SITE INFORMATION

Report Type: Closure Report

General Site Information:						
Site:	Willow "A" State Tank Battery					
Company:	COG Operating LLC					
Section, Township and Range	Unit J	Sec 3	T25S	R28E		
Lease Number:	API-30-015-33012					
County:	Eddy County					
GPS:	32.15751° N			104.07456° W		
Surface Owner:	State					
Mineral Owner:						
Directions:	Starting in Malaga on Hwy 285, travel south on Hwy 285 for 4.6 miles site is on west side of the highway.					

Release Data:	
Date Released:	1/31/2011
Type Release:	Oil
Source of Contamination:	Circulating Pump
Fluid Released:	24 bbls
Fluids Recovered:	23 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) 425-3878
Fax:	(432) 684-7137		
Email:	pellis@conchoresources.com		ike.tavarez@tetratech.com

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

Acceptable Soil RRAL (mg/kg)		
Benzene	***Total BTEX***	***TPH***
10	50	100

TETRA TECH

December 7, 2011

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

Re: Closure Report for the COG Operating LLC., Willow "A" State Tank Battery, Unit J, Section 3, Township 25 South, Range 28 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 Willow "A" State Tank Battery located in Unit J, Section 3, Township 25 South, Range 28 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.15751°, W 104.07456°. 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 January 31, 2011, and released approximately twenty four (24) barrels of oil from the circulating pump. To alleviate the problem, COG personnel repaired the pump. Twenty three (23) barrels of standing fluids were recovered. The spill was contained inside of the tank battery affecting an area of approximately 45' x 140'. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 3. The New Mexico State Engineer Well Reports showed one well in Section 4, with a groundwater depth of 35' below surface. According to the NMOCD groundwater map, the average depth to groundwater in this area is less than 50' below surface. The average depth to water map is shown in Appendix B.

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

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 100 mg/kg.

Soil Assessment and Analytical Results

On February 15, 2011, Tetra Tech personnel inspected and sampled the spill area. A total of five (5) auger holes (AH-1 through AH-4 and a background auger hole) 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, auger holes (AH-1, AH-2 and AH-3) were below the RRAL for TPH and BTEX. Auger hole (AH-4) had a total TPH concentration of 131 mg/kg (0-1') and declined below the RRAL at (1-1.5').

Auger holes (AH-1, AH-2 and AH-3) showed chloride concentrations ranging from 425 mg/kg to 1,650 mg/kg. The chloride concentrations declined with depth and showed bottom samples (auger holes) of AH-1 (<200 mg/kg at 5-5.5'), AH-2 (465 mg/kg at 4-4.5') and AH-3 (878 mg/kg at 2.5'-3.0'). The background auger hole showed a chloride high of 352 mg/kg at 3-3.5' below surface. The remaining auger hole (AH-4) did not show a chloride impact to the area.

TETRA TECH

Closure Activities

Based on the approved work plan, Tetra Tech personnel supervised the excavation of the site. The final excavation depths of the soil remediation were met or exceeded, as stated in the approved work plan. A total of 160 cubic yards of soil were excavated and hauled away for proper disposal. The excavation depths are highlighted in Table 1 and shown on Figure 4. The excavations were backfilled with clean soil to grade.

As stated in the work plan, a trench was installed in the area of AH-3 to define extents. The trench sample results are shown in Table 1. Referring to Table 1, the chloride concentrations declined with depth.

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

Respectfully submitted,
TETRA TECH

Ike Tavarez, PG
Senior Project Manager

cc: Pat Ellis – COG

FIGURES

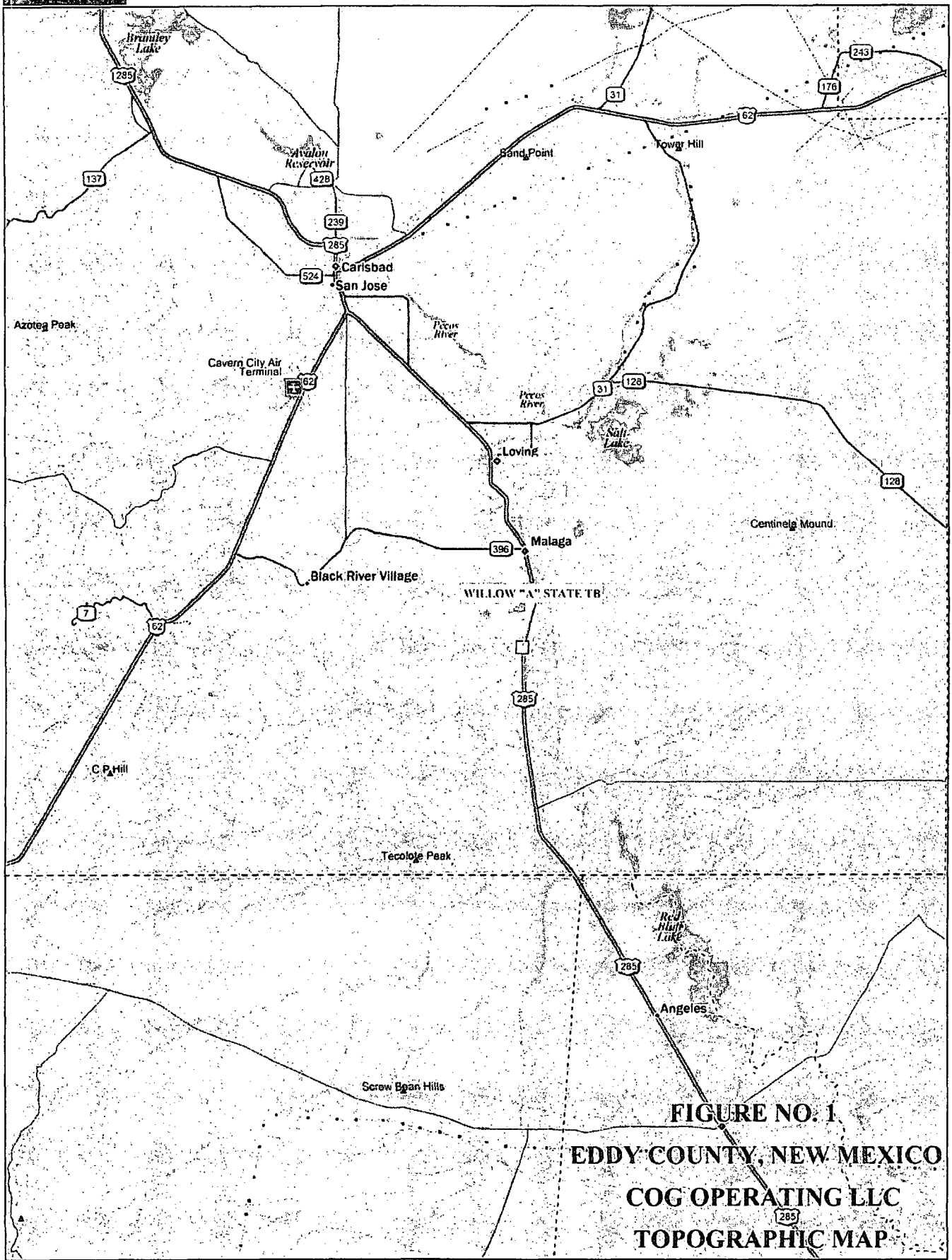


FIGURE NO. 1

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

TOPOGRAPHIC MAP

TN
MN (7.8°E)

Scale 1 : 400,000
1" = 6.31 mi
Data Zoom 9-0

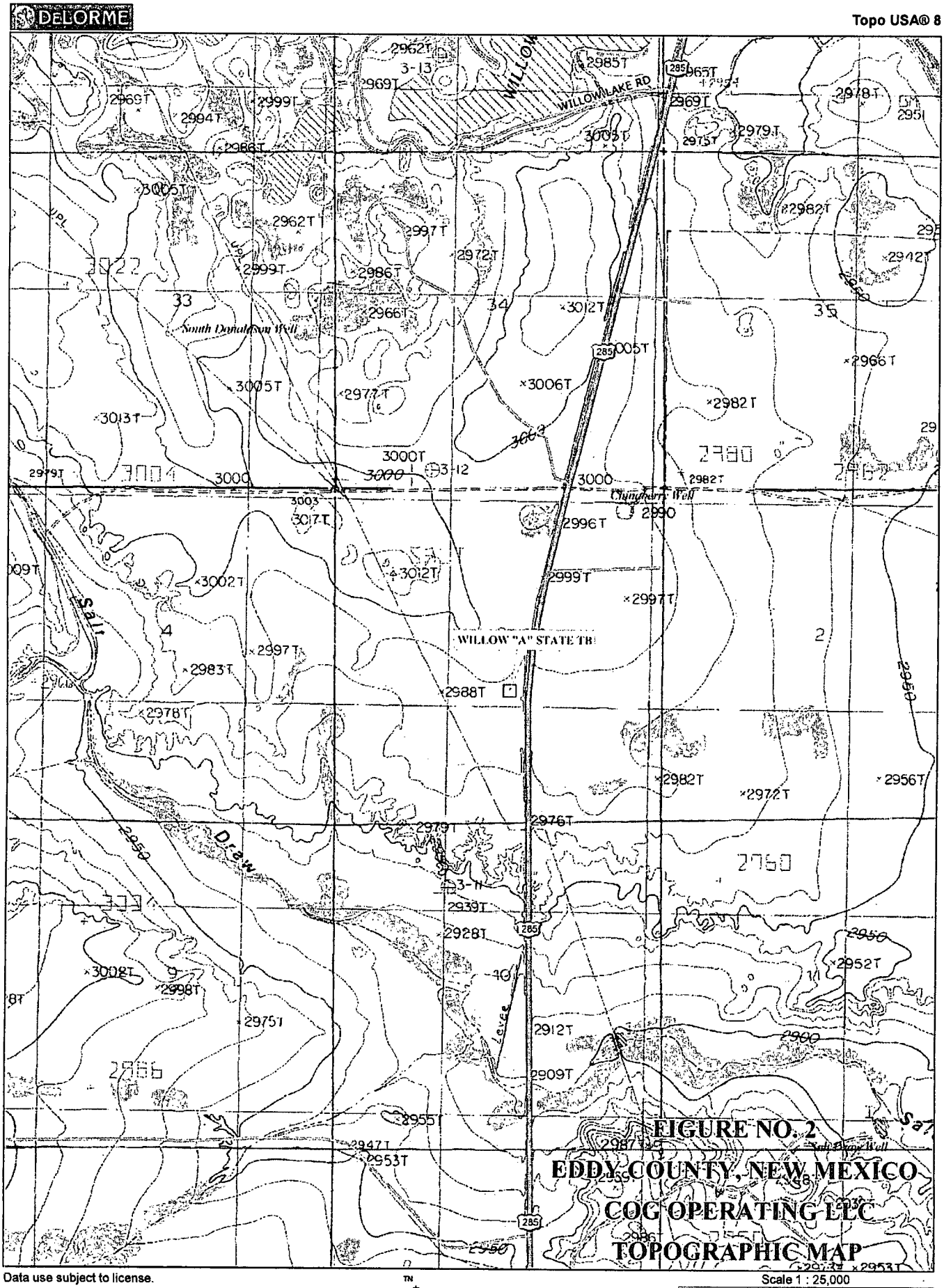
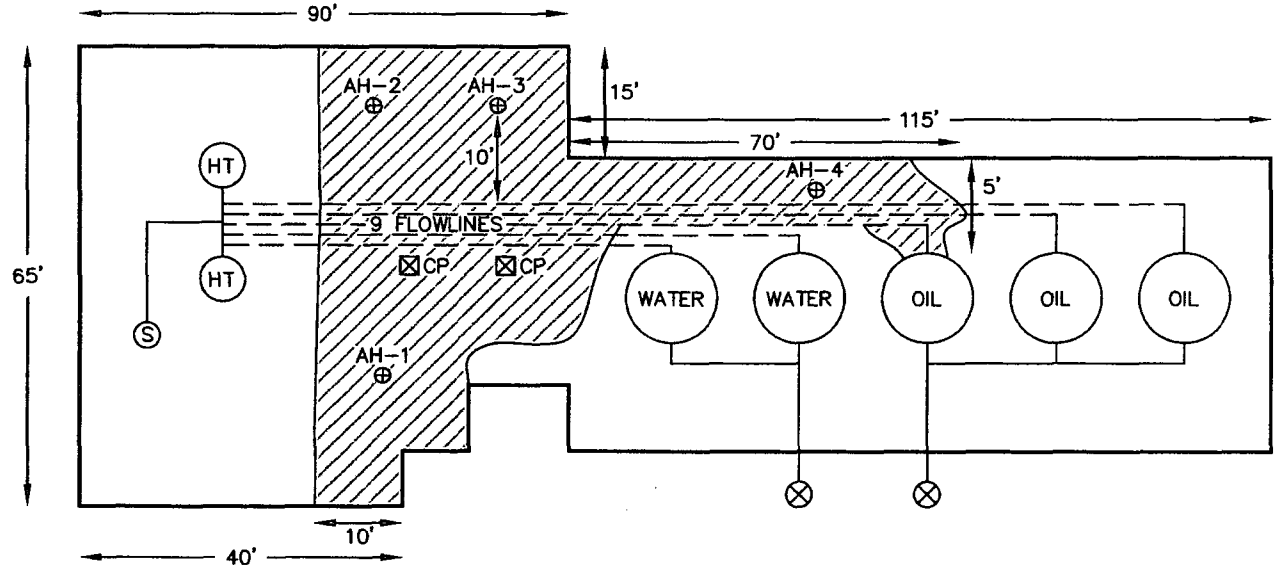


FIGURE NO. 2

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

TOPOGRAPHIC MAP



SPILL AREA
SAMPLE LOCATIONS

NOT TO SCALE

FIGURE NO. 3

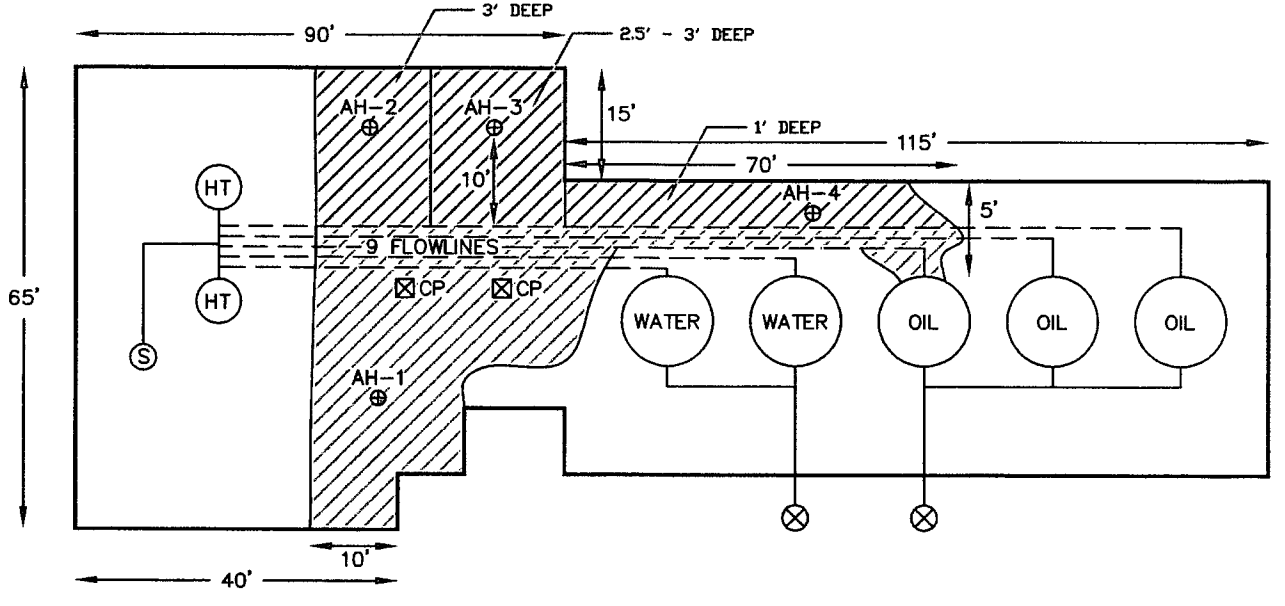
EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

WILLOW "A" STATE TB

DATE: 2/15/11
DWN. BY: JJ
FILE: H:\COG\640081?\WILLOW A STATE TB

TETRA TECH, INC.
MIDLAND, TEXAS



- SPILL AREA
- EXCAVATED AREA (1.0' DEEP)
- EXCAVATED AREA (2.5' TO 3.0' DEEP)
- EXCAVATED AREA (3.0' DEEP)
- ⊕ SAMPLE LOCATIONS

NOT TO SCALE

FIGURE NO. 4

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

WILLOW "A" STATE TB EXCAVATION MAP

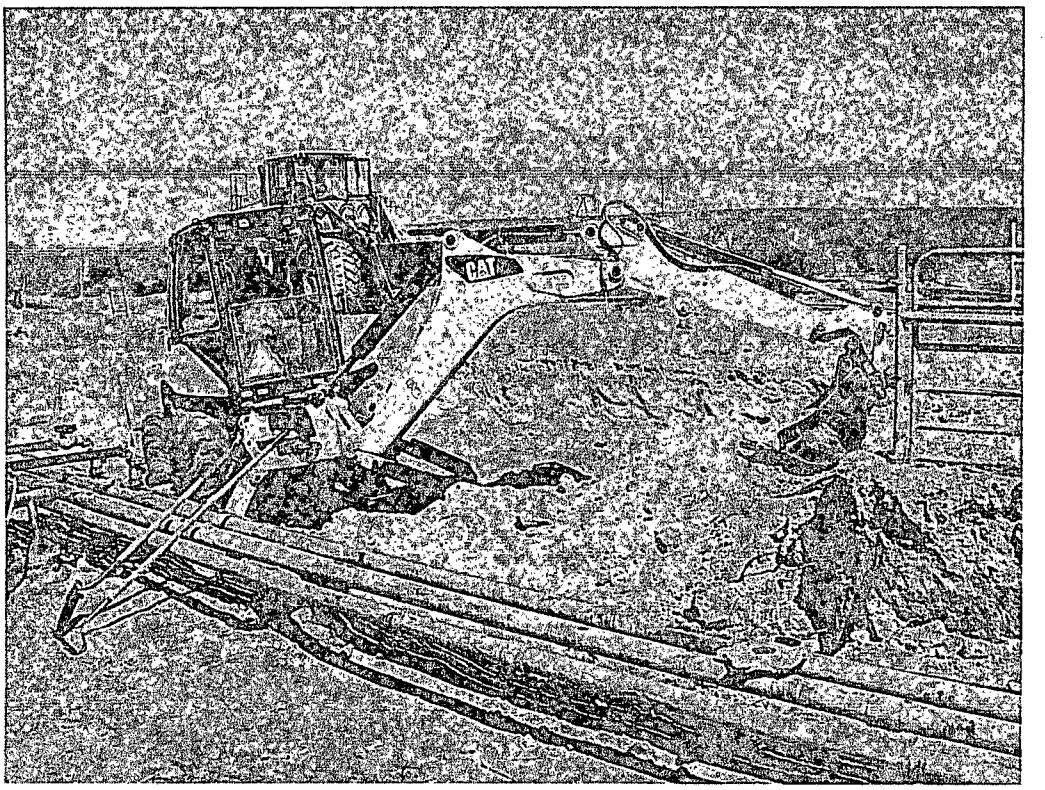
TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 12/9/2011
DWN. BY: IM
FILE: H:\COG\5400817 WILLOW A STATE TB

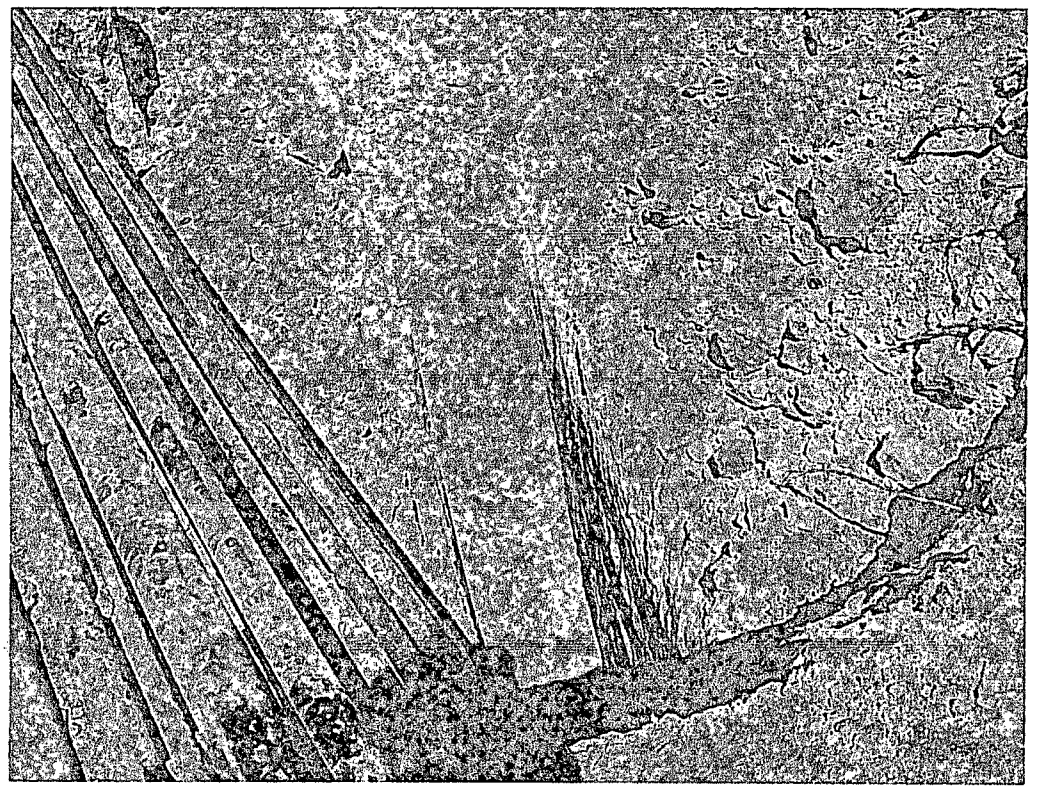
PHOTOS

COG Operating LLC
Willow "A" State TB
Eddy County, New Mexico

TETRA TECH



View North West – AH-3 and AH-2



Trench in area of AH-3

TABLES

Table 1
COG Operating LLC.
WILLOW "A" 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)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-1	2/15/2011	0-1'	1'	X		22.7	<50.0	22.7	<0.0200	<0.0200	<0.0200	0.477	518
	"	1-1.5'	1'	X		-	-	-	-	-	-	-	735
	"	2-2.5'	1'	X		-	-	-	-	-	-	-	953
	"	3-3.5'	1'	X		-	-	-	-	-	-	-	1,020
	"	4-4.5'	1'	X		-	-	-	-	-	-	-	425
	"	5-5.5'	1'	x		-	-	-	-	-	-	-	<200
AH-2	2/15/2011	0-1'	1'		X	3.03	<50.0	3.03	<0.0200	<0.0200	<0.0200	0.379	1,130
	"	1-1.5'	1'		X	-	-	-	-	-	-	-	1,350
	"	2-2.5'	1'		X	-	-	-	-	-	-	-	1,650
	"	3-3.5'	1'		X	-	-	-	-	-	-	-	1,120
	"	4-4.5'	1'	X		-	-	-	-	-	-	-	465

Table 1
COG Operating LLC.
WILLOW "A" 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)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-3	2/15/2011	0-1'	1'		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	981
	"	1-1.5'	1'		X	-	-	-	-	-	-	-	1,630
	"	2-2.5'	1'		X	-	-	-	-	-	-	-	1,570
	"	2.5-3'	1'	X		-	-	-	-	-	-	-	878
Trench-1	8/15/2011	5'	-	X		-	-	-	-	-	-	-	784
	"	7'	-	X		-	-	-	-	-	-	-	656
	"	9'	-	X		-	-	-	-	-	-	-	323

Table 1
COG Operating LLC.
WILLOW "A" 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)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-4	2/15/2011	0-1'	1'		X	131	<50.0	131	<0.0200	0.236	0.346	1.22	<200
	"	1-1.5'	1'	X		<2.00	<50.0	<50.0	-	-	-	-	<200
	"	2-2.5'	1'	X		-	-	-	-	-	-	-	<200
	"	3-3.5'	1'	X		-	-	-	-	-	-	-	<200
BG	4/14/2011	0-1'		X		-	-	-	-	-	-	-	<200
	"	1-1.5'		X		-	-	-	-	-	-	-	<200
	"	2-2.5'		X		-	-	-	-	-	-	-	<200
	"	3-3.5'		X		-	-	-	-	-	-	-	352

BEB Below Excavation Bottom

(--) Not Analyzed

Excavated material

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 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Willow "A" State	Facility Type	Tank Battery

Surface Owner State	Mineral Owner	Lease No. (API#) 30-015-33012

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	3	25S	28E					Eddy

Latitude 32 09.454 **Longitude** 104 04.456

NATURE OF RELEASE

Type of Release Oil	Volume of Release 24bbls	Volume Recovered 23bbls
Source of Release Circulating pump	Date and Hour of Occurrence 01/31/2011	Date and Hour of Discovery 01/31/2011 5:00a.m.
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

¼" nipple on circulating pump started leaking when the pump was turned on, due to worn out threads. The nipple and valves have been replaced and the circulating pump has been put back into service.

Describe Area Affected and Cleanup Action Taken.*

Initially 24bbls was released from the circulating pump and we were able to recover 23bbls with a vacuum truck. All released oil was completely contained inside the dike walls of the facility. The facility will be scraped and the contaminated soil will be disposed of appropriately. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation work.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Josh Russo	Approved by District Supervisor:	
Title: HSE Coordinator	Approval Date:	Expiration Date:
E-mail Address: jrusso@conchoresources.com	Conditions of Approval:	Attached ☐
Date: 02/04/2011 Phone: 432-212-2399		

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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 Willow "A" State	Facility Type **Tank Battery**

Surface Owner: State	Mineral Owner	Lease No. (API#) 30-015-33012

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	3	25S	28E					Eddy

Latitude 32 09.454 **Longitude** 104 04.456

NATURE OF RELEASE

Type of Release: Oil	Volume of Release 24 bbls	Volume Recovered 23 bbls
Source of Release: Circulating pump	Date and Hour of Occurrence 1/31/2011	Date and Hour of Discovery 1/31/2011 5:00a.m.
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour 3/15/10 4:59 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

¼" nipple on circulating pump started leaking when the pump was turned on, due to worn out threads. The nipple and valves have been replaced and the circulating pump has been put back into service.

Describe Area Affected and Cleanup Action Taken.*

The spill footprint remained inside the facilities firewall; Tetra Tech inspected the site and collected samples to define spills extent. Soil that exceeded RRAL was removed and hauled away for proper disposal. The site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD for review.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Ike Tavarez	Approved by District Supervisor:	
Title: Project Manager	Approval Date:	Expiration Date:
E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval:	Attached ☐
Date: 12/14/11 Phone: (432) 682-4559		

* Attach Additional Sheets If Necessary

APPENDIX B

Water Well Data
Average Depth to Groundwater (ft)
COG - Willow "A" State
Eddy County, New Mexico

24 South 27 East

6	5	4	3	2	1
7	8 **26**	9 **43**	10	11	12 **27**
18 **34**	17	16	15	14	13 **31**
19	20	21	22 **70**	23	24
30	29	28	27	26	25
31	32	33	34	35	36

24 South 28 East

6 **70**	5 **30**	4 **30**	3	2 **55**	1 **60**
7	8 **50**	9	10 **17**	11 **20**	12 **73**
18	17 **42**	16 **29**	15 **18**	14 **52**	13 **34**
19	20 **48**	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

24 South 29 East

6	5	4	3	2
7 **160**	8	9	10	11
18	17	16 **18**	15	14
19	20	21	22	23
30	29	28	27	26
31	32	33	34	35

25 South 27 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 **19**	34	35	36

25 South 28 East

6	5	4 **35**	3 SITE	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20 **96**	21	22	23	24
30	29	28 **90**	27	26	25
31	32	33	34	35	36 **40**

25 South 29 East

6 **40**	5	4	3	2
7	8	9	10 **40**	11
18	17	16	15 **60**	14
19	20	21	22	23
30 **30**	29	28	27	26
31	32	33	34	35

26 South 27 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22 **50**	23	24
30	29	28	27	26	25
31	32	33	34	35	36

26 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

26 South 29 East

6	5	4	3	2
7	8	9	10	11
18	17	16	15	14
19	20	21	22 **57** **69**	23
30	29	28	27	26
31	32	33	34	35

New Mexico State Engineers Well Reports
USGS Well Reports
Geology and Groundwater Conditions in Southern Eddy, County, NM
NMOCD - Groundwater Data

APPENDIX C

Summary Report

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

Report Date: August 31, 2011

Work Order: 11082220

Project Location: Eddy Co., NM
Project Name: COG/Willow "A" State Tank Battery
Project Number: 114-6400817

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
275193	Trench-1 5' "AH-3"	soil	2011-08-15	00:00	2011-08-22
275194	Trench-1 7' "AH-3"	soil	2011-08-15	00:00	2011-08-22
275195	Trench-1 9' "AH-3"	soil	2011-08-15	00:00	2011-08-22

Sample: 275193 - Trench-1 5' "AH-3"

Param	Flag	Result	Units	RL
Chloride		**784**	mg/Kg	4

Sample: 275194 - Trench-1 7' "AH-3"

Param	Flag	Result	Units	RL
Chloride		**656**	mg/Kg	4

Sample: 275195 - Trench-1 9' "AH-3"

Param	Flag	Result	Units	RL
Chloride		**323**	mg/Kg	4

TRACEANALYSIS, INC.

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

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: August 31, 2011

Work Order: 11082220

Project Location: Eddy Co., NM
Project Name: COG/Willow "A" State Tank Battery
Project Number: 114-6400817

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
275193	Trench-1 5' "AH-3"	soil	2011-08-15	00:00	2011-08-22
275194	Trench-1 7' "AH-3"	soil	2011-08-15	00:00	2011-08-22
275195	Trench-1 9' "AH-3"	soil	2011-08-15	00:00	2011-08-22

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

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

Report Contents

Case Narrative

Samples for project COG/Willow "A" State Tank Battery were received by TraceAnalysis, Inc. on 2011-08-22 and assigned to work order 11082220. Samples for work order 11082220 were received intact at a temperature of 11.6 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	71539	2011-08-25 at 12:17	84349	2011-08-30 at 13:02

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 11082220 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: 275193 - Trench-1 5' "AH-3"

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	84349	Date Analyzed:	2011-08-30	Analyzed By:	AR
Prep Batch:	71539	Sample Preparation:	2011-08-25	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**784**	mg/Kg	50	4.00

Sample: 275194 - Trench-1 7' "AH-3"

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	84349	Date Analyzed:	2011-08-30	Analyzed By:	AR
Prep Batch:	71539	Sample Preparation:	2011-08-25	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**656**	mg/Kg	50	4.00

Sample: 275195 - Trench-1 9' "AH-3"

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	84349	Date Analyzed:	2011-08-30	Analyzed By:	AR
Prep Batch:	71539	Sample Preparation:	2011-08-25	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**323**	mg/Kg	50	4.00

Method Blanks

Method Blank (1) QC Batch: 84349

QC Batch:	84349	Date Analyzed:	2011-08-30	Analyzed By:	AR
Prep Batch:	71539	QC Preparation:	2011-08-25	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: 84349 | Date Analyzed: 2011-08-30 | Analyzed By: AR
Prep Batch: 71539 | QC Preparation: 2011-08-25 | Prepared By: AR

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

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			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.

Matrix Spike (MS-1) Spiked Sample: 275195

QC Batch: 84349 | Date Analyzed: 2011-08-30 | Analyzed By: AR
Prep Batch: 71539 | QC Preparation: 2011-08-25 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10500	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			11200	mg/Kg	100	10000	<385	109	79.4 - 120.6	6	20

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

Calibration Standards

Standard (ICV-1)

QC Batch: 84349 | Date Analyzed: 2011-08-30 | 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	99.0	99	85 - 115	2011-08-30

Standard (CCV-1)

QC Batch: 84349 | Date Analyzed: 2011-08-30 | 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	2011-08-30

Appendix

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.

Xwo #: 11082220

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 1

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:	SITE MANAGER:
COG	Mike Tavarez

PROJECT NO.:	PROJECT NAME:
114-6400817	COG/Linnow "A" State 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
275193	8-15		S		X	Trench-1 5' "AH-3"	1				X													X				
194	↓		↓		↓	Trench-1 7' "AH-3"	↓				↓													↓				
195	↓		↓		↓	Trench-1 9' "AH-3"	↓				↓													↓				

RELINQUISHED BY: (Signature) Robert Gomez	Date: 8-16-11 Time: 14:21	RECEIVED BY: (Signature)	Date: 8/20/11 Time: 14:21
SAMPLED BY: (Print & Initial) Robert Gomez Jr.	Date: 8-16-11 Time: 0900		
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS ~~HAND DELIVERED~~ UPS	AIRBILL #: OTHER:		
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
TETRA TECH CONTACT PERSON: Mike Tavarez	Results by: RUSH Charges Authorized: Yes No		
RECEIVING LABORATORY: Trace ADDRESS: CITY: Midland STATE: TX ZIP: CONTACT: Trace PHONE:	RECEIVED BY: (Signature) DATE: TIME:		
SAMPLE CONDITION WHEN RECEIVED: 11.6°c intact	REMARKS: *All tests Midland		

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: February 28, 2011

Work Order: 11021807

Project Location: Eddy Co., NM
Project Name: COG/Willow A TB
Project Number: 114-6400817

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
257838	AH-1 0-1' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257839	AH-1 1-1.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257840	AH-1 2-2.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257841	AH-1 3-3.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257842	AH-1 4-4.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257843	AH-1 5-5.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257844	AH-2 0-1' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257845	AH-2 1-1.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257846	AH-2 2-2.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257847	AH-2 3-3.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257848	AH-2 4-4.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257849	AH-3 0-1' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257850	AH-3 1-1.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257851	AH-3 2-2.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257852	AH-3 2.5-3' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257853	AH-4 0-1' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257854	AH-4 1-1.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257855	AH-4 2-2.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257856	AH-4 3-3.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17

Sample - Field Code	BTEX Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
257838 - AH-1 0-1' 1' BEB	<0.0200	<0.0200	<0.0200	**0.477**	<50.0	**22.7**
257844 - AH-2 0-1' 1' BEB	<0.0200	<0.0200	<0.0200	**0.379**	<50.0	**3.03**
257849 - AH-3 0-1' 1' BEB	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
257853 - AH-4 0-1' 1' BEB	<0.0200	**0.236**	**0.346**	**1.22**	<50.0	**131**
257854 - AH-4 1-1.5' 1' BEB					<50.0	<2.00

Sample: 257838 - AH-1 0-1' 1' BEB

Param	Flag	Result	Units	RL
Chloride		**518**	mg/Kg	4.00

Sample: 257839 - AH-1 1-1.5' 1' BEB

Param	Flag	Result	Units	RL
Chloride		**735**	mg/Kg	4.00

Sample: 257840 - AH-1 2-2.5' 1' BEB

Param	Flag	Result	Units	RL
Chloride		**953**	mg/Kg	4.00

Sample: 257841 - AH-1 3-3.5' 1' BEB

Param	Flag	Result	Units	RL
Chloride		**1020**	mg/Kg	4.00

Sample: 257842 - AH-1 4-4.5' 1' BEB

Param	Flag	Result	Units	RL
Chloride		**425**	mg/Kg	4.00

Sample: 257843 - AH-1 5-5.5' 1' BEB

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 257844 - AH-2 0-1' 1' BEB

Param	Flag	Result	Units	RL
Chloride		**1130**	mg/Kg	4.00

Sample: 257845 - AH-2 1-1.5' 1' BEB

Param	Flag	Result	Units	RL
Chloride		**1350**	mg/Kg	4.00

Sample: 257846 - AH-2 2-2.5' 1' BEB

Param	Flag	Result	Units	RL
Chloride		**1650**	mg/Kg	4.00

Sample: 257847 - AH-2 3-3.5' 1' BEB

Param	Flag	Result	Units	RL
Chloride		**1120**	mg/Kg	4.00

Sample: 257848 - AH-2 4-4.5' 1' BEB

Param	Flag	Result	Units	RL
Chloride		**465**	mg/Kg	4.00

Sample: 257849 - AH-3 0-1' 1' BEB

Param	Flag	Result	Units	RL
Chloride		**981**	mg/Kg	4.00

Sample: 257850 - AH-3 1-1.5' 1' BEB

Param	Flag	Result	Units	RL
Chloride		**1630**	mg/Kg	4.00

Sample: 257851 - AH-3 2-2.5' 1' BEB

Param	Flag	Result	Units	RL
Chloride		**1570**	mg/Kg	4.00

Sample: 257852 - AH-3 2.5-3' 1' BEB

Param	Flag	Result	Units	RL
Chloride		**878**	mg/Kg	4.00

Sample: 257853 - AH-4 0-1' 1' BEB

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 257854 - AH-4 1-1.5' 1' BEB

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 257855 - AH-4 2-2.5' 1' BEB

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 257856 - AH-4 3-3.5' 1' BEB

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Certifications

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

NELAP Certifications

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

Analytical and Quality Control Report

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

Report Date: February 28, 2011

Work Order: 11021807

Project Location: Eddy Co., NM
Project Name: COG/Willow A TB
Project Number: 114-6400817

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
257838	AH-1 0-1' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257839	AH-1 1-1.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257840	AH-1 2-2.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257841	AH-1 3-3.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257842	AH-1 4-4.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257843	AH-1 5-5.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257844	AH-2 0-1' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257845	AH-2 1-1.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257846	AH-2 2-2.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257847	AH-2 3-3.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257848	AH-2 4-4.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257849	AH-3 0-1' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257850	AH-3 1-1.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257851	AH-3 2-2.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257852	AH-3 2.5-3' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257853	AH-4 0-1' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257854	AH-4 1-1.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257855	AH-4 2-2.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257856	AH-4 3-3.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17

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 27 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

Standard Flags

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

Samples for project COG/Willow A TB were received by TraceAnalysis, Inc. on 2011-02-17 and assigned to work order 11021807. Samples for work order 11021807 were received intact at a temperature of 7.2 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	66705	2011-02-21 at 12:05	77804	2011-02-21 at 12:05
Chloride (Titration)	SM 4500-Cl B	66703	2011-02-21 at 10:36	77797	2011-02-21 at 13:20
Chloride (Titration)	SM 4500-Cl B	66703	2011-02-21 at 10:36	77798	2011-02-21 at 13:21
Chloride (Titration)	SM 4500-Cl B	66703	2011-02-21 at 10:36	77799	2011-02-21 at 13:22
TPH DRO - NEW	S 8015 D	66718	2011-02-21 at 09:51	77781	2011-02-21 at 09:51
TPH DRO - NEW	S 8015 D	66796	2011-02-23 at 09:00	77882	2011-02-23 at 10:07
TPH GRO	S 8015 D	66705	2011-02-21 at 12:05	77805	2011-02-21 at 12:05
TPH GRO	S 8015 D	66842	2011-02-25 at 08:21	77929	2011-02-25 at 09:15

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 11021807 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: 257838 - AH-1 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	77804	Date Analyzed:	2011-02-21	Analyzed By:	ME
Prep Batch:	66705	Sample Preparation:	2011-02-21	Prepared By:	ME

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		<0.0200		mg/Kg	1	0.0200
Toluene		<0.0200		mg/Kg	1	0.0200
Ethylbenzene		<0.0200		mg/Kg	1	0.0200
Xylene		**0.477**		mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.42	mg/Kg	1	2.00	121	51.6 - 149.2
4-Bromofluorobenzene (4-BFB)		2.76	mg/Kg	1	2.00	138	35.7 - 159.6

Sample: 257838 - AH-1 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	77797	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**518**		mg/Kg	50	4.00

Sample: 257838 - AH-1 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	77781	Date Analyzed:	2011-02-21	Analyzed By:	kg
Prep Batch:	66718	Sample Preparation:	2011-02-21	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		84.5	mg/Kg	1	100	84	70 - 130

Sample: 257838 - AH-1 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	77805	Date Analyzed:	2011-02-21	Analyzed By:	ME
Prep Batch:	66705	Sample Preparation:	2011-02-21	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**22.7**	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.47	mg/Kg	1	2.00	124	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.78	mg/Kg	1	2.00	139	22.2 - 160.2

Sample: 257839 - AH-1 1-1.5' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	77797	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**735**	mg/Kg	50	4.00

Sample: 257840 - AH-1 2-2.5' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	77797	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**953**	mg/Kg	100	4.00

Sample: 257841 - AH-1 3-3.5' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	77797	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1020**	mg/Kg	100	4.00

Sample: 257842 - AH-1 4-4.5' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	77797	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**425**	mg/Kg	50	4.00

Sample: 257843 - AH-1 5-5.5' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	77797	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR

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

Sample: 257844 - AH-2 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	77804	Date Analyzed:	2011-02-21	Analyzed By:	ME
Prep Batch:	66705	Sample Preparation:	2011-02-21	Prepared By:	ME

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

continued ...

sample 257844 continued ...

Parameter	Flag	Result	RL	Units	Dilution	RL
Ethylbenzene		<0.0200		mg/Kg	1	0.0200
Xylene		**0.379**		mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.56	mg/Kg	1	2.00	128	51.6 - 149.2
4-Bromofluorobenzene (4-BFB)		2.95	mg/Kg	1	2.00	148	35.7 - 159.6

Sample: 257844 - AH-2 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	77797	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**1130**		mg/Kg	100	4.00

Sample: 257844 - AH-2 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	77781	Date Analyzed:	2011-02-21	Analyzed By:	kg
Prep Batch:	66718	Sample Preparation:	2011-02-21	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		86.6	mg/Kg	1	100	87	70 - 130

Sample: 257844 - AH-2 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	77805	Date Analyzed:	2011-02-21	Analyzed By:	ME
Prep Batch:	66705	Sample Preparation:	2011-02-21	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**3.03**	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.60	mg/Kg	1	2.00	130	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.78	mg/Kg	1	2.00	139	22.2 - 160.2

Sample: 257845 - AH-2 1-1.5' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	77797	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1350**	mg/Kg	100	4.00

Sample: 257846 - AH-2 2-2.5' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	77798	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1650**	mg/Kg	100	4.00

Sample: 257847 - AH-2 3-3.5' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	77798	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1120**	mg/Kg	100	4.00

Sample: 257848 - AH-2 4-4.5' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	77798	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**465**	mg/Kg	50	4.00

Sample: 257849 - AH-3 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	77804	Date Analyzed:	2011-02-21	Analyzed By:	ME
Prep Batch:	66705	Sample Preparation:	2011-02-21	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.50	mg/Kg	1	2.00	125	51.6 - 149.2
4-Bromofluorobenzene (4-BFB)		2.89	mg/Kg	1	2.00	144	35.7 - 159.6

Sample: 257849 - AH-3 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	77798	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**981**	mg/Kg	50	4.00

Sample: 257849 - AH-3 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	77781	Date Analyzed:	2011-02-21	Analyzed By:	kg
Prep Batch:	66718	Sample Preparation:	2011-02-21	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		84.0	mg/Kg	1	100	84	70 - 130

Sample: 257849 - AH-3 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	77805	Date Analyzed:	2011-02-21	Analyzed By:	ME
Prep Batch:	66705	Sample Preparation:	2011-02-21	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.54	mg/Kg	1	2.00	127	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.66	mg/Kg	1	2.00	133	22.2 - 160.2

Sample: 257850 - AH-3 1-1.5' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	77798	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1630**	mg/Kg	100	4.00

Sample: 257851 - AH-3 2-2.5' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	77798	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**1570**	mg/Kg	100	4.00

Sample: 257852 - AH-3 2.5-3' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	77798	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**878**	mg/Kg	50	4.00

Sample: 257853 - AH-4 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	77804	Date Analyzed:	2011-02-21	Analyzed By:	ME
Prep Batch:	66705	Sample Preparation:	2011-02-21	Prepared By:	ME

Parameter	Flag	Result	RL Units	Dilution	RL
Benzene		<0.0200	mg/Kg	1	0.0200
Toluene		**0.236**	mg/Kg	1	0.0200
Ethylbenzene		**0.346**	mg/Kg	1	0.0200
Xylene		**1.22**	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.51	mg/Kg	1	2.00	126	51.6 - 149.2
4-Bromofluorobenzene (4-BFB)	[1]	3.42	mg/Kg	1	2.00	171	35.7 - 159.6

[1] High surrogate recovery due to peak interference.

Sample: 257853 - AH-4 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	77798	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR

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

Sample: 257853 - AH-4 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	77781	Date Analyzed:	2011-02-21	Analyzed By:	kg
Prep Batch:	66718	Sample Preparation:	2011-02-21	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		90.2	mg/Kg	1	100	90	70 - 130

Sample: 257853 - AH-4 0-1' 1' BEB

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	77805	Date Analyzed:	2011-02-21	Analyzed By:	ME
Prep Batch:	66705	Sample Preparation:	2011-02-21	Prepared By:	ME

Parameter	Flag	Result	RL Units	Dilution	RL
GRO		**131**	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.53	mg/Kg	1	2.00	126	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)	[2]	3.25	mg/Kg	1	2.00	162	22.2 - 160.2

[2]High surrogate recovery due to peak interference.

Sample: 257854 - AH-4 1-1.5' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	77798	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR

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

Sample: 257854 - AH-4 1-1.5' 1' BEB

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	77882	Date Analyzed:	2011-02-23	Analyzed By:	kg
Prep Batch:	66796	Sample Preparation:	2011-02-23	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		99.2	mg/Kg	1	100	99	70 - 130

Sample: 257854 - AH-4 1-1.5' 1' BEB

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	77929	Date Analyzed:	2011-02-25	Analyzed By:	ME
Prep Batch:	66842	Sample Preparation:	2011-02-25	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.49	mg/Kg	1	2.00	124	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.90	mg/Kg	1	2.00	145	22.2 - 160.2

Sample: 257855 - AH-4 2-2.5' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	77798	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR

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

Sample: 257856 - AH-4 3-3.5' 1' BEB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	77799	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR

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

Method Blank (1) QC Batch: 77781

QC Batch:	77781	Date Analyzed:	2011-02-21	Analyzed By:	kg
Prep Batch:	66718	QC Preparation:	2011-02-21	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		74.8	mg/Kg	1	100	75	70 - 130

Method Blank (1) QC Batch: 77797

QC Batch:	77797	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	QC Preparation:	2011-02-21	Prepared By:	AR

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

Method Blank (1) QC Batch: 77798

QC Batch: 77798 | Date Analyzed: 2011-02-21 | Analyzed By: AR
Prep Batch: 66703 | QC Preparation: 2011-02-21 | Prepared By: AR

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

Method Blank (1) QC Batch: 77799

QC Batch: 77799 | Date Analyzed: 2011-02-21 | Analyzed By: AR
Prep Batch: 66703 | QC Preparation: 2011-02-21 | Prepared By: AR

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

Method Blank (1) QC Batch: 77804

QC Batch: 77804 | Date Analyzed: 2011-02-21 | Analyzed By: ME
Prep Batch: 66705 | QC Preparation: 2011-02-21 | Prepared By: ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.41	mg/Kg	1	2.00	120	70.8 - 123.5
4-Bromofluorobenzene (4-BFB)		2.56	mg/Kg	1	2.00	128	48.8 - 134

Method Blank (1) QC Batch: 77805

QC Batch: 77805 | Date Analyzed: 2011-02-21 | Analyzed By: ME
Prep Batch: 66705 | QC Preparation: 2011-02-21 | Prepared By: ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.38	mg/Kg	1	2.00	119	74.6 - 127.8
4-Bromofluorobenzene (4-BFB)		2.50	mg/Kg	1	2.00	125	32.9 - 129.8

Method Blank (1) QC Batch: 77882

QC Batch: 77882 | Date Analyzed: 2011-02-23 | Analyzed By: kg
Prep Batch: 66796 | QC Preparation: 2011-02-23 | Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		90.9	mg/Kg	1	100	91	70 - 130

Method Blank (1) QC Batch: 77929

QC Batch: 77929 | Date Analyzed: 2011-02-25 | Analyzed By: ME
Prep Batch: 66842 | QC Preparation: 2011-02-25 | Prepared By: ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.92	mg/Kg	1	2.00	96	74.6 - 127.8
4-Bromofluorobenzene (4-BFB)		2.22	mg/Kg	1	2.00	111	32.9 - 129.8

Laboratory Control Spike (LCS-1)

QC Batch: 77781 | Date Analyzed: 2011-02-21 | Analyzed By: kg
Prep Batch: 66718 | QC Preparation: 2011-02-21 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	206	mg/Kg	1	250	<15.7	82	47.5 - 144.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	210	mg/Kg	1	250	<15.7	84	47.5 - 144.1	2	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	99.2	99.7	mg/Kg	1	100	99	100	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 77797 | Date Analyzed: 2011-02-21 | Analyzed By: AR
Prep Batch: 66703 | QC Preparation: 2011-02-21 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.5	mg/Kg	1	100	<2.18	98	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	103	mg/Kg	1	100	<2.18	103	85 - 115	6	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 77798 | Date Analyzed: 2011-02-21 | Analyzed By: AR
Prep Batch: 66703 | QC Preparation: 2011-02-21 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.4	mg/Kg	1	100	<2.18	97	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	102	mg/Kg	1	100	<2.18	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: 77799 | Date Analyzed: 2011-02-21 | Analyzed By: AR
Prep Batch: 66703 | QC Preparation: 2011-02-21 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.4	mg/Kg	1	100	<2.18	97	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	103	mg/Kg	1	100	<2.18	103	85 - 115	6	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 77804 | Date Analyzed: 2011-02-21 | Analyzed By: ME
Prep Batch: 66705 | QC Preparation: 2011-02-21 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.86	mg/Kg	1	2.00	<0.0118	93	76.4 - 118.4
Toluene	1.92	mg/Kg	1	2.00	<0.00600	96	81.8 - 111.9
Ethylbenzene	1.94	mg/Kg	1	2.00	<0.00850	97	81.1 - 112.2
Xylene	5.92	mg/Kg	1	6.00	<0.00613	99	81.7 - 111.5

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.88	mg/Kg	1	2.00	<0.0118	94	76.4 - 118.4	1	20
Toluene	1.93	mg/Kg	1	2.00	<0.00600	96	81.8 - 111.9	0	20
Ethylbenzene	1.98	mg/Kg	1	2.00	<0.00850	99	81.1 - 112.2	2	20
Xylene	5.96	mg/Kg	1	6.00	<0.00613	99	81.7 - 111.5	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)	2.05	2.03	mg/Kg	1	2.00	102	102	69 - 123.3
4-Bromofluorobenzene (4-BFB)	2.42	2.41	mg/Kg	1	2.00	121	120	64.9 - 131.9

Laboratory Control Spike (LCS-1)

QC Batch: 77805 | Date Analyzed: 2011-02-21 | Analyzed By: ME
Prep Batch: 66705 | QC Preparation: 2011-02-21 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	17.1	mg/Kg	1	20.0	<0.753	86	61.8 - 97

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	17.0	mg/Kg	1	20.0	<0.753	85	61.8 - 97	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)	2.13	2.07	mg/Kg	1	2.00	106	104	74.6 - 124
4-Bromofluorobenzene (4-BFB)	2.29	2.22	mg/Kg	1	2.00	114	111	53.9 - 121.1

Laboratory Control Spike (LCS-1)

QC Batch: 77882 | Date Analyzed: 2011-02-23 | Analyzed By: kg
Prep Batch: 66796 | QC Preparation: 2011-02-23 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	242	mg/Kg	1	250	<15.7	97	47.5 - 144.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	241	mg/Kg	1	250	<15.7	96	47.5 - 144.1	0	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	109	115	mg/Kg	1	100	109	115	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 77929 | Date Analyzed: 2011-02-25 | Analyzed By: ME
Prep Batch: 66842 | QC Preparation: 2011-02-25 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	14.0	mg/Kg	1	20.0	<0.753	70	61.8 - 97

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	15.1	mg/Kg	1	20.0	<0.753	76	61.8 - 97	8	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.82	1.84	mg/Kg	1	2.00	91	92	74.6 - 124
4-Bromofluorobenzene (4-BFB)	2.17	2.20	mg/Kg	1	2.00	108	110	53.9 - 121.1

Matrix Spike (MS-1) Spiked Sample: 258012

QC Batch: 77781 | Date Analyzed: 2011-02-21 | Analyzed By: kg
Prep Batch: 66718 | QC Preparation: 2011-02-21 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	595	mg/Kg	1	250	334	104	11.7 - 152.3

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	709	mg/Kg	1	250	334	150	11.7 - 152.3	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
n-Tricosane [3] [4]	142	161	mg/Kg	1	100	142	161	70 - 130

Matrix Spike (MS-1) Spiked Sample: 257845

QC Batch: 77797 | Date Analyzed: 2011-02-21 | Analyzed By: AR
Prep Batch: 66703 | QC Preparation: 2011-02-21 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	11600	mg/Kg	100	10000	1350	102	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	12000	mg/Kg	100	10000	1350	106	85 - 115	3	20

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

[3] High surrogate recovery due to peak interference.
[4] High surrogate recovery due to peak interference.

Matrix Spike (MS-1) Spiked Sample: 257855

QC Batch: 77798 | Date Analyzed: 2011-02-21 | Analyzed By: AR
Prep Batch: 66703 | QC Preparation: 2011-02-21 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10100	mg/Kg	100	10000	<218	101	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10600	mg/Kg	100	10000	<218	106	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: 257874

QC Batch: 77799 | Date Analyzed: 2011-02-21 | Analyzed By: AR
Prep Batch: 66703 | QC Preparation: 2011-02-21 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10000	mg/Kg	100	10000	<218	100	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10400	mg/Kg	100	10000	<218	104	85 - 115	4	20

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

Matrix Spike (MS-1) Spiked Sample: 257853

QC Batch: 77804 | Date Analyzed: 2011-02-21 | Analyzed By: ME
Prep Batch: 66705 | QC Preparation: 2011-02-21 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.93	mg/Kg	1	2.00	<0.0118	96	65.5 - 139.8
Toluene	2.10	mg/Kg	1	2.00	0.2359	93	70.5 - 137.3
Ethylbenzene	2.33	mg/Kg	1	2.00	0.3461	99	66.7 - 151
Xylene	7.35	mg/Kg	1	6.00	1.2225	102	68.7 - 149.5

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.91	mg/Kg	1	2.00	<0.0118	96	65.5 - 139.8	1	20
Toluene	2.10	mg/Kg	1	2.00	0.2359	93	70.5 - 137.3	0	20
Ethylbenzene	2.44	mg/Kg	1	2.00	0.3461	105	66.7 - 151	5	20
Xylene	7.52	mg/Kg	1	6.00	1.2225	105	68.7 - 149.5	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)		2.55	2.54	mg/Kg	1	2	128	127	50.9 - 152.9
4-Bromofluorobenzene (4-BFB)	[5] [6]	3.49	3.51	mg/Kg	1	2	174	176	48.5 - 165.8

Matrix Spike (MS-1) Spiked Sample: 257849

QC Batch: 77805 | Date Analyzed: 2011-02-21 | Analyzed By: ME
Prep Batch: 66705 | QC Preparation: 2011-02-21 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	16.1	mg/Kg	1	20.0	<0.753	80	63 - 108.5

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	17.6	mg/Kg	1	20.0	<0.753	88	63 - 108.5	9	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.63	2.69	mg/Kg	1	2	132	134	54.1 - 154.3
4-Bromofluorobenzene (4-BFB)	2.87	2.93	mg/Kg	1	2	144	146	41.9 - 162.8

Matrix Spike (MS-1) Spiked Sample: 257898

QC Batch: 77882 | Date Analyzed: 2011-02-23 | Analyzed By: kg
Prep Batch: 66796 | QC Preparation: 2011-02-23 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	240	mg/Kg	1	250	<15.7	96	11.7 - 152.3

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

[5] High surrogate recovery due to peak interference.
[6] High surrogate recovery due to peak interference.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	218	mg/Kg	1	250	<15.7	87	11.7 - 152.3	10	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	113	101	mg/Kg	1	100	113	101	70 - 130

Matrix Spike (MS-1) Spiked Sample: 258253

QC Batch: 77929 | Date Analyzed: 2011-02-25 | Analyzed By: ME
Prep Batch: 66842 | QC Preparation: 2011-02-25 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	14.6	mg/Kg	1	20.0	<0.753	73	63 - 108.5

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	16.0	mg/Kg	1	20.0	<0.753	80	63 - 108.5	9	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.46	2.53	mg/Kg	1	2	123	126	54.1 - 154.3
4-Bromofluorobenzene (4-BFB)	2.99	3.09	mg/Kg	1	2	150	154	41.9 - 162.8

Standard (CCV-1)

QC Batch: 77781 | Date Analyzed: 2011-02-21 | Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	208	83	80 - 120	2011-02-21

Standard (CCV-2)

QC Batch: 77781 | Date Analyzed: 2011-02-21 | Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	225	90	80 - 120	2011-02-21

Standard (ICV-1)

QC Batch: 77797 Date Analyzed: 2011-02-21 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.1	99	85 - 115	2011-02-21

Standard (CCV-1)

QC Batch: 77797 Date Analyzed: 2011-02-21 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2011-02-21

Standard (ICV-1)

QC Batch: 77798 Date Analyzed: 2011-02-21 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2011-02-21

Standard (CCV-1)

QC Batch: 77798 Date Analyzed: 2011-02-21 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.4	99	85 - 115	2011-02-21

Standard (ICV-1)

QC Batch: 77799 Date Analyzed: 2011-02-21 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.4	99	85 - 115	2011-02-21

Standard (CCV-1)

QC Batch: 77799 Date Analyzed: 2011-02-21 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2011-02-21

Standard (CCV-2)

QC Batch: 77804 Date Analyzed: 2011-02-21 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0959	96	80 - 120	2011-02-21
Toluene		mg/Kg	0.100	0.0984	98	80 - 120	2011-02-21
Ethylbenzene		mg/Kg	0.100	0.0988	99	80 - 120	2011-02-21
Xylene		mg/Kg	0.300	0.300	100	80 - 120	2011-02-21

Standard (CCV-3)

QC Batch: 77804 Date Analyzed: 2011-02-21 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0943	94	80 - 120	2011-02-21
Toluene		mg/Kg	0.100	0.0956	96	80 - 120	2011-02-21
Ethylbenzene		mg/Kg	0.100	0.0955	96	80 - 120	2011-02-21
Xylene		mg/Kg	0.300	0.289	96	80 - 120	2011-02-21

Standard (CCV-2)

QC Batch: 77805 Date Analyzed: 2011-02-21 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.02	102	80 - 120	2011-02-21

Standard (CCV-3)

QC Batch: 77805 Date Analyzed: 2011-02-21 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.07	107	80 - 120	2011-02-21

Standard (CCV-1)

QC Batch: 77882 Date Analyzed: 2011-02-23 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	243	97	80 - 120	2011-02-23

Standard (CCV-2)

QC Batch: 77882 Date Analyzed: 2011-02-23 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	232	93	80 - 120	2011-02-23

Standard (CCV-1)

QC Batch: 77929 Date Analyzed: 2011-02-25 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.909	91	80 - 120	2011-02-25

Standard (CCV-2)

QC Batch: 77929 Date Analyzed: 2011-02-25 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.872	87	80 - 120	2011-02-25

xwo #: 1102180 7

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

CLIENT NAME: COG
SITE MANAGER: Ike Tavarez
PROJECT NO.: 114-G400817
PROJECT NAME: COG / Willow "A" TB Eddy Co, NM

ANALYSIS REQUEST (Circle or Specify Method No.)

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 Cr 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
257838	7/5		S		X	AH-1 0-1' 1' BEB	1				X		X	X												X				
839						AH-1 1'-1.5' 1' BEB																									
840						AH-1 2'-2.5' 1' BEB																									
841						AH 1 3'-3.5' 1' BEB																									
842						AH-1 4'-4.5' 1' BEB																									
843						AH-1 0'-0.5' 1' BEB																									
844						AH-2 0-1 1' BEB							X	X																	
845						AH-2 1'-1.5' 1' BEB																									
846						AH-2 2'-2.5' 1' BEB																									
847						AH-2 3'-3.5' 1' BEB																									

RELINQUISHED BY: (Signature) Date: 2-17-11 Time: 16:00
RECEIVED BY: (Signature) Date: 2/17/11 Time: 16:00
SAMPLED BY: (Print & Initial) JT / JF Date: 2/15/11 Time:

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

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
TETRA TECH CONTACT PERSON: Ike Tavarez
Results by:

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Trace STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 7.2° cintact

REMARKS: If total TPH exceeds 100 mg/kg run deeper samples / Run BTEX on highest TPH. If total BTEX exceeds 50 mg/kg or Benzene exceeds 10 mg/kg run deeper samples

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

xAll tests - Midland

2WO #: 1102 1807

Analysis Request of Chain of Custody Record

PAGE: 2 OF: 2

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.: 114-6410081?
PROJECT NAME: COG / Willow "A" TB
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 Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8240/8260/624	GC/MS Semi. Vol. 8270/625	PCB's 8082/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
257848	2/15		S		X	AH-2 4'-4.5' 1' BEB	1				X															X				
849						AH-3 0-1' 1' BEB							X	X																	
850						AH-3 1'-1.5' 1' BEB																									
851						AH-3 2'-2.5' 1' BEB																									
852						AH-3 2.5'-3' 1' BEB																									
853						AH-1 0-1' 1' BEB							X	X																	
854						AH-4 1'-1.5' 1' BEB																									
855						AH-4 2'-2.5' 1' BEB																									
856	↓		↓		↓	AH-4 3'-3.5' 1' BEB	↓				↓															↓				

RELINQUISHED BY: (Signature) — Date: 2-17-11 Time: 16:30
RECEIVED BY: (Signature) — Date: 2/17/11 Time: 16:30
SAMPLED BY: (Print & Initial) JT/TF — Date: 2/15/11 Time:
RELINQUISHED BY: (Signature) — Date: Time:
RECEIVED BY: (Signature) — Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS — AIRBILL #: OTHER:
RELINQUISHED BY: (Signature) — Date: Time:
RECEIVED BY: (Signature) — Date: Time:
TETRA TECH CONTACT PERSON: Ike Tavarez — Results by:
RECEIVING LABORATORY: Xenco
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE: DATE: TIME:
RECEIVED BY: (Signature)
RUSH Charges Authorized: Yes No
SAMPLE CONDITION WHEN RECEIVED: 7.2°c intact
REMARKS: If total TPH exceeds 100 mg/kg run dup on samples / Run BTEX on highest TPH. If total BTEX exceeds 50 mg/kg or Benzene exceeds 10 mg/kg run dup on samples

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

WO #: 11021807

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.: 114-6400817
PROJECT NAME: COG / Willow "A" TB
Eddy Co, NM

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	BTEX 8021B	TPH TX1005 8015 MOD (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
257838	2/15		S		X	AH-1 0-1' 1' BEB	1				X		X	X											X				
839						AH-1 1'-1.5' 1' BEB																							
840						AH-1 2'-2.5' 1' BEB																							
841						AH-1 3'-3.5' 1' BEB																							
842						AH-1 4'-4.5' 1' BEB																							
843						AH-1 5'-5.5' 1' BEB																							
844						AH-2 0-1' 1' BEB							X	X															
845						AH-2 1'-1.5' 1' BEB																							
846						AH-2 2'-2.5' 1' BEB																							
847	↓		↓		↓	AH-2 3'-3.5' 1' BEB	↓				↓														↓				

RELINQUISHED BY: (Signature) [signature]	Date: 2-17-11 Time: 16:00	RECEIVED BY: (Signature) [signature]	Date: 2/17/11 Time: 16:00
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RECEIVING LABORATORY: Trace ADDRESS: CITY: Trace STATE: TX ZIP: CONTACT: PHONE:		RECEIVED BY: (Signature) DATE: TIME:	

SAMPLED BY: (Print & Initial) JT / TF Date: 2/15/11 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: 7.2° c intact

REMARKS: If 0-1' TPH exceeds 100 mg/kg run deeper samples / Run BTEX on highest TPH. If total BTEX exceeds 50 mg/kg or Benzene exceeds 10 mg/kg run deeper samples

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

All Tetra-Midland

2WO #: 11021807

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.: 114-6400877
PROJECT NAME: COG / Willis "A" TB, Eddy Co., NM

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD / TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
257848	2/15		S		X	AH-2 1'-1.5' 1' BEB	1				X														X				
849						AH-3 0-1' 1' BEB							X	X															
850						AH-3 1'-1.5' 1' BEB																							
851						AH-3 2'-2.5' 1' BEB																							
852						AH-3 2.5'-3' 1' BEB																							
853						AH-4 0-1' 1' BEB							X	X															
854						AH-4 1'-1.5' 1' BEB								X															
855						AH-4 2'-2.5' 1' BEB																							
856						AH-4 3'-3.5' 1' BEB																							

RELINQUISHED BY: (Signature) [signature] Date: 2-17-11 Time: 16:20
RECEIVED BY: (Signature) [signature] Date: 2/17/11 Time: 16:20

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

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

SAMPLED BY: (Print & Initial) JT/TF Date: 2/15/11 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: 7.0°c intact

REMARKS: If total TPH exceeds 100 mg/Kg, run deeper samples / Run BTEX on highest TPH. If total BTEX exceeds 50 mg/Kg, or Benzene exceeds 10 mg/Kg, run deeper samples

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

FH