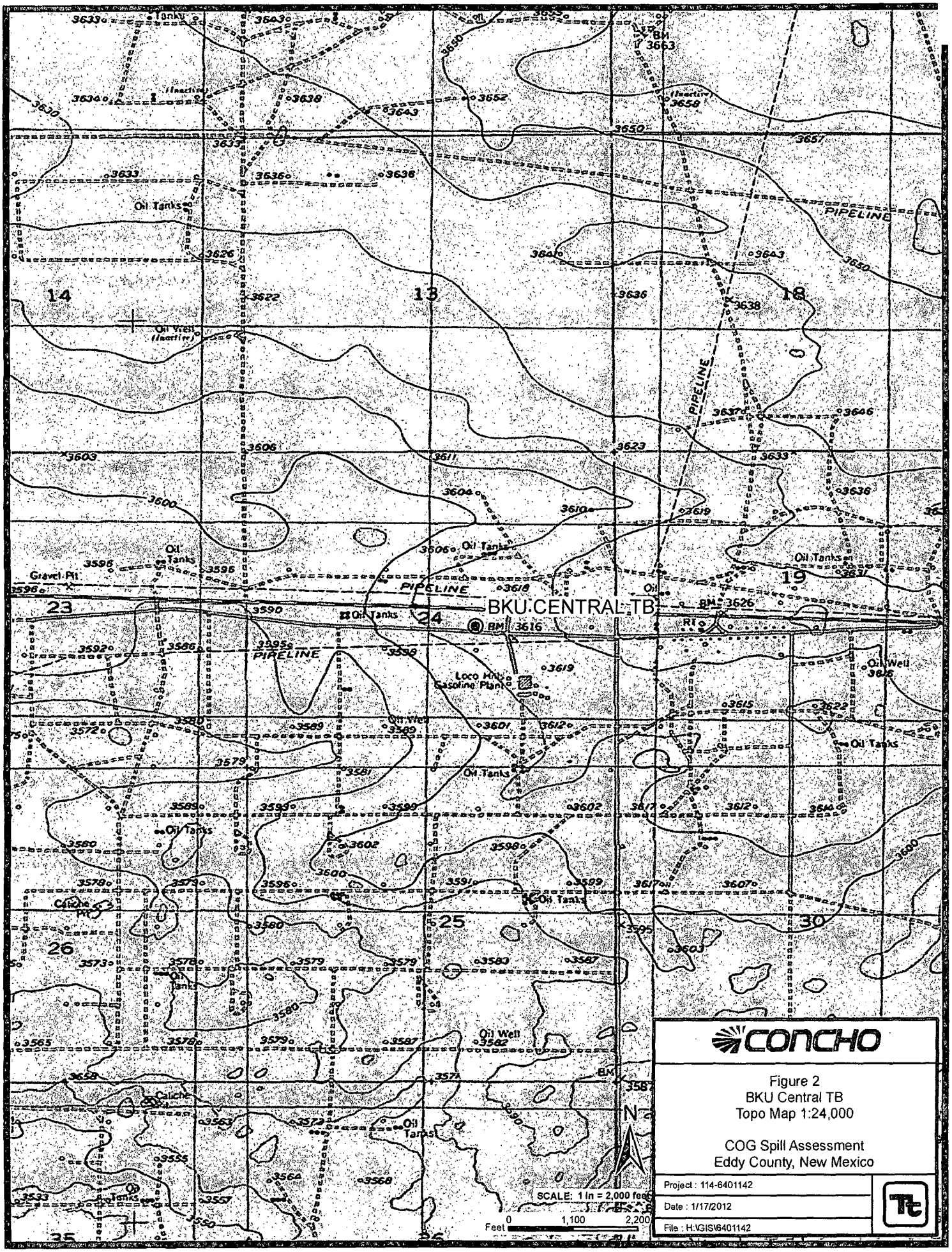
CONCHO

Figure 1
BKU Central TB
Topo Map 1:100,000

COG Spill Assessment
Eddy County, New Mexico

Project : 114-6401142	
Date : 1/17/2012	
File : H:\GIS\6401142	

By: Isabel Marrolejo



CONCHO

Figure 2
BKU Central TB
Topo Map 1:24,000

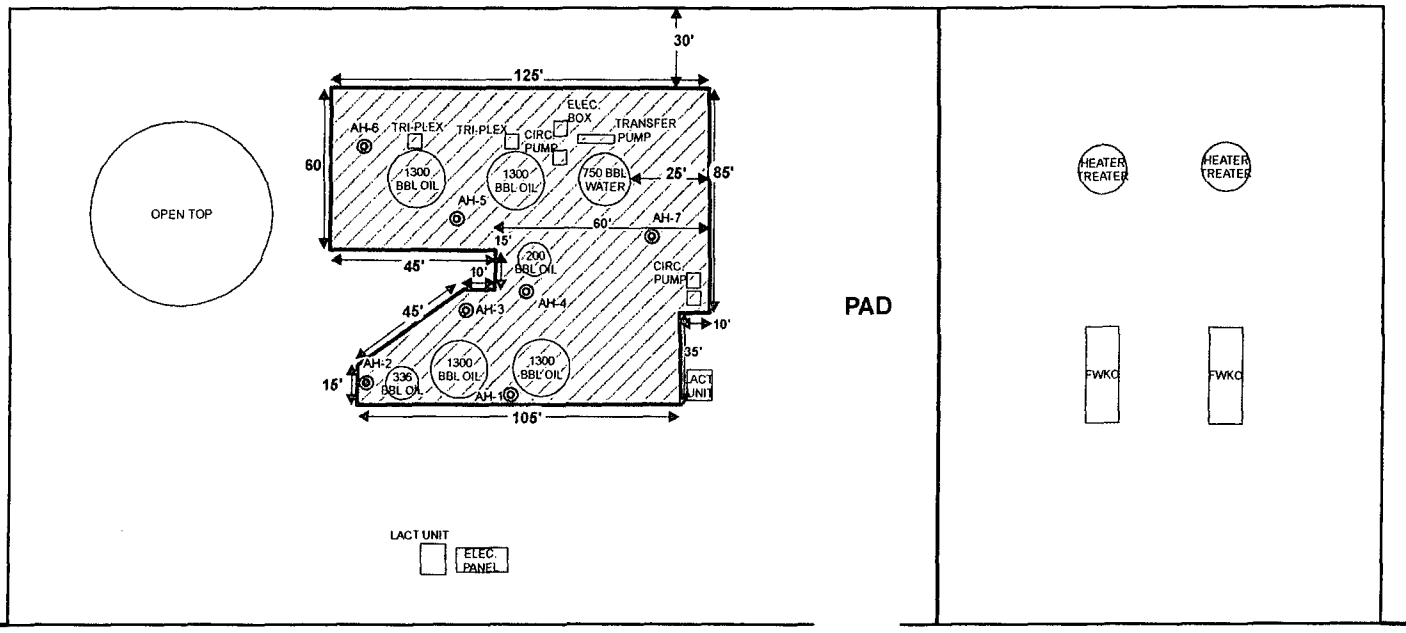
COG Spill Assessment
Eddy County, New Mexico

Project : 114-6401142	
Date : 1/17/2012	
File : H:\GIS\6401142	

Drawn By: Isabel Marmolejo

US HIGHWAY 82

PASTURE



LEASE ROAD

EXPLANATION

- AUGER HOLE SAMPLE LOCATIONS
- SPILL AREA

N

SCALE: 1 IN = 74 FEET

Feet 0 40 80

CONCHO

Figure 3

BKU Central TB
Spill Assessment Map

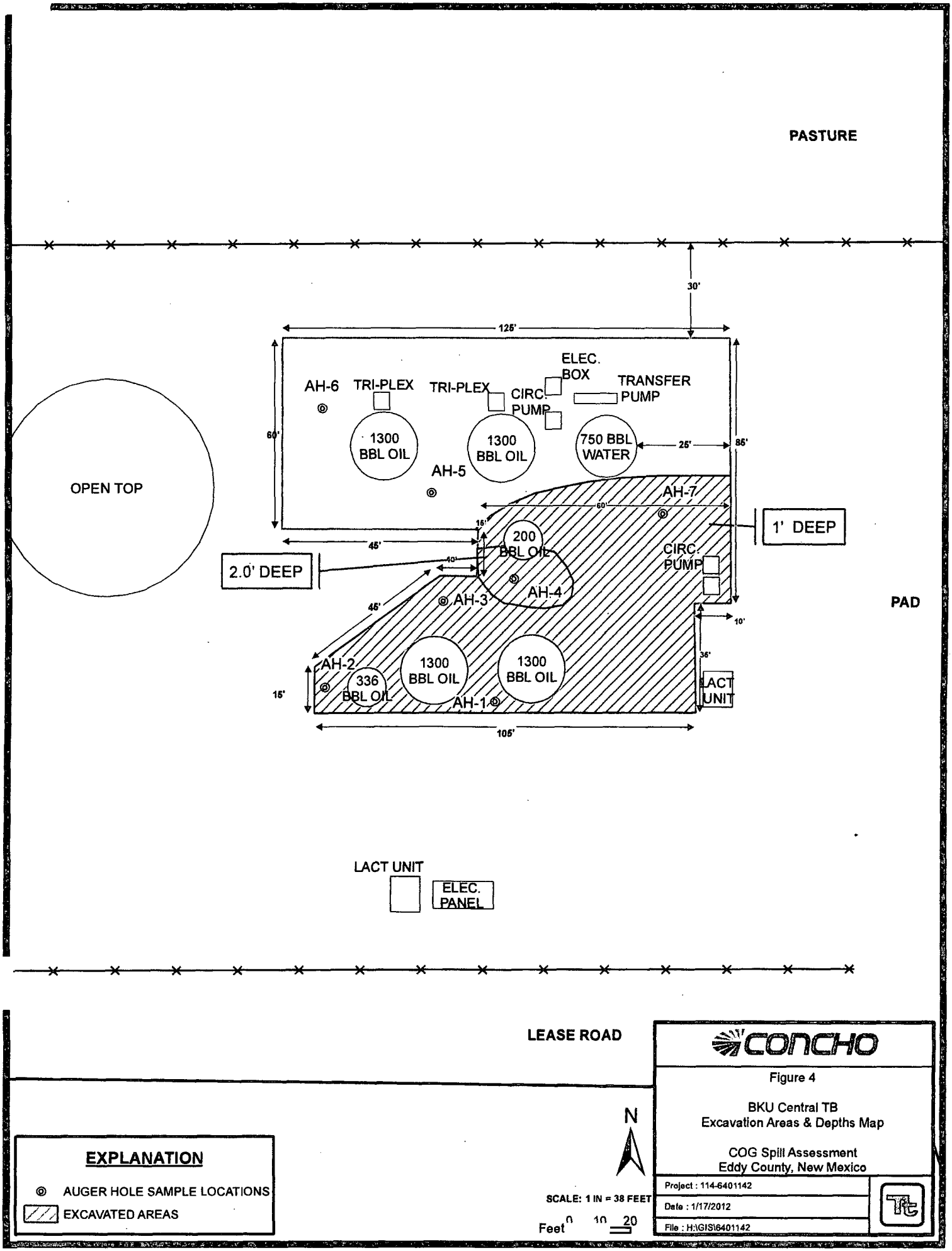
COG Spill Assessment
Eddy County, New Mexico

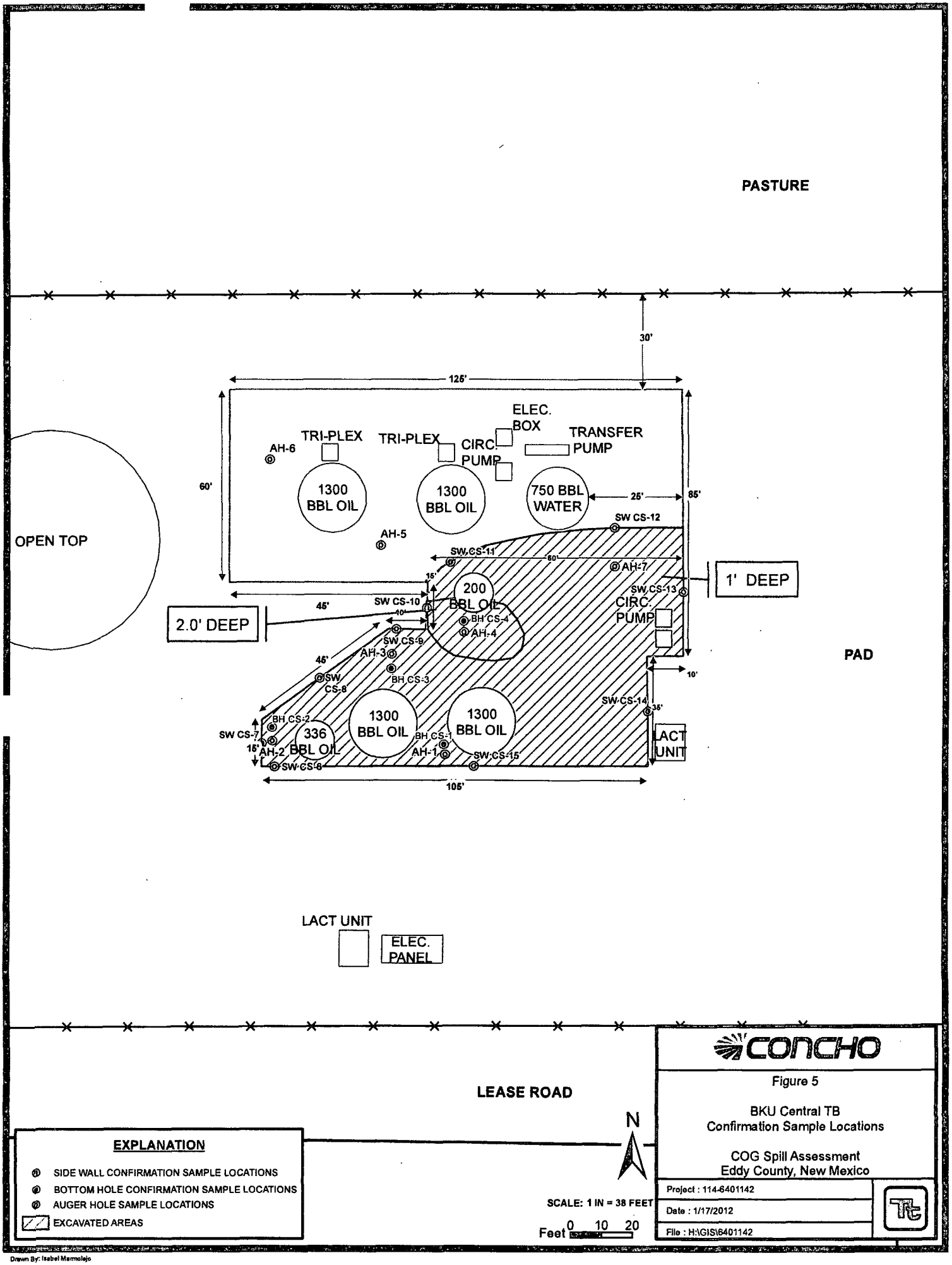
Project : 114-6401142

Date : 1/17/2012

File : H:\GIS\6401142

Drawn By: Isabel Manmolejo


PASTURE
30'
125'
ELEC. BOX
AH-6
TRI-PLEX
TRI-PLEX
CIRC. PUMP
TRANSFER PUMP
60'
1300 BBL OIL
1300 BBL OIL
750 BBL WATER
25'
85'
AH-5
OPEN TOP
AH-7
60'
16'
1' DEEP
45'
200 BBL OIL
2.0' DEEP
40'
CIRC. PUMP
AH-4
AH-3
45'
PAD
10'
36'
AH-2
1300 BBL OIL
1300 BBL OIL
336 BBL OIL
15'
AH-1
LACT UNIT
105'
LACT UNIT
ELEC. PANEL
LEASE ROAD
EXPLANATION
AUGER HOLE SAMPLE LOCATIONS
EXCAVATED AREAS
N
SCALE: 1 IN = 38 FEET
Feet 0 10 20
CONCHO
Figure 4
BKU Central TB
Excavation Areas & Depths Map
COG Spill Assessment
Eddy County, New Mexico
Project : 114-6401142
Date : 1/17/2012
File : H:\GIS\6401142
Drawn By: Isabel Marmolejo


PASTURE
30'
125'
ELEC. BOX
TRI-PLEX
TRI-PLEX
CIRC. PUMP
TRANSFER PUMP
AH-6
60'
1300 BBL OIL
1300 BBL OIL
750 BBL WATER
25'
85'
OPEN TOP
AH-5
SW CS-12
SW CS-11
60'
AH-7
1' DEEP
15'
200 BBL OIL
SW CS-13
45'
SW CS-10
10'
2.0' DEEP
BH CS-4
AH-4
CIRC. PUMP
SW CS-9
AH-3
45'
PAD
BH CS-3
SW CS-8
10'
SW CS-14
35'
1300 BBL OIL
1300 BBL OIL
BH CS-2
SW CS-7
336 BBL OIL
BH CS-1
LACT UNIT
15'
AH-2
AH-1
SW CS-15
SW CS-6
105'
LACT UNIT
ELEC. PANEL
LEASE ROAD
N
SCALE: 1 IN = 38 FEET
Feet 0 10 20
EXPLANATION
SIDE WALL CONFIRMATION SAMPLE LOCATIONS
BOTTOM HOLE CONFIRMATION SAMPLE LOCATIONS
AUGER HOLE SAMPLE LOCATIONS
EXCAVATED AREAS
CONCHO
Figure 5
BKU Central TB
Confirmation Sample Locations
COG Spill Assessment
Eddy County, New Mexico
Project : 114-6401142
Date : 1/17/2012
File : H:\GIS\6401142
Drawn By: Isabel Marmolejo

Tables

Table 1
COG Operating LLC
BKU Central Tank Battery
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-1	12/20/2011	0-1	-		X	107	310	417	0.724	2.43	1.59	1.85	6.59	2,100
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	<200
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	<200
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	<200
CS-1 Bottom Hole	3/1/2012	1	-	X		-	-	-	-	-	-	-	-	<200
CS-14 Sidewall	3/1/2012	-	-	X		-	-	-	-	-	-	-	-	<200
CS-15 Sidewall	3/5/2012	-	-	X		-	-	-	-	-	-	-	-	<200
AH-2	12/20/2011	0-1	-		X	2,430	681	3,111	17.6	78.8	42.4	57.5	196	276
	"	1-1.5	-	X		-	-	-	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	420
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	<200
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	240
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	<200
CS-2 Bottom Hole	2/29/2012	1	-	X		-	-	-	-	-	-	-	-	<200
CS-6 Sidewall	2/29/2012	-	-	X		-	-	-	-	-	-	-	-	<200
CS-7 Sidewall	2/29/2012	-	-	X		-	-	-	-	-	-	-	-	<200
CS-8 Sidewall	2/29/2012	-	-	X		-	-	-	-	-	-	-	-	<200

Table 1
COG Operating LLC
BKU Central Tank Battery
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-3	12/20/2011	0-1	-		X	2,540	1,040	3,580	2.12	38.3	31.9	45.2	118	<200
	"	1-1.5	-	X		-	-	-	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<200
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	<200
	"	3-3.5		X		-	-	-	-	-	-	-	-	<200
	"	4-4.5		X		-	-	-	-	-	-	-	-	<200
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	<200
CS-3 Bottom Hole	3/1/2012	1	-	X		-	-	-	-	-	-	-	-	<200
CS-9 Sidewall	2/29/2012	-	-	X		-	-	-	-	-	-	-	-	509
AH-4	12/20/2011	0-1	-		X	2,960	1,300	4,260	7.68	41.6	29.6	30.5	109	2,300
	"	1-1.5	-		X	-	-	-	<0.100	0.482	0.509	0.910	1.90	2,140
	"	2-2.5		X		-	-	-	-	-	-	-	-	1,010
	"	3-3.5		X		-	-	-	-	-	-	-	-	749
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	938
CS-4 Bottom Hole	3/2/2012	2	-	X		-	-	-	-	-	-	-	-	<200
CS-10 Sidewall	3/2/2012	-	-	X		-	-	-	-	-	-	-	-	<200
CS-11 Sidewall	3/2/2012	-	-	X		-	-	-	-	-	-	-	-	<200

Table 1
COG Operating LLC
BKU Central Tank Battery
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-5	12/20/2011	0-1	-	X		192	<50.0	192	<0.100	<0.100	0.120	0.140	0.260	258
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	214
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	238
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	248
CS-12 Sidewall	3/2/2012	-	-	X		-	-	-	-	-	-	-	-	<200
CS-13 Sidewall	3/5/2012	-	-	X		-	-	-	-	-	-	-	-	<200
AH-6	12/20/2011	0-1	-	X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	311
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	<200
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	250
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	<200
AH-7	12/20/2011	0-1	-		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	2,970
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	791
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	861
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	871
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	716
CS-5 Bottom Hole	3/1/2012	1	-	X		-	-	-	-	-	-	-	-	302

(--) Not Analyzed

Excavation Depths

(BEB) Below Excavation Bottom

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

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 **BKU Central Tank Battery**	Facility Type **Tank Battery**

Surface Owner Federal	Mineral Owner	Lease No. 30-015-29809

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	23	17-S	29-E					Eddy

Latitude N 32 49.161° **Longitude** W 104 01.546°

NATURE OF RELEASE

Type of Release: **Oil**	Volume of Release **120 bbls**	Volume Recovered **115 bbls**
Source of Release **Oil Tank**	Date and Hour of Occurrence 12/03/2011	Date and Hour of Discovery **12/03/2011 6:00 a.m.**
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? **Mike Bratcher – OCD** **Jim Amos – BLM** **Terry Gregston - BLM**	
By Whom? Josh Russo	Date and Hour 12/05/2011 8:48 a.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

A hole developed in an oil tank at the facility causing the release. The tank was isolated and has been prepared for repairs.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected and collected samples to define spill extents. Soil with elevated chloride concentrations was removed and transported to Controlled Recovery, Inc. for proper disposal. Once excavated to the appropriate depths, the site was backfilled with clean soil and then brought up to surface grade. Tetra Tech prepared and submitted the closure report 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: 8/15/12 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	BKU Central Tank Battery	Facility Type	Tank Battery

Surface Owner Federal	Mineral Owner	Lease No. (30-015-29809)

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	23	17S	29E					Eddy

Latitude 32 49.161 **Longitude** 104 01.546

NATURE OF RELEASE

Type of Release Oil	Volume of Release 120bbls	Volume Recovered 115bbls
Source of Release Oil tank	Date and Hour of Occurrence 12/03/2011	Date and Hour of Discovery 12/03/2011 6:00 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher-OCD, Jim Amos-BLM, Terry Gregston-BLM	
By Whom? Josh Russo	Date and Hour 12/05/2011 8:48 a.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 hole developed in an oil tank at the facility causing the release. The tank was isolated and has been prepared for repairs.

Describe Area Affected and Cleanup Action Taken.*

Initially 120bbls of crude oil were released from the oil tank with the hole in it. We were able to recover 115bbls with a vacuum truck. The entire release was completely contained inside the facility walls of the tank battery. All free fluid has been recovered and the contaminated soil will be scraped and hauled to a 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/BLM for approval prior to any significant remediation work.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Josh Russo	Approved by District Supervisor:
Title: HSE Coordinator	Approval Date: / Expiration Date:
E-mail Address: jrusso@conchoresources.com	Conditions of Approval: / Attached ☐
Date: 12/12/2011 Phone: 432-212-2399	

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - BKU Central 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 SITE	24
30	29	28	27	26	25
31	32	33	34	35	36

17 South 30 East

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

18 South 28 East

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

18 South 29 East

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

18 South 30 East

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

- New Mexico State Engineers Well Reports
- USGS Well Reports
- Geology and Groundwater Conditions in Southern Eddy, County, NM
- NMOCD - Groundwater Data
- Field water level
- New Mexico Water and Infrastructure Data System
- Site Location - State S-19

Appendix C

Summary Report

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

Report Date: January 5, 2012

Work Order: 11122302

Project Location: Eddy Co., NM
Project Name: COG/BKU Central Tank Battery
Project Number: 114-6401142

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
285134	AH-1 0-1'	soil	2011-12-20	00:00	2011-12-22
285135	AH-1 1-1.5'	soil	2011-12-20	00:00	2011-12-22
285136	AH-1 2-2.5'	soil	2011-12-20	00:00	2011-12-22
285137	AH-1 3-3.5'	soil	2011-12-20	00:00	2011-12-22
285138	AH-2 0-1'	soil	2011-12-20	00:00	2011-12-22
285139	AH-2 1-1.5'	soil	2011-12-20	00:00	2011-12-22
285140	AH-2 2.-2.5'	soil	2011-12-20	00:00	2011-12-22
285141	AH-2 3-3.5'	soil	2011-12-20	00:00	2011-12-22
285142	AH-2 4-4.5'	soil	2011-12-20	00:00	2011-12-22
285143	AH-3 0-1'	soil	2011-12-20	00:00	2011-12-22
285144	AH-3 1-1.5'	soil	2011-12-20	00:00	2011-12-22
285145	AH-3 2-2.5'	soil	2011-12-20	00:00	2011-12-22
285146	AH-3 3-3.5	soil	2011-12-20	00:00	2011-12-22
285147	AH-3 4-4.5'	soil	2011-12-20	00:00	2011-12-22
285148	AH-3 5-5.5'	soil	2011-12-20	00:00	2011-12-22
285149	AH-4 0-1'	soil	2011-12-20	00:00	2011-12-22
285150	AH-4 1-1.5'	soil	2011-12-20	00:00	2011-12-22
285151	AH-4 2-2.5'	soil	2011-12-20	00:00	2011-12-22
285152	AH-4 3-3.5'	soil	2011-12-20	00:00	2011-12-22
285153	AH-4 4-4.5'	soil	2011-12-20	00:00	2011-12-22
285154	AH-5 0-1'	soil	2011-12-20	00:00	2011-12-22
285155	AH-5 1-1.5'	soil	2011-12-20	00:00	2011-12-22
285156	AH-5 2-2.5'	soil	2011-12-20	00:00	2011-12-22
285157	AH-5 3-3.5'	soil	2011-12-20	00:00	2011-12-22
285158	AH-6 0-1'	soil	2011-12-20	00:00	2011-12-22
285159	AH-6 1-1.5'	soil	2011-12-20	00:00	2011-12-22
285160	AH-6 2-2.5'	soil	2011-12-20	00:00	2011-12-22
285161	AH-6 3-3.5'	soil	2011-12-20	00:00	2011-12-22
285162	AH-7 0-1'	soil	2011-12-20	00:00	2011-12-22
285163	AH-7 1-1.5'	soil	2011-12-20	00:00	2011-12-22

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
285164	AH-7 2-2.5'	soil	2011-12-20	00:00	2011-12-22
285165	AH-7 3-3.5'	soil	2011-12-20	00:00	2011-12-22
285166	AH-7 4-4.5'	soil	2011-12-20	00:00	2011-12-22

	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)
285134 - AH-1 0-1'	**0.724**	**2.43**	**1.59**	**1.85**	**310**	**107** Qr,Qs
285138 - AH-2 0-1'	**17.6**	**78.8**	**42.4**	**57.5**	**681**	**2430** Qs
285139 - AH-2 1-1.5'	<0.0200	<0.0200	<0.0200	<0.0200		
285143 - AH-3 0-1'	**2.12**	**38.3**	**31.9**	**45.2**	**1040**	**2540** Qs
285144 - AH-3 1-1.5'	<0.0200	<0.0200	<0.0200	<0.0200		
285149 - AH-4 0-1'	**7.68**	**41.6**	**29.6**	**30.5**	**1300**	**2960** Qs
285150 - AH-4 1-1.5'	<0.100	**0.482**	**0.509**	**0.910**		
285154 - AH-5 0-1'	<0.100 [1] Qr	<0.100 Qr,Qs	**0.120** Qr,Qs	**0.140** Qr,Qs	<50.0	**192** Qr,Qs
285158 - AH-6 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00 Qr,Qs
285162 - AH-7 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00 Qr,Qs

Sample: 285134 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**2100**	mg/Kg	4

Sample: 285135 - AH-1 1-1.5'

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

Sample: 285136 - AH-1 2-2.5'

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

Sample: 285137 - AH-1 3-3.5'

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

Sample: 285138 - AH-2 0-1'

[1]Sample dilution due to hydrocarbons.

Param	Flag	Result	Units	RL
Chloride		**276**	mg/Kg	4

Sample: 285139 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**420**	mg/Kg	4

Sample: 285140 - AH-2 2.-2.5'

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

Sample: 285141 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**240**	mg/Kg	4

Sample: 285142 - AH-2 4-4.5'

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

Sample: 285143 - AH-3 0-1'

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

Sample: 285144 - AH-3 1-1.5'

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

Sample: 285145 - AH-3 2-2.5'

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

Sample: 285146 - AH-3 3-3.5

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

Sample: 285147 - AH-3 4-4.5'

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

Sample: 285148 - AH-3 5-5.5'

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

Sample: 285149 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**2300**	mg/Kg	4

Sample: 285150 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**2140**	mg/Kg	4

Sample: 285151 - AH-4 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**1010**	mg/Kg	4

Sample: 285152 - AH-4 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**749**	mg/Kg	4

Sample: 285153 - AH-4 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**938**	mg/Kg	4

Sample: 285154 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		**258**	mg/Kg	4

Sample: 285155 - AH-5 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**214**	mg/Kg	4

Sample: 285156 - AH-5 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**238**	mg/Kg	4

Sample: 285157 - AH-5 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**248**	mg/Kg	4

Sample: 285158 - AH-6 0-1'

Param	Flag	Result	Units	RL
Chloride		**311**	mg/Kg	4

Sample: 285159 - AH-6 1-1.5'

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

Sample: 285160 - AH-6 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**250**	mg/Kg	4

Sample: 285161 - AH-6 3-3.5'

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

Sample: 285162 - AH-7 0-1'

Param	Flag	Result	Units	RL
Chloride		**2970**	mg/Kg	4

Sample: 285163 - AH-7 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**791**	mg/Kg	4

Sample: 285164 - AH-7 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**861**	mg/Kg	4

Sample: 285165 - AH-7 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**871**	mg/Kg	4

Sample: 285166 - AH-7 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**716**	mg/Kg	4

TRACEANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report
(Corrected Report)

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

Report Date: January 5, 2012

Work Order: 11122302

Project Location: Eddy Co., NM
Project Name: COG/BKU Central Tank Battery
Project Number: 114-6401142

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
285134	AH-1 0-1'	soil	2011-12-20	00:00	2011-12-22
285135	AH-1 1-1.5'	soil	2011-12-20	00:00	2011-12-22
285136	AH-1 2-2.5'	soil	2011-12-20	00:00	2011-12-22
285137	AH-1 3-3.5'	soil	2011-12-20	00:00	2011-12-22
285138	AH-2 0-1'	soil	2011-12-20	00:00	2011-12-22
285139	AH-2 1-1.5'	soil	2011-12-20	00:00	2011-12-22
285140	AH-2 2.-2.5'	soil	2011-12-20	00:00	2011-12-22
285141	AH-2 3-3.5'	soil	2011-12-20	00:00	2011-12-22
285142	AH-2 4-4.5'	soil	2011-12-20	00:00	2011-12-22
285143	AH-3 0-1'	soil	2011-12-20	00:00	2011-12-22
285144	AH-3 1-1.5'	soil	2011-12-20	00:00	2011-12-22
285145	AH-3 2-2.5'	soil	2011-12-20	00:00	2011-12-22
285146	AH-3 3-3.5	soil	2011-12-20	00:00	2011-12-22
285147	AH-3 4-4.5'	soil	2011-12-20	00:00	2011-12-22
285148	AH-3 5-5.5'	soil	2011-12-20	00:00	2011-12-22

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
285149	AH-4 0-1'	soil	2011-12-20	00:00	2011-12-22
285150	AH-4 1-1.5'	soil	2011-12-20	00:00	2011-12-22
285151	AH-4 2-2.5'	soil	2011-12-20	00:00	2011-12-22
285152	AH-4 3-3.5'	soil	2011-12-20	00:00	2011-12-22
285153	AH-4 4-4.5'	soil	2011-12-20	00:00	2011-12-22
285154	AH-5 0-1'	soil	2011-12-20	00:00	2011-12-22
285155	AH-5 1-1.5'	soil	2011-12-20	00:00	2011-12-22
285156	AH-5 2-2.5'	soil	2011-12-20	00:00	2011-12-22
285157	AH-5 3-3.5'	soil	2011-12-20	00:00	2011-12-22
285158	AH-6 0-1'	soil	2011-12-20	00:00	2011-12-22
285159	AH-6 1-1.5'	soil	2011-12-20	00:00	2011-12-22
285160	AH-6 2-2.5'	soil	2011-12-20	00:00	2011-12-22
285161	AH-6 3-3.5'	soil	2011-12-20	00:00	2011-12-22
285162	AH-7 0-1'	soil	2011-12-20	00:00	2011-12-22
285163	AH-7 1-1.5'	soil	2011-12-20	00:00	2011-12-22
285164	AH-7 2-2.5'	soil	2011-12-20	00:00	2011-12-22
285165	AH-7 3-3.5'	soil	2011-12-20	00:00	2011-12-22
285166	AH-7 4-4.5'	soil	2011-12-20	00:00	2011-12-22

Report Corrections (Work Order 11122302)

- BTEX results removed for samples 285140, 285145, and 285151. 1/5/12

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 47 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

Report Contents

Case Narrative

Samples for project COG/BKU Central Tank Battery were received by TraceAnalysis, Inc. on 2011-12-22 and assigned to work order 11122302. Samples for work order 11122302 were received intact at a temperature of 7.7 C. Samples were received on ice.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	74262	2011-12-28 at 07:25	87453	2011-12-28 at 07:25
BTEX	S 8021B	74291	2011-12-29 at 13:50	87485	2011-12-29 at 13:50
BTEX	S 8021B	74348	2012-01-02 at 14:50	87557	2012-01-02 at 18:27
Chloride (Titration)	SM 4500-Cl B	74275	2011-12-28 at 09:55	87488	2011-12-29 at 14:17
Chloride (Titration)	SM 4500-Cl B	74275	2011-12-28 at 09:55	87489	2011-12-29 at 14:18
Chloride (Titration)	SM 4500-Cl B	74275	2011-12-28 at 09:55	87490	2011-12-29 at 14:19
Chloride (Titration)	SM 4500-Cl B	74275	2011-12-28 at 09:55	87491	2011-12-29 at 14:20
TPH DRO - NEW	S 8015 D	74279	2011-12-28 at 14:36	87474	2011-12-28 at 14:36
TPH GRO	S 8015 D	74262	2011-12-28 at 07:25	87454	2011-12-28 at 07:25
TPH GRO	S 8015 D	74291	2011-12-29 at 13:50	87486	2011-12-29 at 13:50

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 11122302 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: 285134 - AH-1 0-1'

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87453	Date Analyzed:	2011-12-28	Analyzed By:	MT
Prep Batch:	74262	Sample Preparation:	2011-12-28	Prepared By:	MT

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	**0.724**	mg/Kg	20	0.0200
Toluene		1	**2.43**	mg/Kg	20	0.0200
Ethylbenzene		1	**1.59**	mg/Kg	20	0.0200
Xylene		1	**1.85**	mg/Kg	20	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.50	mg/Kg	20	2.00	75	70 - 130
4-Bromofluorobenzene (4-BFB)			2.54	mg/Kg	20	2.00	127	70 - 130

Sample: 285134 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87488	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**2100**	mg/Kg	100	4.00

Sample: 285134 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	87474	Date Analyzed:	2011-12-28	Analyzed By:	kg
Prep Batch:	74279	Sample Preparation:	2011-12-28	Prepared By:	kg

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		2	**310**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			109	mg/Kg	1	100	109	53.5 - 147.1

Sample: 285134 - AH-1 0-1'

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87454	Date Analyzed:	2011-12-28	Analyzed By:	MT
Prep Batch:	74262	Sample Preparation:	2011-12-28	Prepared By:	MT

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Qr,Qs	1	**107**	mg/Kg	20	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.60	mg/Kg	20	2.00	80	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	3.90	mg/Kg	20	2.00	195	70 - 130

Sample: 285135 - AH-1 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87488	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

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

Sample: 285136 - AH-1 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87488	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

continued ...

sample 285136 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL

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

Sample: 285137 - AH-1 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87488	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

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

Sample: 285138 - AH-2 0-1'

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87453	Date Analyzed:	2011-12-28	Analyzed By:	MT
Prep Batch:	74262	Sample Preparation:	2011-12-28	Prepared By:	MT

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	**17.6**	mg/Kg	20	0.0200
Toluene		1	**78.8**	mg/Kg	20	0.0200
Ethylbenzene		1	**42.4**	mg/Kg	20	0.0200
Xylene		1	**57.5**	mg/Kg	20	0.0200

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	Qsr	Qsr		1.13	mg/Kg	20	2.00	56	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr		17.4	mg/Kg	20	2.00	870	70 - 130

Sample: 285138 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87488	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**276**	mg/Kg	50	4.00

Sample: 285138 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	87474	Date Analyzed:	2011-12-28	Analyzed By:	kg
Prep Batch:	74279	Sample Preparation:	2011-12-28	Prepared By:	kg

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		2	**681**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			120	mg/Kg	1	100	120	53.5 - 147.1

Sample: 285138 - AH-2 0-1'

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87486	Date Analyzed:	2011-12-29	Analyzed By:	MT
Prep Batch:	74291	Sample Preparation:	2011-12-29	Prepared By:	MT

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Qs	1	**2430**	mg/Kg	50	2.00

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	Qsr	Qsr		0.822	mg/Kg	50	2.00	41	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr		34.0	mg/Kg	50	2.00	1700	70 - 130

Sample: 285139 - AH-2 1-1.5'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87557	Date Analyzed:	2012-01-02	Analyzed By:	AG
Prep Batch:	74348	Sample Preparation:	2012-01-02	Prepared By:	AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	2	<0.0200	mg/Kg	1	0.0200
Toluene	U	2	<0.0200	mg/Kg	1	0.0200
Ethylbenzene	U	2	<0.0200	mg/Kg	1	0.0200
Xylene	U	2	<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	Qsr	Qsr	3.02	mg/Kg	1	2.00	151	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			3.00	mg/Kg	1	2.00	150	70.6 - 179

Sample: 285139 - AH-2 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87488	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**420**	mg/Kg	50	4.00

Sample: 285140 - AH-2 2.-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87489	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

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

Sample: 285141 - AH-2 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87489	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**240**	mg/Kg	50	4.00

Sample: 285142 - AH-2 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87489	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

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

Sample: 285143 - AH-3 0-1'

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87453	Date Analyzed:	2011-12-28	Analyzed By:	MT
Prep Batch:	74262	Sample Preparation:	2011-12-28	Prepared By:	MT

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	**2.12**	mg/Kg	20	0.0200
Toluene		1	**38.3**	mg/Kg	20	0.0200
Ethylbenzene		1	**31.9**	mg/Kg	20	0.0200
Xylene		1	**45.2**	mg/Kg	20	0.0200

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	Qsr	Qsr		1.20	mg/Kg	20	2.00	60	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr		16.7	mg/Kg	20	2.00	835	70 - 130

Sample: 285143 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87489	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

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

Sample: 285143 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	87474	Date Analyzed:	2011-12-28	Analyzed By:	kg
Prep Batch:	74279	Sample Preparation:	2011-12-28	Prepared By:	kg

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		2	**1040**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			128	mg/Kg	1	100	128	53.5 - 147.1

Sample: 285143 - AH-3 0-1'

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87486	Date Analyzed:	2011-12-29	Analyzed By:	MT
Prep Batch:	74291	Sample Preparation:	2011-12-29	Prepared By:	MT

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Qs	1	**2540**	mg/Kg	50	2.00

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	Qsr	Qsr		0.770	mg/Kg	50	2.00	38	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr		36.5	mg/Kg	50	2.00	1825	70 - 130

Sample: 285144 - AH-3 1-1.5'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87557	Date Analyzed:	2012-01-02	Analyzed By:	AG
Prep Batch:	74348	Sample Preparation:	2012-01-02	Prepared By:	AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	2	<0.0200	mg/Kg	1	0.0200
Toluene	U	2	<0.0200	mg/Kg	1	0.0200
Ethylbenzene	U	2	<0.0200	mg/Kg	1	0.0200
Xylene	U	2	<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.40	mg/Kg	1	2.00	120	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			2.24	mg/Kg	1	2.00	112	70.6 - 179

Sample: 285144 - AH-3 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87489	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

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

Sample: 285145 - AH-3 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87489	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

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

Sample: 285146 - AH-3 3-3.5

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87489	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

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

Sample: 285147 - AH-3 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87489	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

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

Sample: 285148 - AH-3 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87489	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

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

Sample: 285149 - AH-4 0-1'

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87453	Date Analyzed:	2011-12-28	Analyzed By:	MT
Prep Batch:	74262	Sample Preparation:	2011-12-28	Prepared By:	MT

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	**7.68**	mg/Kg	20	0.0200
Toluene		1	**41.6**	mg/Kg	20	0.0200
Ethylbenzene		1	**29.6**	mg/Kg	20	0.0200
Xylene		1	**30.5**	mg/Kg	20	0.0200

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	Qsr	Qsr		1.36	mg/Kg	20	2.00	68	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr		18.5	mg/Kg	20	2.00	925	70 - 130

Sample: 285149 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87489	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**2300**	mg/Kg	100	4.00

Sample: 285149 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	87474	Date Analyzed:	2011-12-28	Analyzed By:	kg
Prep Batch:	74279	Sample Preparation:	2011-12-28	Prepared By:	kg

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		2	**1300**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			145	mg/Kg	1	100	145	53.5 - 147.1

Sample: 285149 - AH-4 0-1'

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87486	Date Analyzed:	2011-12-29	Analyzed By:	MT
Prep Batch:	74291	Sample Preparation:	2011-12-29	Prepared By:	MT

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Qs	1	**2960**	mg/Kg	50	2.00

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	Qsr	Qsr		0.725	mg/Kg	50	2.00	36	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr		51.8	mg/Kg	50	2.00	2590	70 - 130

Sample: 285150 - AH-4 1-1.5'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87557	Date Analyzed:	2012-01-02	Analyzed By:	AG
Prep Batch:	74348	Sample Preparation:	2012-01-02	Prepared By:	AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	2	<0.100	mg/Kg	5	0.0200
Toluene		2	**0.482**	mg/Kg	5	0.0200
Ethylbenzene		2	**0.509**	mg/Kg	5	0.0200
Xylene		2	**0.910**	mg/Kg	5	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			5.76	mg/Kg	5	5.00	115	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			5.92	mg/Kg	5	5.00	118	70.6 - 179

Sample: 285150 - AH-4 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87490	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**2140**	mg/Kg	100	4.00

Sample: 285151 - AH-4 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87490	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1010**	mg/Kg	100	4.00

Sample: 285152 - AH-4 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87490	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**749**	mg/Kg	100	4.00

Sample: 285153 - AH-4 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87490	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**938**	mg/Kg	50	4.00

Sample: 285154 - AH-5 0-1'

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87485	Date Analyzed:	2011-12-29	Analyzed By:	MT
Prep Batch:	74291	Sample Preparation:	2011-12-29	Prepared By:	MT

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	Qr,U	1	<0.100	mg/Kg	5	0.0200
Toluene	Qr,Qs	1	<0.100	mg/Kg	5	0.0200
Ethylbenzene	Qr,Qs	1	**0.120**	mg/Kg	5	0.0200
Xylene	Qr,Qs	1	**0.140**	mg/Kg	5	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.46	mg/Kg	5	2.00	73	70 - 130
4-Bromofluorobenzene (4-BFB)			1.83	mg/Kg	5	2.00	92	70 - 130

Sample: 285154 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87490	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**258**	mg/Kg	50	4.00

Sample: 285154 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	87474	Date Analyzed:	2011-12-28	Analyzed By:	kg
Prep Batch:	74279	Sample Preparation:	2011-12-28	Prepared By:	kg

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		2	<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	53.5 - 147.1

Sample: 285154 - AH-5 0-1'

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87454	Date Analyzed:	2011-12-28	Analyzed By:	MT
Prep Batch:	74262	Sample Preparation:	2011-12-28	Prepared By:	MT

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Qr,Qs	1	**192**	mg/Kg	20	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.16	mg/Kg	20	2.00	58	70 - 130
4-Bromofluorobenzene (4-BFB)			6.05	mg/Kg	20	2.00	302	70 - 130

Sample: 285155 - AH-5 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87490	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**214**	mg/Kg	50	4.00

Sample: 285156 - AH-5 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87490	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**238**	mg/Kg	50	4.00

Sample: 285157 - AH-5 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87490	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**248**	mg/Kg	50	4.00

Sample: 285158 - AH-6 0-1'

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87453	Date Analyzed:	2011-12-28	Analyzed By:	MT
Prep Batch:	74262	Sample Preparation:	2011-12-28	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)			1.74	mg/Kg	1	2.00	87	70 - 130
4-Bromofluorobenzene (4-BFB)			1.81	mg/Kg	1	2.00	90	70 - 130

Sample: 285158 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87490	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**311**	mg/Kg	50	4.00

Sample: 285158 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	87474	Date Analyzed:	2011-12-28	Analyzed By:	kg
Prep Batch:	74279	Sample Preparation:	2011-12-28	Prepared By:	kg

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			90.4	mg/Kg	1	100	90	53.5 - 147.1

Sample: 285158 - AH-6 0-1'

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87454	Date Analyzed:	2011-12-28	Analyzed By:	MT
Prep Batch:	74262	Sample Preparation:	2011-12-28	Prepared By:	MT

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Qr,Qs,U	1	<2.00	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.21	mg/Kg	1	2.00	110	70 - 130
4-Bromofluorobenzene (4-BFB)			2.16	mg/Kg	1	2.00	108	70 - 130

Sample: 285159 - AH-6 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87490	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

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

Sample: 285160 - AH-6 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87491	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**250**	mg/Kg	50	4.00

Sample: 285161 - AH-6 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87491	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

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

Sample: 285162 - AH-7 0-1'

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	87453	Date Analyzed:	2011-12-28	Analyzed By:	MT
Prep Batch:	74262	Sample Preparation:	2011-12-28	Prepared By:	MT

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.73	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			1.74	mg/Kg	1	2.00	87	70 - 130

Sample: 285162 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87491	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**2970**	mg/Kg	100	4.00

Sample: 285162 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	87474	Date Analyzed:	2011-12-28	Analyzed By:	kg
Prep Batch:	74279	Sample Preparation:	2011-12-28	Prepared By:	kg

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			93.2	mg/Kg	1	100	93	53.5 - 147.1

Sample: 285162 - AH-7 0-1'

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	87454	Date Analyzed:	2011-12-28	Analyzed By:	MT
Prep Batch:	74262	Sample Preparation:	2011-12-28	Prepared By:	MT

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Qr,Qs,U	1	<2.00	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.23	mg/Kg	1	2.00	112	70 - 130
4-Bromofluorobenzene (4-BFB)			2.11	mg/Kg	1	2.00	106	70 - 130

Sample: 285163 - AH-7 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87491	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**791**	mg/Kg	50	4.00

Sample: 285164 - AH-7 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87491	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**861**	mg/Kg	50	4.00

Sample: 285165 - AH-7 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87491	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**871**	mg/Kg	50	4.00

Sample: 285166 - AH-7 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	87491	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	Sample Preparation:	2011-12-28	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**716**	mg/Kg	50	4.00

Method Blanks

Method Blank (1) QC Batch: 87453

QC Batch: 87453 Date Analyzed: 2011-12-28 Analyzed By: MT
Prep Batch: 74262 QC Preparation: 2011-12-28 Prepared By: MT

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00335	mg/Kg	0.02
Toluene		1	<0.00471	mg/Kg	0.02
Ethylbenzene		1	<0.00440	mg/Kg	0.02
Xylene		1	<0.00557	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.70	mg/Kg	1	2.00	85	70 - 130
4-Bromofluorobenzene (4-BFB)			1.70	mg/Kg	1	2.00	85	70 - 130

Method Blank (1) QC Batch: 87454

QC Batch: 87454 Date Analyzed: 2011-12-28 Analyzed By: MT
Prep Batch: 74262 QC Preparation: 2011-12-28 Prepared By: MT

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<0.446	mg/Kg	2

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.20	mg/Kg	1	2.00	110	70 - 130
4-Bromofluorobenzene (4-BFB)			2.08	mg/Kg	1	2.00	104	70 - 130

Method Blank (1) QC Batch: 87474

QC Batch: 87474 Date Analyzed: 2011-12-28 Analyzed By: kg
Prep Batch: 74279 QC Preparation: 2011-12-28 Prepared By: kg

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			97.4	mg/Kg	1	100	97	52.7 - 133.8

Method Blank (1) QC Batch: 87485

QC Batch: 87485 | Date Analyzed: 2011-12-29 | Analyzed By: MT
Prep Batch: 74291 | QC Preparation: 2011-12-29 | Prepared By: MT

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00335	mg/Kg	0.02
Toluene		1	<0.00471	mg/Kg	0.02
Ethylbenzene		1	<0.00440	mg/Kg	0.02
Xylene		1	<0.00557	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.58	mg/Kg	1	2.00	79	70 - 130
4-Bromofluorobenzene (4-BFB)			1.64	mg/Kg	1	2.00	82	70 - 130

Method Blank (1) QC Batch: 87486

QC Batch: 87486 | Date Analyzed: 2011-12-29 | Analyzed By: MT
Prep Batch: 74291 | QC Preparation: 2011-12-29 | Prepared By: MT

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<0.446	mg/Kg	2

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.08	mg/Kg	1	2.00	104	70 - 130
4-Bromofluorobenzene (4-BFB)			2.08	mg/Kg	1	2.00	104	70 - 130

Method Blank (1) QC Batch: 87488

QC Batch:	87488	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	QC Preparation:	2011-12-28	Prepared By:	AR

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

Method Blank (1) QC Batch: 87489

QC Batch:	87489	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	QC Preparation:	2011-12-28	Prepared By:	AR

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

Method Blank (1) QC Batch: 87490

QC Batch:	87490	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	QC Preparation:	2011-12-28	Prepared By:	AR

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

Method Blank (1) QC Batch: 87491

QC Batch:	87491	Date Analyzed:	2011-12-29	Analyzed By:	AR
Prep Batch:	74275	QC Preparation:	2011-12-28	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: 87453 | Date Analyzed: 2011-12-28 | Analyzed By: MT
Prep Batch: 74262 | QC Preparation: 2011-12-28 | Prepared By: MT

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		ı	1.79	mg/Kg	1	2.00	<0.00335	89	70 - 130
Toluene		ı	1.80	mg/Kg	1	2.00	<0.00471	90	70 - 130
Ethylbenzene		ı	1.84	mg/Kg	1	2.00	<0.00440	92	70 - 130
Xylene		ı	5.48	mg/Kg	1	6.00	<0.00557	91	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
Benzene		ı	1.79	mg/Kg	1	2.00	<0.00335	90	70 - 130	0	20
Toluene		ı	1.80	mg/Kg	1	2.00	<0.00471	90	70 - 130	0	20
Ethylbenzene		ı	1.86	mg/Kg	1	2.00	<0.00440	93	70 - 130	1	20
Xylene		ı	5.55	mg/Kg	1	6.00	<0.00557	92	70 - 130	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.80	1.81	mg/Kg	1	2.00	90	90	70 - 130
4-Bromofluorobenzene (4-BFB)	1.77	1.80	mg/Kg	1	2.00	89	90	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 87454 | Date Analyzed: 2011-12-28 | Analyzed By: MT
Prep Batch: 74262 | QC Preparation: 2011-12-28 | Prepared By: MT

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		ı	18.8	mg/Kg	1	20.0	<0.446	94	70 - 130

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

continued ...

control spikes continued ...

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	19.8	mg/Kg	1	20.0	<0.446	99	70 - 130	5	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)	2.00	2.05	mg/Kg	1	2.00	100	103	70 - 130
4-Bromofluorobenzene (4-BFB)	2.13	2.16	mg/Kg	1	2.00	106	108	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 87474 | Date Analyzed: 2011-12-28 | Analyzed By: kg
Prep Batch: 74279 | QC Preparation: 2011-12-28 | Prepared By: kg

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		2	205	mg/Kg	1	250	<14.5	82	64.5 - 146.9

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		2	210	mg/Kg	1	250	<14.5	84	64.5 - 146.9	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	104	105	mg/Kg	1	100	104	105	65.3 - 135.8

Laboratory Control Spike (LCS-1)

QC Batch: 87485 | Date Analyzed: 2011-12-29 | Analyzed By: MT
Prep Batch: 74291 | QC Preparation: 2011-12-29 | 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	<0.00335	90	70 - 130

continued ...

control spikes continued ...

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Toluene		1	1.74	mg/Kg	1	2.00	<0.00471	87	70 - 130
Ethylbenzene		1	1.77	mg/Kg	1	2.00	<0.00440	88	70 - 130
Xylene		1	5.26	mg/Kg	1	6.00	<0.00557	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
Benzene		1	1.68	mg/Kg	1	2.00	<0.00335	84	70 - 130	6	20
Toluene		1	1.62	mg/Kg	1	2.00	<0.00471	81	70 - 130	7	20
Ethylbenzene		1	1.65	mg/Kg	1	2.00	<0.00440	82	70 - 130	7	20
Xylene		1	4.90	mg/Kg	1	6.00	<0.00557	82	70 - 130	7	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	1.66	mg/Kg	1	2.00	84	83	70 - 130
4-Bromofluorobenzene (4-BFB)	1.69	1.56	mg/Kg	1	2.00	84	78	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 87486 | Date Analyzed: 2011-12-29 | Analyzed By: MT
Prep Batch: 74291 | QC Preparation: 2011-12-29 | Prepared By: MT

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	18.0	mg/Kg	1	20.0	<0.446	90	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
GRO		1	18.2	mg/Kg	1	20.0	<0.446	91	70 - 130	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.94	1.87	mg/Kg	1	2.00	97	94	70 - 130
4-Bromofluorobenzene (4-BFB)	2.14	2.17	mg/Kg	1	2.00	107	108	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 87488 | Date Analyzed: 2011-12-29 | Analyzed By: AR
Prep Batch: 74275 | QC Preparation: 2011-12-28 | Prepared By: AR

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

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

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	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: 87489 | Date Analyzed: 2011-12-29 | Analyzed By: AR
Prep Batch: 74275 | QC Preparation: 2011-12-28 | Prepared By: AR

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

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 87490 | Date Analyzed: 2011-12-29 | Analyzed By: AR
Prep Batch: 74275 | QC Preparation: 2011-12-28 | Prepared By: AR

Param	F	C	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	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			103	mg/Kg	1	100	<3.85	103	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: 87491 | Date Analyzed: 2011-12-29 | Analyzed By: AR
Prep Batch: 74275 | QC Preparation: 2011-12-28 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			97.4	mg/Kg	1	100	<3.85	97	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			106	mg/Kg	1	100	<3.85	106	85 - 115	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: 87557 | Date Analyzed: 2012-01-02 | Analyzed By: AG
Prep Batch: 74348 | QC Preparation: 2012-01-02 | Prepared By: AG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		2	2.08	mg/Kg	1	2.00	<0.0118	104	77.4 - 121.7
Toluene		2	2.02	mg/Kg	1	2.00	<0.00600	101	88.6 - 121.6
Ethylbenzene		2	1.92	mg/Kg	1	2.00	<0.00850	96	74.3 - 117.9
Xylene		2	5.75	mg/Kg	1	6.00	<0.00613	96	73.4 - 118.8

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		2	2.20	mg/Kg	1	2.00	<0.0118	110	77.4 - 121.7	6	20
Toluene		2	2.12	mg/Kg	1	2.00	<0.00600	106	88.6 - 121.6	5	20
Ethylbenzene		2	2.03	mg/Kg	1	2.00	<0.00850	102	74.3 - 117.9	6	20
Xylene		2	6.08	mg/Kg	1	6.00	<0.00613	101	73.4 - 118.8	6	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.02	2.06	mg/Kg	1	2.00	101	103	65.5 - 116.7
4-Bromofluorobenzene (4-BFB)	1.93	2.02	mg/Kg	1	2.00	96	101	56.2 - 132.1

Matrix Spike (MS-1) Spiked Sample: 285158

QC Batch: 87453 | Date Analyzed: 2011-12-28 | Analyzed By: MT
Prep Batch: 74262 | QC Preparation: 2011-12-28 | Prepared By: MT

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.58	mg/Kg	1	2.00	<0.00335	79	70 - 130
Toluene		1	1.70	mg/Kg	1	2.00	<0.00471	85	70 - 130
Ethylbenzene		1	1.85	mg/Kg	1	2.00	<0.00440	92	70 - 130
Xylene		1	5.49	mg/Kg	1	6.00	<0.00557	92	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
Benzene		1	1.61	mg/Kg	1	2.00	<0.00335	80	70 - 130	2	20
Toluene		1	1.73	mg/Kg	1	2.00	<0.00471	86	70 - 130	2	20
Ethylbenzene		1	1.90	mg/Kg	1	2.00	<0.00440	95	70 - 130	3	20
Xylene		1	5.63	mg/Kg	1	6.00	<0.00557	94	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
Trifluorotoluene (TFT)	1.78	1.82	mg/Kg	1	2	89	91	70 - 130
4-Bromofluorobenzene (4-BFB)	1.69	1.77	mg/Kg	1	2	84	88	70 - 130

Matrix Spike (MS-1) Spiked Sample: 285158

QC Batch: 87454 | Date Analyzed: 2011-12-28 | Analyzed By: MT
Prep Batch: 74262 | QC Preparation: 2011-12-28 | Prepared By: MT

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	Qs	Qs	11.2	mg/Kg	1	20.0	<0.446	56	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
GRO	Qr	Qr	17.1	mg/Kg	1	20.0	<0.446	86	70 - 130	42	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	1.28	2.00	mg/Kg	1	2	64	100	70 - 130
4-Bromofluorobenzene (4-BFB)			1.50	2.12	mg/Kg	1	2	75	106	70 - 130

Matrix Spike (MS-1) Spiked Sample: 285309

QC Batch: 87474 | Date Analyzed: 2011-12-28 | Analyzed By: kg
Prep Batch: 74279 | QC Preparation: 2011-12-28 | Prepared By: kg

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		2	186	mg/Kg	1	250	<14.5	74	38.8 - 153.3

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		2	195	mg/Kg	1	250	<14.5	78	38.8 - 153.3	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
n-Tricosane	85.3	93.5	mg/Kg	1	100	85	94	54.6 - 149.8

Matrix Spike (MS-1) Spiked Sample: 285289

QC Batch: 87485 | Date Analyzed: 2011-12-29 | Analyzed By: MT
Prep Batch: 74291 | QC Preparation: 2011-12-29 | Prepared By: MT

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.68	mg/Kg	50	2.00	0.684	100	70 - 130
Toluene	Qs	Qs	51.9	mg/Kg	50	2.00	38.8	655	70 - 130
Ethylbenzene	Qs	Qs	54.5	mg/Kg	50	2.00	41.4	655	70 - 130
Xylene	Qs	Qs	71.5	mg/Kg	50	6.00	52.3	320	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
Benzene	Qr	Qr	1	2.19	mg/Kg	50	2.00	0.684	75	70 - 130	20	20
Toluene	Qr,Qs	Qr,Qs	1	31.8	mg/Kg	50	2.00	38.8	-350	70 - 130	48	20
Ethylbenzene	Qr,Qs	Qr,Qs	1	35.2	mg/Kg	50	2.00	41.4	-310	70 - 130	43	20
Xylene	Qr,Qs	Qr,Qs	1	48.8	mg/Kg	50	6.00	52.3	-58	70 - 130	38	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)			1.92	1.91	mg/Kg	50	2	96	96	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	22.1	15.0	mg/Kg	50	2	1105	750	70 - 130

Matrix Spike (MS-1) Spiked Sample: 285289

QC Batch: 87486 | Date Analyzed: 2011-12-29 | Analyzed By: MT
Prep Batch: 74291 | QC Preparation: 2011-12-29 | Prepared By: MT

Param		F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	Qs	Qs	1	2020	mg/Kg	50	20.0	1920	500	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
GRO	Qs	Qs	1	2420	mg/Kg	50	20.0	1920	2500	70 - 130	18	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	11.0	19.8	mg/Kg	50	2	550	990	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	29.0	42.6	mg/Kg	50	2	1450	2130	70 - 130

Matrix Spike (MS-1) Spiked Sample: 285139

QC Batch: 87488 | Date Analyzed: 2011-12-29 | Analyzed By: AR
Prep Batch: 74275 | QC Preparation: 2011-12-28 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10600	mg/Kg	100	10000	420	102	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			11200	mg/Kg	100	10000	420	108	79.4 - 120.6	6	20

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

Matrix Spike (MS-1) Spiked Sample: 285149

QC Batch: 87489 | Date Analyzed: 2011-12-29 | Analyzed By: AR
Prep Batch: 74275 | QC Preparation: 2011-12-28 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			11700	mg/Kg	100	10000	2300	94	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			12500	mg/Kg	100	10000	2300	102	79.4 - 120.6	7	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: 285159

QC Batch: 87490 | Date Analyzed: 2011-12-29 | Analyzed By: AR
Prep Batch: 74275 | QC Preparation: 2011-12-28 | Prepared By: AR

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

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			10500	mg/Kg	100	10000	<385	105	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: 285166

QC Batch: 87491 | Date Analyzed: 2011-12-29 | Analyzed By: AR
Prep Batch: 74275 | QC Preparation: 2011-12-28 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			11100	mg/Kg	100	10000	716	104	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			11800	mg/Kg	100	10000	716	111	79.4 - 120.6	6	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: 285290

QC Batch: 87557 | Date Analyzed: 2012-01-02 | Analyzed By: AG
Prep Batch: 74348 | QC Preparation: 2012-01-02 | Prepared By: AG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		2	2.24	mg/Kg	1	2.00	<0.0118	112	69.4 - 123.6
Toluene		2	2.21	mg/Kg	1	2.00	<0.00600	110	75.4 - 134.3
Ethylbenzene		2	2.16	mg/Kg	1	2.00	<0.00850	108	58.8 - 133.7
Xylene		2	6.50	mg/Kg	1	6.00	<0.00613	108	57 - 134.2

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		2	1.99	mg/Kg	1	2.00	<0.0118	100	69.4 - 123.6	12	20
Toluene		2	1.96	mg/Kg	1	2.00	<0.00600	98	75.4 - 134.3	12	20
Ethylbenzene		2	1.96	mg/Kg	1	2.00	<0.00850	98	58.8 - 133.7	10	20
Xylene		2	5.87	mg/Kg	1	6.00	<0.00613	98	57 - 134.2	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
Trifluorotoluene (TFT)	2.12	2.49	mg/Kg	1	2	106	124	79.4 - 141.1
4-Bromofluorobenzene (4-BFB)	2.07	2.47	mg/Kg	1	2	104	124	71 - 167

Calibration Standards

Standard (CCV-1)

QC Batch: 87453 | Date Analyzed: 2011-12-28 | 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	0.0913	91	80 - 120	2011-12-28
Toluene		1	mg/Kg	0.100	0.0920	92	80 - 120	2011-12-28
Ethylbenzene		1	mg/Kg	0.100	0.0950	95	80 - 120	2011-12-28
Xylene		1	mg/Kg	0.300	0.283	94	80 - 120	2011-12-28

Standard (CCV-2)

QC Batch: 87453 | Date Analyzed: 2011-12-28 | 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	0.0876	88	80 - 120	2011-12-28
Toluene		1	mg/Kg	0.100	0.0901	90	80 - 120	2011-12-28
Ethylbenzene		1	mg/Kg	0.100	0.0919	92	80 - 120	2011-12-28
Xylene		1	mg/Kg	0.300	0.278	92	80 - 120	2011-12-28

Standard (CCV-3)

QC Batch: 87453 | Date Analyzed: 2011-12-28 | 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	0.0889	89	80 - 120	2011-12-28
Toluene		1	mg/Kg	0.100	0.0873	87	80 - 120	2011-12-28
Ethylbenzene		1	mg/Kg	0.100	0.0892	89	80 - 120	2011-12-28
Xylene		1	mg/Kg	0.300	0.268	89	80 - 120	2011-12-28

Standard (CCV-1)

QC Batch: 87454 | Date Analyzed: 2011-12-28 | 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	0.948	95	80 - 120	2011-12-28

Standard (CCV-2)

QC Batch: 87454 | Date Analyzed: 2011-12-28 | 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	1.10	110	80 - 120	2011-12-28

Standard (CCV-3)

QC Batch: 87454 | Date Analyzed: 2011-12-28 | 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	0.975	97	80 - 120	2011-12-28

Standard (CCV-1)

QC Batch: 87474 | Date Analyzed: 2011-12-28 | Analyzed By: kg

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		2	mg/Kg	250	228	91	80 - 120	2011-12-28

Standard (CCV-2)

QC Batch: 87474 | Date Analyzed: 2011-12-28 | Analyzed By: kg

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		2	mg/Kg	250	223	89	80 - 120	2011-12-28

Standard (CCV-1)

QC Batch: 87485 Date Analyzed: 2011-12-29 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	2011-12-29
Toluene		1	mg/Kg	0.100	0.0858	86	80 - 120	2011-12-29
Ethylbenzene		1	mg/Kg	0.100	0.0875	88	80 - 120	2011-12-29
Xylene		1	mg/Kg	0.300	0.260	87	80 - 120	2011-12-29

Standard (CCV-2)

QC Batch: 87485 Date Analyzed: 2011-12-29 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	0.0882	88	80 - 120	2011-12-29
Toluene		1	mg/Kg	0.100	0.0868	87	80 - 120	2011-12-29
Ethylbenzene		1	mg/Kg	0.100	0.0869	87	80 - 120	2011-12-29
Xylene		1	mg/Kg	0.300	0.260	87	80 - 120	2011-12-29

Standard (CCV-1)

QC Batch: 87486 Date Analyzed: 2011-12-29 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	0.927	93	80 - 120	2011-12-29

Standard (CCV-2)

QC Batch: 87486 | Date Analyzed: 2011-12-29 | 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	0.979	98	80 - 120	2011-12-29

Standard (ICV-1)

QC Batch: 87488 | Date Analyzed: 2011-12-29 | 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	97.9	98	85 - 115	2011-12-29

Standard (CCV-1)

QC Batch: 87488 | Date Analyzed: 2011-12-29 | 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	102	102	85 - 115	2011-12-29

Standard (ICV-1)

QC Batch: 87489 | Date Analyzed: 2011-12-29 | 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	94.3	94	85 - 115	2011-12-29

Standard (CCV-1)

QC Batch: 87489 | Date Analyzed: 2011-12-29 | 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	106	106	85 - 115	2011-12-29

Standard (ICV-1)

QC Batch: 87490 Date Analyzed: 2011-12-29 Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2011-12-29

Standard (CCV-1)

QC Batch: 87490 Date Analyzed: 2011-12-29 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.3	99	85 - 115	2011-12-29

Standard (ICV-1)

QC Batch: 87491 Date Analyzed: 2011-12-29 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	95.4	95	85 - 115	2011-12-29

Standard (CCV-1)

QC Batch: 87491 Date Analyzed: 2011-12-29 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	105	105	85 - 115	2011-12-29

Standard (CCV-1)

QC Batch: 87557 | Date Analyzed: 2012-01-02 | Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		2	mg/Kg	0.100	0.100	100	80 - 120	2012-01-02
Toluene		2	mg/Kg	0.100	0.0964	96	80 - 120	2012-01-02
Ethylbenzene		2	mg/Kg	0.100	0.0928	93	80 - 120	2012-01-02
Xylene		2	mg/Kg	0.300	0.278	93	80 - 120	2012-01-02

Standard (CCV-2)

QC Batch: 87557 | Date Analyzed: 2012-01-02 | Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		2	mg/Kg	0.100	0.111	111	80 - 120	2012-01-02
Toluene		2	mg/Kg	0.100	0.106	106	80 - 120	2012-01-02
Ethylbenzene		2	mg/Kg	0.100	0.102	102	80 - 120	2012-01-02
Xylene		2	mg/Kg	0.300	0.303	101	80 - 120	2012-01-02

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	T104704219-11-5	Lubbock
2	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

Result Comments

1 Sample dilution due to hydrocarbons.

Attachments

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

#1112302

Analysis Request of Chain of Custody Record

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

PAGE: 1 of 4

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-640142

PROJECT NAME: BKU Central Tank Battery 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 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
285134	12/20		S		X	AH-1	0-1'	1				X		X	X	X											X				
135							1-1.5'								X												X				
136							2-2.5'																				X				
137							3-3.5'																				X				
138						AH-2	0-1'							X	X												X				
139							1-1.5'							X	X												X				
140							2-2.5'																				X				
141							3-3.5'																				X				
142							4-4.5'																				X				
143						AH-3	0-1'							X	X												X				

RELINQUISHED BY: (Signature) — Date: 12-22-11 Time: 11:45 — RECEIVED BY: (Signature) — Date: 12/23/11 Time: 11:44

RELINQUISHED BY: (Signature) — Date: 12/23/11 Time: 10:00 — RECEIVED BY: (Signature) — Date: Time:

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

SAMPLED BY: (Print & Initial) ST TT — Date: 12-20-11 Time:

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

TETRA TECH CONTACT PERSON: Ike Tavarez — Results by:

RUSH Charges Authorized: Yes No

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

RECEIVED BY: (Signature) Brenda Ward LS ZN 196966 — DATE: 12/28/11 — TIME: 8:50

38 3.9

SAMPLE CONDITION WHEN RECEIVED: 7.7° Intact

REMARKS: TPH deeper depth of TPH exceeds 5,000 mg/kg. or Benzene exceeds 10 mg/kg or total BTEX exceeds 50 mg/kg.

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

* - Midland

111223C2

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.: 114-6401142

PROJECT NAME: BCU Central Tank Battery
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 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
285144	12/20		S		X	AH-3 1-1.5'	1				X			X	X											X				
145						2-2.5'																				X				
146						3-3.5'																				X				
147						4-4.5'																				X				
148						5-5.5'																				X				
149						AH-4 0-1'							X	X												X				
150						1-1.5'									X											X				
151						2-2.5'																				X				
152						3-3.5'																				X				
153						4-4.5'																				X				

RELINQUISHED BY: (Signature) Date: 12-22-11 Time: 1645
RECEIVED BY: (Signature) Date: 12-22-11 Time: 1645

RELINQUISHED BY: (Signature) Date: 12.23.11 Time: 10:00
RECEIVED BY: (Signature) Date: Time:

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

SAMPLED BY: (Print & Initial) TF / JT Date: 12-20-11 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: 7.7° Intact

REMARKS: *Midland - TPH-DRO/Cl
Lubbock - TPH-GRO/BTEX

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

#112232

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.: 114-640142

PROJECT NAME: BKU Central Tank Battery 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
28154	12/20		S		X	AH-5 0-1'	1				X		X	X											X				
155						1-1.5'							NO												X				
156						2-2.5'																			X				
157						3-3.5'																			X				
158						AH-6 0-1'							X	X											X				
159						1-1.5'							NO												X				
160						2-2.5'																			X				
161						3-3.5'																			X				
162						AH-7 0-1'							X	X											X				
163						1-1.5							NO												X				

RELINQUISHED BY: (Signature) — Date: 12-22-11 Time: 1645 — RECEIVED BY: (Signature) — Date: 12/22/11 Time: 16:44

SAMPLED BY: (Print & Initial) TF / ST — Date: 12-20-11 Time:

RELINQUISHED BY: (Signature) — Date: 12/23/11 Time: 10:00 — RECEIVED BY: (Signature) — Date: Time:

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

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

TETRA TECH CONTACT PERSON: Ike Tavarez — Results by:

RECEIVING LABORATORY: Trace — RECEIVED BY: (Signature)

ADDRESS: — CITY: Midland — STATE: Tx — ZIP: — CONTACT: — PHONE: — DATE: — TIME:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 7.7° Intact

REMARKS: *Midland - TPH-DRO/CL *Lubbock - TPH-GRO/BTEX

A

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

Analysis Request of Chain of Custody Record

PAGE: 4 of 4

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:	SITE MANAGER:
COG	Ike Tavarez

PROJECT NO.:	PROJECT NAME:
114-6401142	BKU Central Tank Battery 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
185 164	12/20		S		X	AH-7 2-2.5'	1				X														X				
165	↓		↓		↓	3-3.5'	↓				↓														X				
166	↓		↓		↓	4-4.5'	↓				↓														X				

RELINQUISHED BY: (Signature)	Date: 12-22-11 Time: 1645	RECEIVED BY: (Signature)	Date: 12/22/11 Time: 16:45
RELINQUISHED BY: (Signature)	Date: 12/23/11 Time: 10:00	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:

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

SAMPLED BY: (Print & Initial) TF / ST — Date: 12-20-11 Time:

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

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 7.7° intact

REMARKS:
* Midland – TPH-DRO/GRO
* Lubbock – TPH-GRO/BTEX

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: March 23, 2012

Work Order: 12031236

Project Location: Eddy Co., NM
Project Name: COG/BKU Central Tank Battery
Project Number: 114-6401142

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
291277	CS-1 Bottom Hole 1'(AH-1)	soil	2012-03-01	00:00	2012-03-12
291278	CS-2 Bottom Hole 1' (AH-2)	soil	2012-02-29	00:00	2012-03-12
291279	CS-3 Bottom Hole 1' (AH-3)	soil	2012-03-01	00:00	2012-03-12
291280	CS-4 Bottom Hole 2' (AH-4)	soil	2012-03-02	00:00	2012-03-12
291281	CS-5 Bottom Hole 1' (AH-7)	soil	2012-03-01	00:00	2012-03-12
291282	CS-6 Sidewall (AH-2)	soil	2012-02-29	00:00	2012-03-12
291283	CS-7 Sidewall (AH-2)	soil	2012-02-29	00:00	2012-03-12
291284	CS-8 Sidewall (AH-2)	soil	2012-02-29	00:00	2012-03-12
291285	CS-9 Sidewall (AH-3)	soil	2012-02-29	00:00	2012-03-12
291286	CS-10 Sidewall (AH-4)	soil	2012-03-02	00:00	2012-03-12
291287	CS-11 Sidewall (AH-4)	soil	2012-03-02	00:00	2012-03-12
291288	CS-12 Sidewall (AH-5)	soil	2012-03-02	00:00	2012-03-12
291289	CS-13 Sidewall (AH-5)	soil	2012-03-05	00:00	2012-03-12
291290	CS-14 Sidewall (AH-1)	soil	2012-03-01	00:00	2012-03-12
291291	CS-15 Sidewall (AH-1)	soil	2012-03-05	00:00	2012-03-12

Sample: 291277 - CS-1 Bottom Hole 1'(AH-1)

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

Sample: 291278 - CS-2 Bottom Hole 1' (AH-2)

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

Sample: 291279 - CS-3 Bottom Hole 1' (AH-3)

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

Sample: 291280 - CS-4 Bottom Hole 2' (AH-4)

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

Sample: 291281 - CS-5 Bottom Hole 1' (AH-7)

Param	Flag	Result	Units	RL
Chloride		**302**	mg/Kg	4

Sample: 291282 - CS-6 Sidewall (AH-2)

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

Sample: 291283 - CS-7 Sidewall (AH-2)

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

Sample: 291284 - CS-8 Sidewall (AH-2)

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

Sample: 291285 - CS-9 Sidewall (AH-3)

Param	Flag	Result	Units	RL
Chloride		**509**	mg/Kg	4

Sample: 291286 - CS-10 Sidewall (AH-4)

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

Sample: 291287 - CS-11 Sidewall (AH-4)

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

Sample: 291288 - CS-12 Sidewall (AH-5)

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

Sample: 291289 - CS-13 Sidewall (AH-5)

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

Sample: 291290 - CS-14 Sidewall (AH-1)

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

Sample: 291291 - CS-15 Sidewall (AH-1)

Param	Flag	Result	Units	RL
Chloride		<200	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 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: March 23, 2012

Work Order: 12031236

Project Location: Eddy Co., NM
Project Name: COG/BKU Central Tank Battery
Project Number: 114-6401142

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
291277	CS-1 Bottom Hole 1'(AH-1)	soil	2012-03-01	00:00	2012-03-12
291278	CS-2 Bottom Hole 1' (AH-2)	soil	2012-02-29	00:00	2012-03-12
291279	CS-3 Bottom Hole 1' (AH-3)	soil	2012-03-01	00:00	2012-03-12
291280	CS-4 Bottom Hole 2' (AH-4)	soil	2012-03-02	00:00	2012-03-12
291281	CS-5 Bottom Hole 1' (AH-7)	soil	2012-03-01	00:00	2012-03-12
291282	CS-6 Sidewall (AH-2)	soil	2012-02-29	00:00	2012-03-12
291283	CS-7 Sidewall (AH-2)	soil	2012-02-29	00:00	2012-03-12
291284	CS-8 Sidewall (AH-2)	soil	2012-02-29	00:00	2012-03-12
291285	CS-9 Sidewall (AH-3)	soil	2012-02-29	00:00	2012-03-12
291286	CS-10 Sidewall (AH-4)	soil	2012-03-02	00:00	2012-03-12
291287	CS-11 Sidewall (AH-4)	soil	2012-03-02	00:00	2012-03-12
291288	CS-12 Sidewall (AH-5)	soil	2012-03-02	00:00	2012-03-12
291289	CS-13 Sidewall (AH-5)	soil	2012-03-05	00:00	2012-03-12
291290	CS-14 Sidewall (AH-1)	soil	2012-03-01	00:00	2012-03-12
291291	CS-15 Sidewall (AH-1)	soil	2012-03-05	00:00	2012-03-12

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 16 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

Report Contents

Case Narrative

Samples for project COG/BKU Central Tank Battery were received by TraceAnalysis, Inc. on 2012-03-12 and assigned to work order 12031236. Samples for work order 12031236 were received intact at a temperature of 2.8 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	75918	2012-03-16 at 08:55	89631	2012-03-23 at 09:55
Chloride (Titration)	SM 4500-Cl B	75918	2012-03-16 at 08:55	89632	2012-03-23 at 09:56
Chloride (Titration)	SM 4500-Cl B	75918	2012-03-16 at 08:55	89633	2012-03-23 at 09:58

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 12031236 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: 291277 - CS-1 Bottom Hole 1'(AH-1)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	89631	Date Analyzed:	2012-03-23	Analyzed By:	AR
Prep Batch:	75918	Sample Preparation:	2012-03-16	Prepared By:	AR

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

Sample: 291278 - CS-2 Bottom Hole 1' (AH-2)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	89632	Date Analyzed:	2012-03-23	Analyzed By:	AR
Prep Batch:	75918	Sample Preparation:	2012-03-16	Prepared By:	AR

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

Sample: 291279 - CS-3 Bottom Hole 1' (AH-3)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	89632	Date Analyzed:	2012-03-23	Analyzed By:	AR
Prep Batch:	75918	Sample Preparation:	2012-03-16	Prepared By:	AR

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

Sample: 291280 - CS-4 Bottom Hole 2' (AH-4)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	89632	Date Analyzed:	2012-03-23	Analyzed By:	AR
Prep Batch:	75918	Sample Preparation:	2012-03-16	Prepared By:	AR

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

Sample: 291281 - CS-5 Bottom Hole 1' (AH-7)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	89632	Date Analyzed:	2012-03-23	Analyzed By:	AR
Prep Batch:	75918	Sample Preparation:	2012-03-16	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**302**	mg/Kg	50	4.00

Sample: 291282 - CS-6 Sidewall (AH-2)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	89632	Date Analyzed:	2012-03-23	Analyzed By:	AR
Prep Batch:	75918	Sample Preparation:	2012-03-16	Prepared By:	AR

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

Sample: 291283 - CS-7 Sidewall (AH-2)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	89632	Date Analyzed:	2012-03-23	Analyzed By:	AR
Prep Batch:	75918	Sample Preparation:	2012-03-16	Prepared By:	AR

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

Sample: 291284 - CS-8 Sidewall (AH-2)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	89632	Date Analyzed:	2012-03-23	Analyzed By:	AR
Prep Batch:	75918	Sample Preparation:	2012-03-16	Prepared By:	AR

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

Sample: 291285 - CS-9 Sidewall (AH-3)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	89632	Date Analyzed:	2012-03-23	Analyzed By:	AR
Prep Batch:	75918	Sample Preparation:	2012-03-16	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**509**	mg/Kg	50	4.00

Sample: 291286 - CS-10 Sidewall (AH-4)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	89632	Date Analyzed:	2012-03-23	Analyzed By:	AR
Prep Batch:	75918	Sample Preparation:	2012-03-16	Prepared By:	AR

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

Sample: 291287 - CS-11 Sidewall (AH-4)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	89632	Date Analyzed:	2012-03-23	Analyzed By:	AR
Prep Batch:	75918	Sample Preparation:	2012-03-16	Prepared By:	AR

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

Sample: 291288 - CS-12 Sidewall (AH-5)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	89633	Date Analyzed:	2012-03-23	Analyzed By:	AR
Prep Batch:	75918	Sample Preparation:	2012-03-16	Prepared By:	AR

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

Sample: 291289 - CS-13 Sidewall (AH-5)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	89633	Date Analyzed:	2012-03-23	Analyzed By:	AR
Prep Batch:	75918	Sample Preparation:	2012-03-16	Prepared By:	AR

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

Sample: 291290 - CS-14 Sidewall (AH-1)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	89633	Date Analyzed:	2012-03-23	Analyzed By:	AR
Prep Batch:	75918	Sample Preparation:	2012-03-16	Prepared By:	AR

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

Sample: 291291 - CS-15 Sidewall (AH-1)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	89633	Date Analyzed:	2012-03-23	Analyzed By:	AR
Prep Batch:	75918	Sample Preparation:	2012-03-16	Prepared By:	AR

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

Method Blanks

Method Blank (1) QC Batch: 89631

QC Batch:	89631	Date Analyzed:	2012-03-23	Analyzed By:	AR
Prep Batch:	75918	QC Preparation:	2012-03-16	Prepared By:	AR

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

Method Blank (1) QC Batch: 89632

QC Batch:	89632	Date Analyzed:	2012-03-23	Analyzed By:	AR
Prep Batch:	75918	QC Preparation:	2012-03-16	Prepared By:	AR

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

Method Blank (1) QC Batch: 89633

QC Batch:	89633	Date Analyzed:	2012-03-23	Analyzed By:	AR
Prep Batch:	75918	QC Preparation:	2012-03-16	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: 89631 | Date Analyzed: 2012-03-23 | Analyzed By: AR
Prep Batch: 75918 | QC Preparation: 2012-03-16 | Prepared By: AR

Param	F	C	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	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			102	mg/Kg	1	100	<3.85	102	85 - 115	5	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: 89632 | Date Analyzed: 2012-03-23 | Analyzed By: AR
Prep Batch: 75918 | QC Preparation: 2012-03-16 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			97.5	mg/Kg	1	100	<3.85	98	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	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: 89633 | Date Analyzed: 2012-03-23 | Analyzed By: AR
Prep Batch: 75918 | QC Preparation: 2012-03-16 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			95.1	mg/Kg	1	100	<3.85	95	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			99.8	mg/Kg	1	100	<3.85	100	85 - 115	5	20

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

Matrix Spike (MS-1) Spiked Sample: 291277

QC Batch: 89631 | Date Analyzed: 2012-03-23 | Analyzed By: AR
Prep Batch: 75918 | QC Preparation: 2012-03-16 | Prepared By: AR

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

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

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

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

Matrix Spike (MS-1) Spiked Sample: 291287

QC Batch: 89632 | Date Analyzed: 2012-03-23 | Analyzed By: AR
Prep Batch: 75918 | QC Preparation: 2012-03-16 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10300	mg/Kg	100	10000	<385	103	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			10800	mg/Kg	100	10000	<385	108	79.4 - 120.6	5	20

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

Matrix Spike (MS-1) Spiked Sample: 291291

QC Batch: 89633 | Date Analyzed: 2012-03-23 | Analyzed By: AR
Prep Batch: 75918 | QC Preparation: 2012-03-16 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			9670	mg/Kg	100	10000	<385	97	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			10400	mg/Kg	100	10000	<385	104	79.4 - 120.6	7	20

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

Calibration Standards

Standard (ICV-1)

QC Batch: 89631 Date Analyzed: 2012-03-23 Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	98.8	99	85 - 115	2012-03-23

Standard (CCV-1)

QC Batch: 89631 Date Analyzed: 2012-03-23 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2012-03-23

Standard (ICV-1)

QC Batch: 89632 Date Analyzed: 2012-03-23 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	2012-03-23

Standard (CCV-1)

QC Batch: 89632 Date Analyzed: 2012-03-23 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	2012-03-23

Standard (ICV-1)

QC Batch: 89633 | Date Analyzed: 2012-03-23 | Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.3	99	85 - 115	2012-03-23

Standard (CCV-1)

QC Batch: 89633 | Date Analyzed: 2012-03-23 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2012-03-23

Appendix

Report Definitions

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

Laboratory Certifications

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

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less 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.

#1203236

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 2

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-640 1142

PROJECT NAME: BKU Central Tank Battery

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
29127	3/1/12		S		X	CS-1 Bottom Hole 1' (AH-1)	1				X													X				
278	2/29/12		S		X	CS-2 Bottom Hole 1' (AH-2)	1				X													X				
279	3/1/12		S		X	CS-3 Bottom Hole 1' (AH-3)	1				X													X				
280	3/2/12		S		X	CS-4 Bottom Hole 2' (AH-4)	1				X													X				
281	3/1/12		S		X	CS-5 Bottom Hole 1' (AH-7)	1				X													X				
282	2/29/12		S		X	CS-6 Sidewall (AH-2)	1				X													X				
283	2/29/12		S		X	CS-7 Sidewall (AH-2)	1				X													X				
284	2/29/12		S		X	CS-8 Sidewall (AH-2)	1				X													X				
285	2/29/12		S		X	CS-9 Sidewall (AH-3)	1				X													X				
286	3/2/12		S		X	CS-10 Sidewall (AH-4)	1				X													X				

RELINQUISHED BY: (Signature) — Date: 3/9/12 Time: 500 — RECEIVED BY: (Signature) — Date: 3/12/12 Time: 1500

RELINQUISHED BY: (Signature) — Date: 3/11/12 Time: 1520 — RECEIVED BY: (Signature) — Date: 3/12/12 Time: 1520

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

SAMPLED BY: (Print & Initial) Brian Schaver BPS — Date: 3/3/12 Time: 1200

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

TETRA TECH CONTACT PERSON: — Results by:

RECEIVING LABORATORY: — RECEIVED BY: (Signature)

ADDRESS: — CITY: — STATE: — ZIP: — CONTACT: — PHONE: — DATE: — TIME:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 28° 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.

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.: 114-640142

PROJECT NAME: BKU Central Tank Battery (Eddy 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
287	3/2/12		S		X	CS-11 sidewall (AH-4)	1				X													X				
288	3/2/12		S		X	CS-12 sidewall (AH-5)	1				X													X				
289	3/5/12		S		X	CS-13 sidewall (AH-5)	1				X													X				
290	3/1/12		S		X	CS-14 sidewall (AH-1)	1				X													X				
291	3/5/12		S		X	CS-15 sidewall (AH-1)	1				X													X				
																								X	BPS			

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature) Date: 3/7/12 Time: 1200 500
RECEIVED BY: (Signature) Date: 3/12/12 Time: 1500
SAMPLED BY: (Print & Initial) Brian Schauer BPS Date: 3/3/12 Time: 1200

RELINQUISHED BY: (Signature) Date: 3/12/12 Time: 1520
RECEIVED BY: (Signature) Date: 3/12/12 Time: 15:20
SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS
AIRBILL #:

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

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

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

SAMPLE CONDITION WHEN RECEIVED: 2.8 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.