SITE INFORMATION

Report Type: Closure Report

General Site Information:						
Site:	McIntyre B Heater (Southwest Central TB)					
Company:	COG Operating LLC					
Section, Township and Range	Unit O	Sec. 20	T17S	R30E		
Lease Number:	API-30-015-29561					
County:	Eddy County					
GPS:	32.81509° N			103.99592° W		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	In Loco Hills, from the intersection of Haggerman Cutoff and 82, travel west on 82 (0.3 miles), turn south and travel (300 feet), turn west and travel (0.1 miles), turn south and travel (0.2 miles) to location.					

Release Data:	
Date Released:	4/14/2012
Type Release:	Oil and Produced Water
Source of Contamination:	Fire tube
Fluid Released:	60 bbls pw 20 bbls oil
Fluids Recovered:	55 bbls pw 18 bbls oil

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Official Communication:			
Name:	Pat Ellis		Thomas Franklin
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		tom.k.franklin@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

June 17, 2013

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., McIntyre B Heater (Southwest Central Tank Battery), Unit O, Section 20, Township 17 South, Range 30 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 McIntyre B Heater (Southwest Central Tank Battery) located in Unit O, Section 20, Township 17 South, Range 30 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.81509°, W 103.99592°. 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 April 14, 2012, and released approximately eighty (80) barrels of produced fluids from a hole in the fire tube on the heater treater. To alleviate the problem, COG personnel repaired the heater treater. Seventy three (73) barrels of standing fluids were recovered. The spill was contained inside the tank battery firewalls affecting an area measuring approximately 15' X 80'. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 20. According to the NMOCD groundwater map, the depth to groundwater in this area is approximately 250' below surface. The groundwater data is shown in 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 May 9, 2012, Tetra Tech personnel inspected and sampled the spill area. Four (4) auger holes (AH-1 and AH-4) were installed using a stainless steel hand auger to assess the impacted soils. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, AH-3 exceeded the RRAL for both TPH and BTEX in the shallow soils and declined below the RRAL at 3'-3.5' below surface. Elevated chloride concentrations were detected in all the auger holes. The area of AH-2 was vertically defined and significantly declined at 2-2.5' below surface. Auger holes (AH-1, AH-3 and AH-4) were not defined and detected bottom samples of 1,250 mg/kg at 7-7.5', 2,260 mg/kg at 3-3.5' and 5,750 mg/kg at 0-0.5', respectively.

Closure Activities

Based on the approved work plan, Tetra Tech personnel supervised the excavation of the site. As stated in the work plan, boreholes were not installed due to rig accessibly. Due to accessibility, a trench was not installed in the area of AH-1. A backhoe trench was installed in the area between AH-3 and AH-4 to vertically delineate the chloride impact. The trench samples showed vertical delineation at 9.0' below surface. Due to the depth of the chloride impact and the proximity to the oil and gas equipment, structures and lines; excavation deeper than 3.0' was not preformed due to safety concerns.

The impacted soil in these areas (AH-1, AH-3 and AH-4) was excavated to 3.0' below surface and a clay material was installed to cap the remaining impacted soil. The area of AH-2 was excavated to 1.0' below surface as stated in the approved work plan. The remaining impacted soil will be deferred until the abandonment of the facility.

TETRA TECH

As requested by the BLM, bottom hole confirmation and sidewall samples were collected in the excavation of AH-1 and the areas of AH-3 and AH-4. Some of the sidewall samples did show elevated chloride concentrations, however, these were not accessible with the excavation equipment. The confirmation samples and trench results are shown in Table 1.

Approximate 200 cubic yards of soil were excavated and hauled to R360 for proper disposal. The excavation depths are highlighted in Table 1 and shown on Figure 4. Once excavated to the appropriate depths, the excavation was backfilled with clean soil to grade.

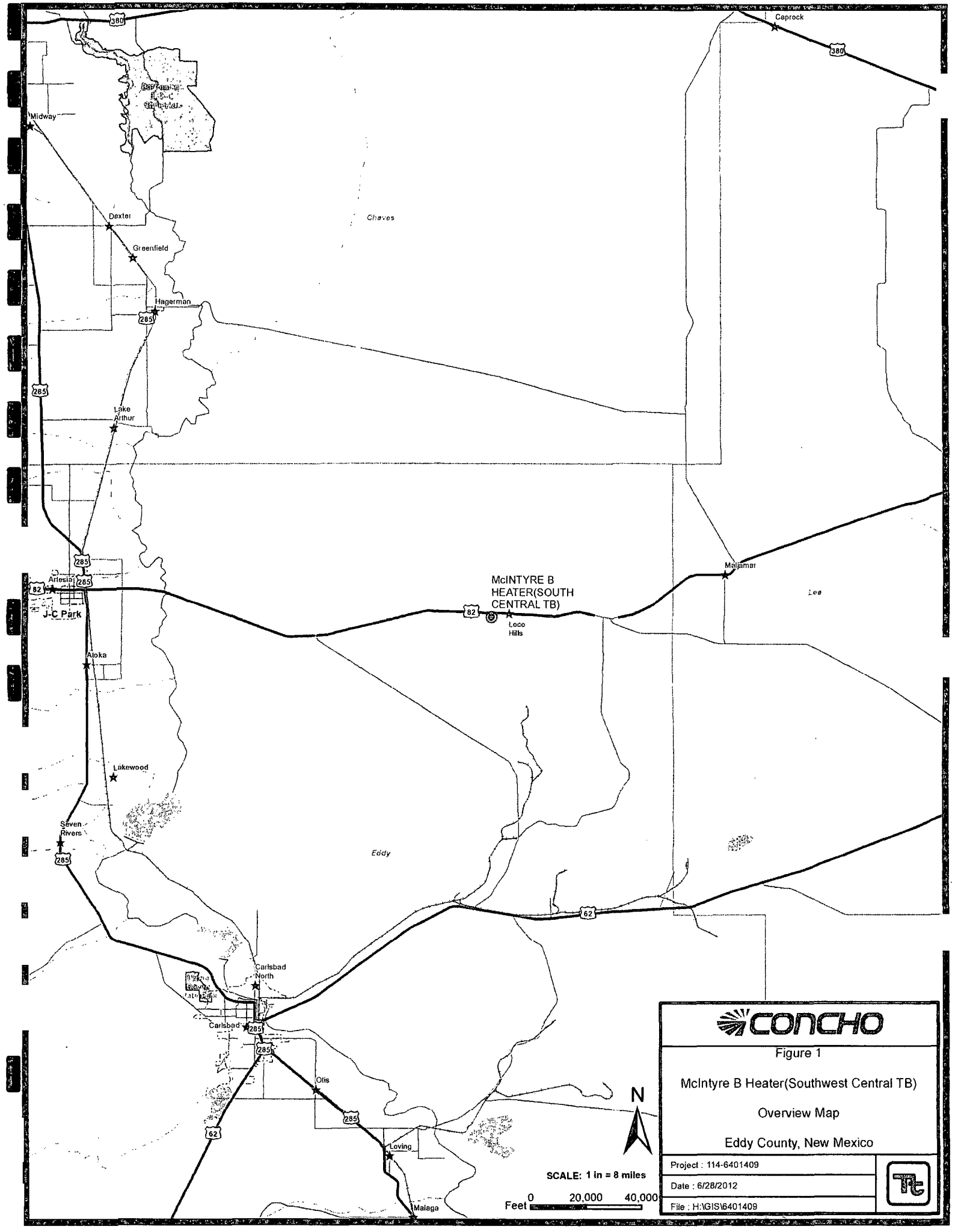
Based on the remedial activities performed, COG request closure of the site. A copy of the C-141 (Final) is included in Appendix A. If you have any questions or comments concerning the remedial activities, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

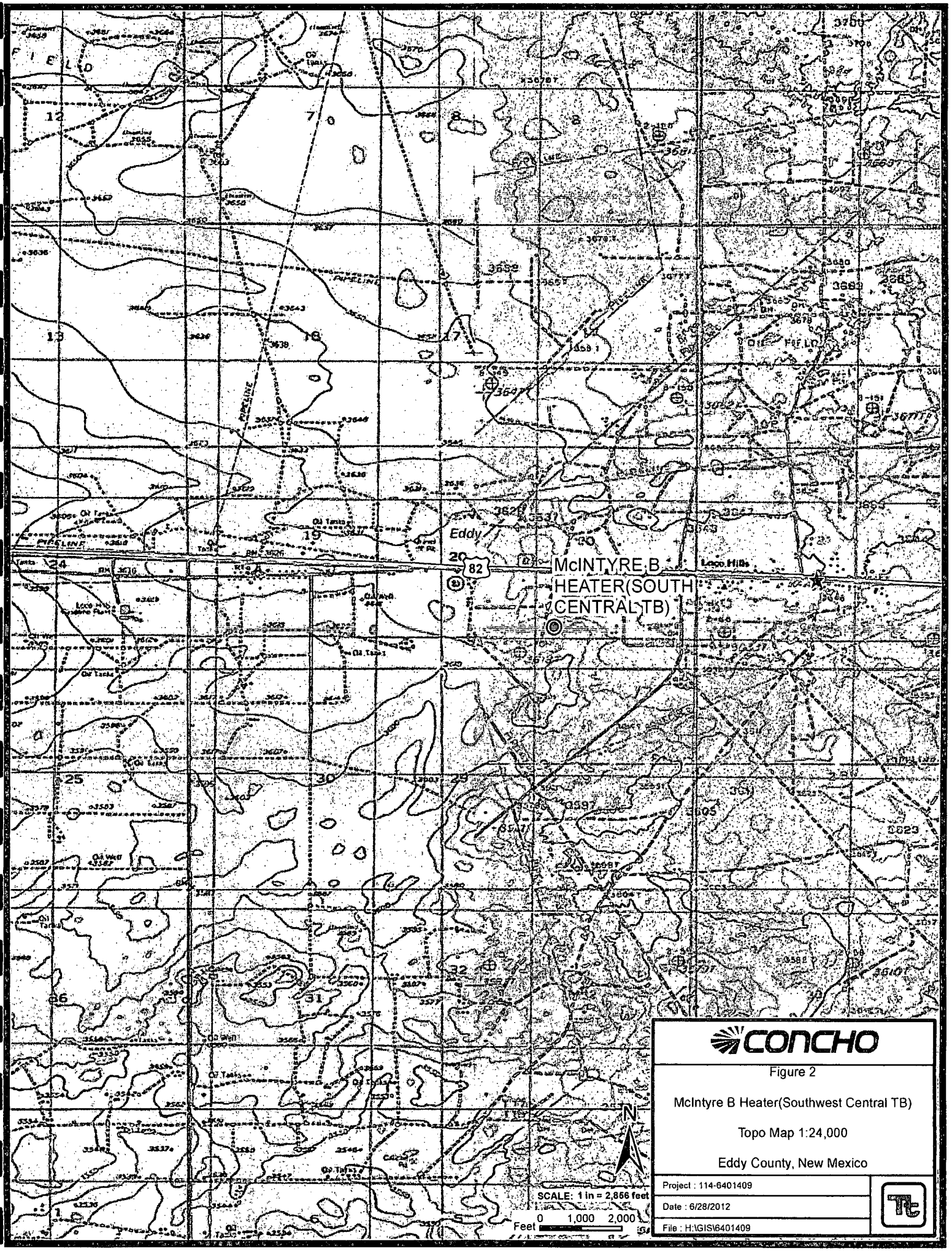
Ike Tavarez, PG
Project Manager

cc: Pat Ellis – COG
cc: Jim Amos – BLM

FIGURES



Drawn By: Isabel Marmolejo



CONCHO

Figure 2

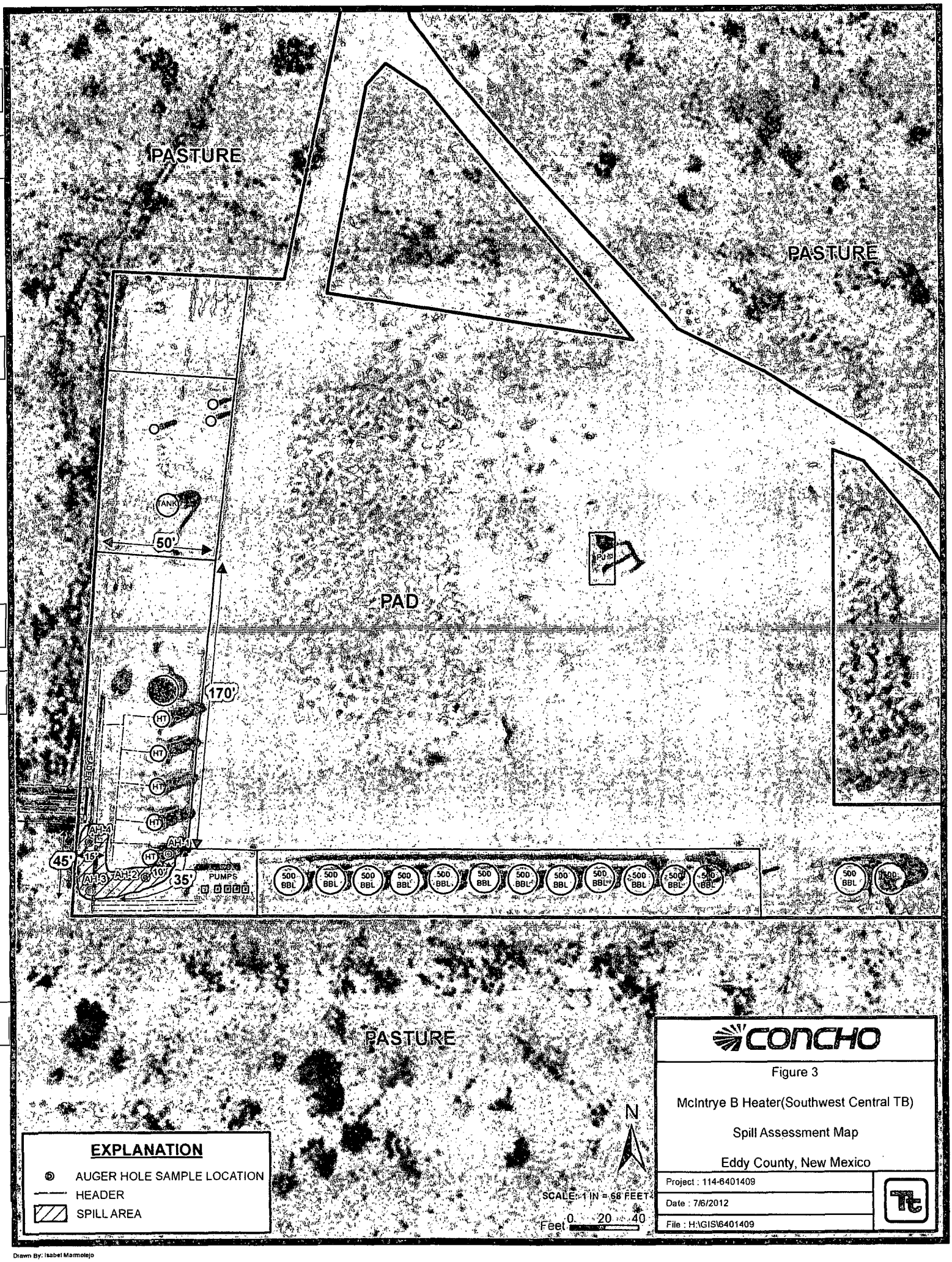
McIntyre B Heater(Southwest Central TB)

Topo Map 1:24,000

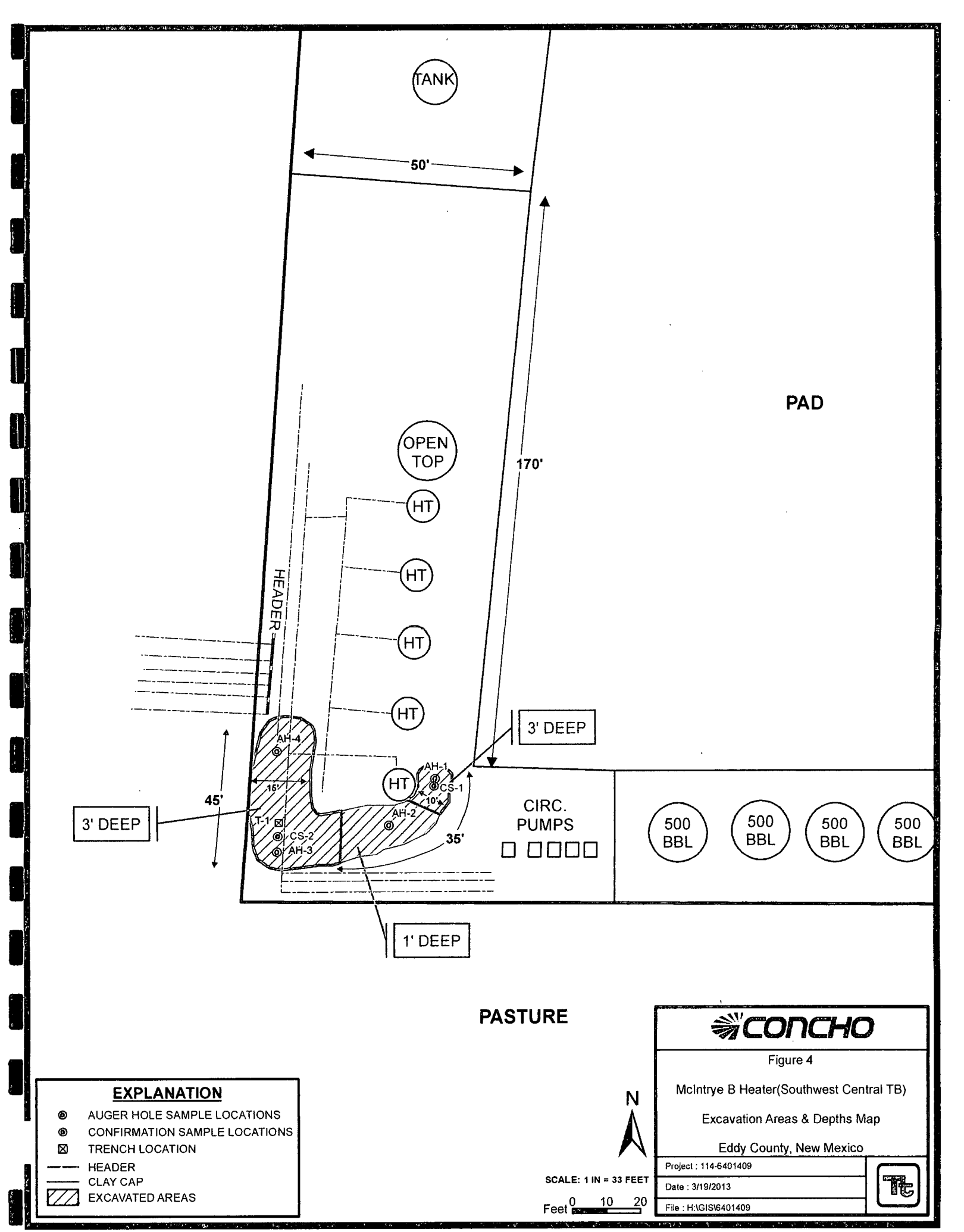
Eddy County, New Mexico

Project : 114-6401409	
Date : 6/28/2012	
File : H:\GIS\6401409	

Drawn By: Isabel Marmolejo



Drawn By: Isabel Marmolejo



EXPLANATION

- AUGER HOLE SAMPLE LOCATIONS
- CONFIRMATION SAMPLE LOCATIONS
- TRENCH LOCATION
- HEADER
- CLAY CAP
- EXCAVATED AREAS

N

SCALE: 1 IN = 33 FEET

Feet 0 10 20

CONCHO

Figure 4

McIntrye B Heater(Southwest Central TB)

Excavation Areas & Depths Map

Eddy County, New Mexico

Project : 114-6401409

Date : 3/19/2013

File : H:\GIS\6401409

Drawn By: Isabel Manrotejo

TABLES

Table 1
COG Operating LLC.
McIntyre B Heater (Southwest Central Tank Battery)
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-1	5/31/2012	0-1	-		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	2,220
	"	1-1.5	-		X	-	-	-	-	-	-	-	-	2,500
clay cap 3'	"	2-2.5	-		X	-	-	-	-	-	-	-	-	4,260
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	3,560
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	5,850
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	5,060
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	2,020
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	1,250
CS-1 North Wall	2/26/2013	-	-	X		-	-	-	-	-	-	-	-	2,250
CS-1 South Wall	"	-	-	X		-	-	-	-	-	-	-	-	3,020
CS-1 East Wall	"	-	-	X		-	-	-	-	-	-	-	-	1,160
CS-1 West Wall	"	-	-	X		-	-	-	-	-	-	-	-	5,210
CS-1 Bottom Hole	"	-	-	X		-	-	-	-	-	-	-	-	3,250
AH-2	5/31/2012	0-1	-		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	8,610
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	774
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	392
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	557
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	557
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	192
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	379

Table 1
COG Operating LLC.
McIntyre B Heater (Southwest Central Tank Battery)
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-3	5/31/2012	0-1	1.5		X	4,770	5,380	**10,150**	7.40	71.6	56.9	112	**248**	4,990
	"	1-1.5	1.5		X	6,910	5,240	**12,150**	**38.2**	256	166	227	**687**	7,090
clay cap 3'	"	2-2.5	1.5		X	4,270	8,560	**12,830**	12.9	127	112	149	**401**	3,210
	"	3-3.5	1.5	X		375	1,890	2,265	<1.00	5.10	11.5	18.2	34.8	2,260
CS-2 North Wall	2/26/2013	-	-	X		-	-	-	-	-	-	-	-	1,270
CS-2 South Wall	"	-	-	X		-	-	-	-	-	-	-	-	961
CS-2 East Wall	"	-	-	X		-	-	-	-	-	-	-	-	1,180
CS-2 West Wall	"	-	-	X		-	-	-	-	-	-	-	-	3,300
CS-2 and T-1 installed between AH-3 and AH-4														
T-1	2/21/2013	3	-	X		-	-	-	-	-	-	-	-	1,770
	"	5	-	X		-	-	-	-	-	-	-	-	2,010
	"	7	-	X		-	-	-	-	-	-	-	-	2,180
	"	9	-	X		-	-	-	-	-	-	-	-	2,080
	"	11	-	X		-	-	-	-	-	-	-	-	715
AH-4	5/31/2012	0-0.5	1.5		X	1,080	3,830	4,910	<0.400	4.90	4.59	19.5	29.0	5,750
clay cap 3'			3.0		X									

(BEB) Below Excavation Bottom

(--) Not Analyzed

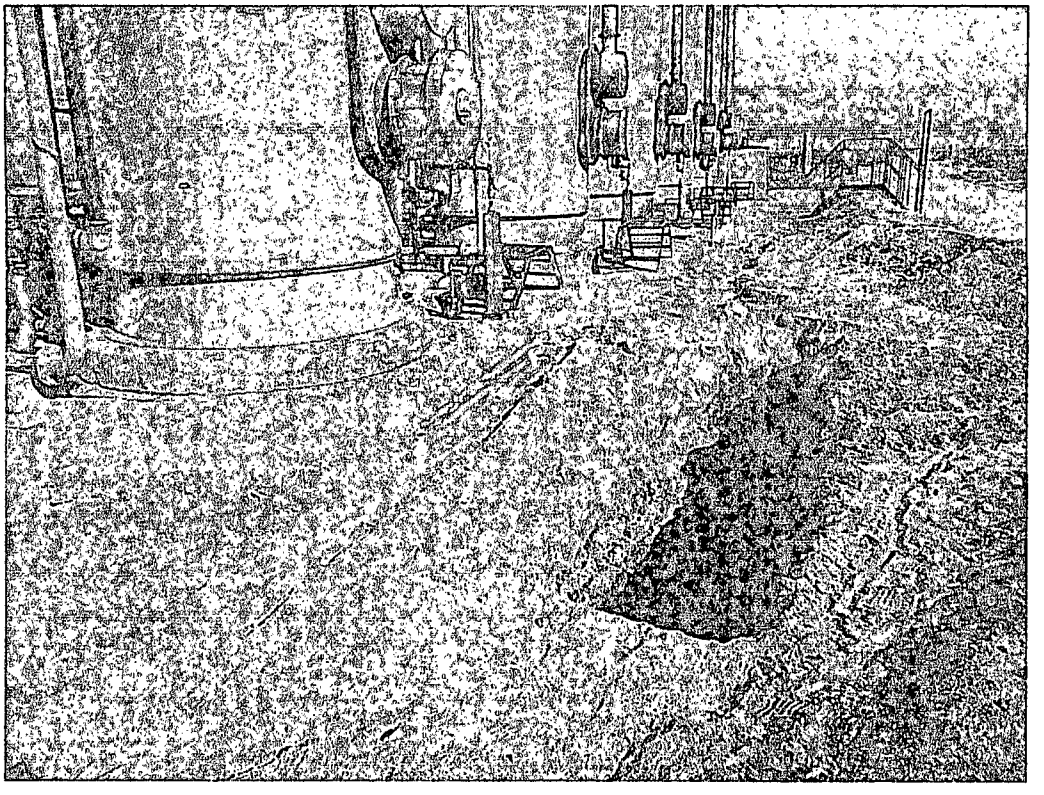
Excavation Area

Clay Cap

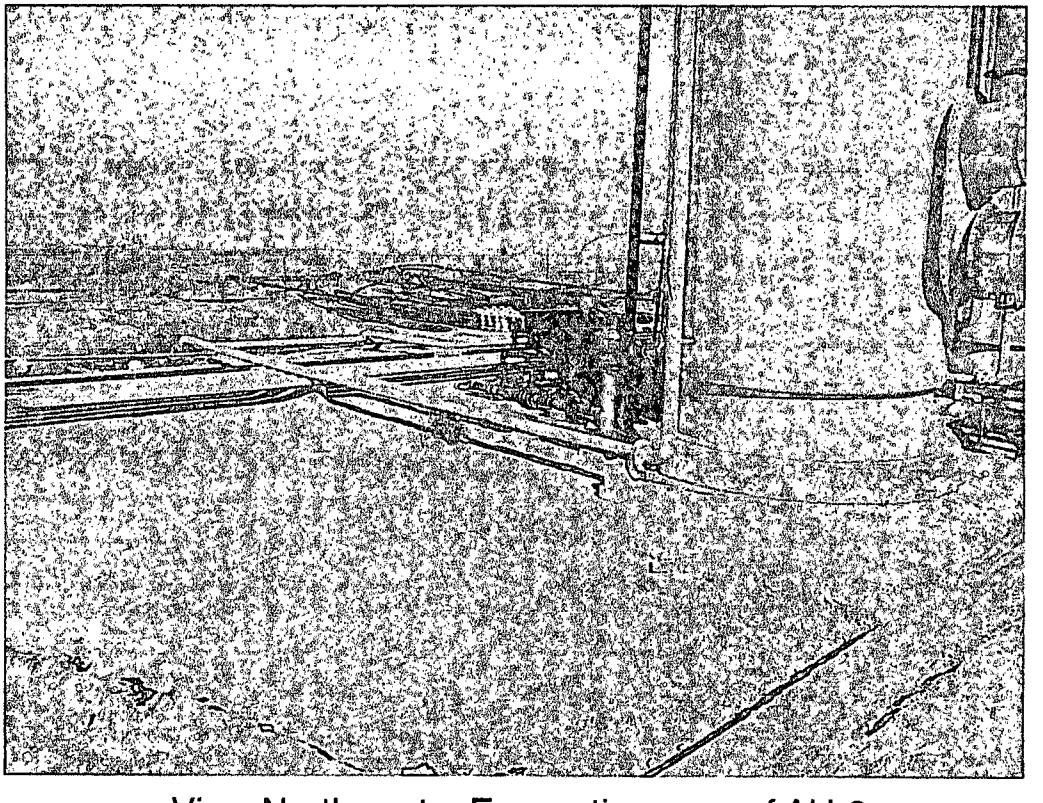
PHOTOGRAPHS

COG Operating LLC
McIntyre B Heater
Eddy County, New Mexico

TETRA TECH



View North – Excavation area of AH-1.

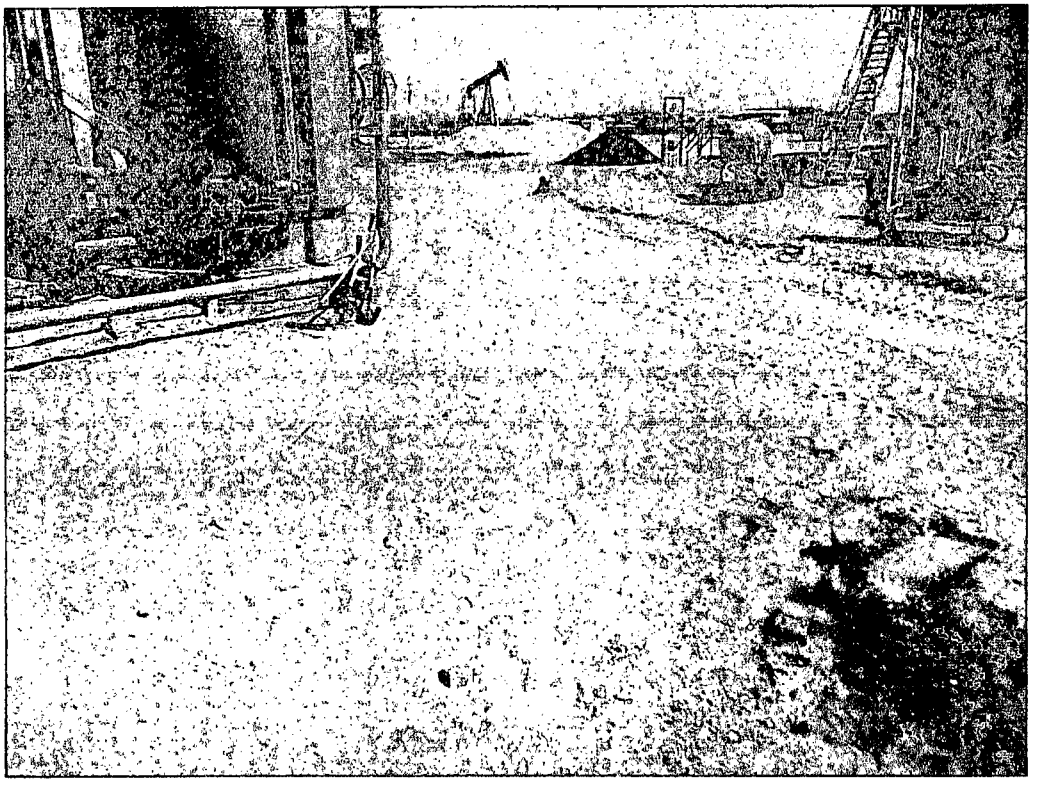


View Northwest – Excavation area of AH-2.

COG Operating LLC
McIntyre B Heater
Eddy County, New Mexico

TETRA TECH

View Northwest – Excavation area of AH-3 and AH-4.



View Northeast – Backfill.

APPENDIX A

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

State of New Mexico
Energy Minerals and Natural Resources

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

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) 685-4332**
Facility Name **McIntyre B Header (Southwest Central TB)**	Facility Type **Tank Battery**

Surface Owner: Federal	Mineral Owner	Lease No. (API#) 30-015-29561 Closest well location

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	20	17S	30E					Eddy

Latitude N 32.81578° **Longitude** W 103.99519°

NATURE OF RELEASE

Type of Release: Oil and Produced Water	Volume of Release 60 bbls pw 20 bbls oil	Volume Recovered 55 bbls pw 18 bbls oil
Source of Release: Fire Tube	Date and Hour of Occurrence 04/14/2012	Date and Hour of Discovery 04/14/2012 10:00 p.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom?	Mike Bratcher – OCD Jim Amos - BLM Terry Gregston - BLM
By Whom?	Date and Hour 04/15/2012 10:55 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

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NMOCD ARTESIA

Describe Cause of Problem and Remedial Action Taken.*

A hole developed in the fire tube at the heater. The heater ignited causing a fire.

Describe Area Affected and Cleanup Action Taken.*

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

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Ike Tavarez (agent for COG)	Approved by District Supervisor:	
Title: Project Manager	Approval Date:	Expiration Date:
E-mail Address: ike.tavarez@tetratech.com	Conditions of Approval:	Attached ☐
Date: 6-17-13 Phone: (432) 682-4559		

* Attach Additional Sheets If Necessary

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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
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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	McIntyre B Heater (Southwest Central TB)	Facility Type	Tank Battery

Surface Owner Federal	Mineral Owner	Lease No. (API#) 30-015-29561 Closest well location

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	20	17S	30E					Eddy

Latitude 32 48.932 **Longitude** 103 59.711

NATURE OF RELEASE

Type of Release Oil and produced water	Volume of Release 60bbls pw 20bbls oil	Volume Recovered 55bbls pw 18bbls oil
Source of Release Fire tube	Date and Hour of Occurrence 04/14/2012	Date and Hour of Discovery 04/14/2012 10:00 p.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher-OCD, Jim Amos-BLM, Terry Gregston-BLM	
By Whom? Michelle Mullins	Date and Hour 04/15/2012 10:55 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 the fire tube at the heater. The heater ignited causing a fire.

Describe Area Affected and Cleanup Action Taken.*

Initially 80bbls were released from the heater and we were able to recover 73bbls of fluid with a vacuum truck. The tank battery where the spill occurred is unlined. 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: 04/23/2012 Phone: 432-212-2399	

* Attach Additional Sheets If Necessary

Thurs (3)

(20)

APPENDIX B

Water Well Data
Average Depth to Groundwater (ft)
COG - McIntyre B Heater (Southwest Central TB)
Eddy County, New Mexico

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

16 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12 288
18	17	16	15	14	13 113
19	20	21	22	23	24
30	29	28	27	26	25
31 290	32	33	34	35	36

17 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22 80	23	24
30	29 210 208'	28	27	26	25
31	32	33	34	35 153	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 SITE	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

17 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34 271	35	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

18 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12 400
18	17	16	15	14 317	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35 261	36

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

APPENDIX C

Summary Report

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

Report Date: June 13, 2012

Work Order: 12060501

Project Location: Eddy Co., NM
Project Name: COG/McIntyre B Heater (SW Central TB)
Project Number: 114-6401409

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
299892	AH-1 0-1' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299893	AH-1 1-1.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299894	AH-1 2-2.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299895	AH-1 3-3.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299896	AH-1 4-4.5' (2 in scrape)	soil	2012-05-31	00:00	2012-06-04
299897	AH-1 5-5.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299898	AH-1 6-6.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299899	AH-1 7-7.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299900	AH-2 0-1' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299901	AH-2 1-1.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299902	AH-2 2-2.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299903	AH-2 3-3.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299904	AH-2 4-4.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299905	AH-2 5-5.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299906	AH-2 6-6.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299907	AH-3 0-1' (1.5' BEB)	soil	2012-05-31	00:00	2012-06-04
299908	AH-3 1-1.5' (1.5' BEB)	soil	2012-05-31	00:00	2012-06-04
299909	AH-3 2-2.5' (1.5' BEB)	soil	2012-05-31	00:00	2012-06-04
299910	AH-3 3-3.5' (1.5' BEB)	soil	2012-05-31	00:00	2012-06-04
299911	AH-4 0-.5' (1.5' BEB)	soil	2012-05-31	00:00	2012-06-04

Sample - Field Code	BTEX Benzene (mg/Kg)	BTEX Toluene (mg/Kg)	BTEX Ethylbenzene (mg/Kg)	BTEX Xylene (mg/Kg)	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
299892 - AH-1 0-1' (2 in. scrape)	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00 Qs
299900 - AH-2 0-1' (2 in. scrape)	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00 Qs
299907 - AH-3 0-1' (1.5' BEB)	**7.40**	**71.6**	**56.9**	**112**	**5380**	**4770** Qs
299908 - AH-3 1-1.5' (1.5' BEB)	**38.2**	**256**	**166**	**227**	**5240**	**6910**
299909 - AH-3 2-2.5' (1.5' BEB)	**12.9**	**127**	**112**	**149**	**8560**	**4270**

continued ...

... continued

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)
299910 - AH-3 3-3.5' (1.5' BEB)	<1.00	**5.10**	**11.5**	**18.2**	**1890**	**375**
299911 - AH-4 0-.5' (1.5' BEB)	<0.400	**4.90**	**4.59**	**19.5**	**3830**	**1080** Qs

Sample: 299892 - AH-1 0-1' (2 in. scrape)

Param	Flag	Result	Units	RL
Chloride		**2220**	mg/Kg	4

Sample: 299893 - AH-1 1-1.5' (2 in. scrape)

Param	Flag	Result	Units	RL
Chloride		**2500**	mg/Kg	4

Sample: 299894 - AH-1 2-2.5' (2 in. scrape)

Param	Flag	Result	Units	RL
Chloride		**4260**	mg/Kg	4

Sample: 299895 - AH-1 3-3.5' (2 in. scrape)

Param	Flag	Result	Units	RL
Chloride		**3560**	mg/Kg	4

Sample: 299896 - AH-1 4-4.5' (2 in scrape)

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

Sample: 299897 - AH-1 5-5.5' (2 in. scrape)

Param	Flag	Result	Units	RL
Chloride		**5060**	mg/Kg	4

Sample: 299898 - AH-1 6-6.5' (2 in. scrape)

Param	Flag	Result	Units	RL
Chloride		**2020**	mg/Kg	4

Sample: 299899 - AH-1 7-7.5' (2 in. scrape)

Param	Flag	Result	Units	RL
Chloride		**1250**	mg/Kg	4

Sample: 299900 - AH-2 0-1' (2 in. scrape)

Param	Flag	Result	Units	RL
Chloride		**8610**	mg/Kg	4

Sample: 299901 - AH-2 1-1.5' (2 in. scrape)

Param	Flag	Result	Units	RL
Chloride		**774**	mg/Kg	4

Sample: 299902 - AH-2 2-2.5' (2 in. scrape)

Param	Flag	Result	Units	RL
Chloride		**392**	mg/Kg	4

Sample: 299903 - AH-2 3-3.5' (2 in. scrape)

Param	Flag	Result	Units	RL
Chloride		**557**	mg/Kg	4

Sample: 299904 - AH-2 4-4.5' (2 in. scrape)

Param	Flag	Result	Units	RL
Chloride		**557**	mg/Kg	4

Sample: 299905 - AH-2 5-5.5' (2 in. scrape)

Param	Flag	Result	Units	RL
Chloride		**192**	mg/Kg	4

Sample: 299906 - AH-2 6-6.5' (2 in. scrape)

Param	Flag	Result	Units	RL
Chloride		**379**	mg/Kg	4

Sample: 299907 - AH-3 0-1' (1.5' BEB)

Param	Flag	Result	Units	RL
Chloride		**4990**	mg/Kg	4

Sample: 299908 - AH-3 1-1.5' (1.5' BEB)

Param	Flag	Result	Units	RL
Chloride		**7090**	mg/Kg	4

Sample: 299909 - AH-3 2-2.5' (1.5' BEB)

Param	Flag	Result	Units	RL
Chloride		**3210**	mg/Kg	4

Sample: 299910 - AH-3 3-3.5' (1.5' BEB)

Param	Flag	Result	Units	RL
Chloride		**2260**	mg/Kg	4

Sample: 299911 - AH-4 0-.5' (1.5' BEB)

Param	Flag	Result	Units	RL
Chloride		**5750**	mg/Kg	4

TRACEANALYSIS, INC.

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Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: June 13, 2012

Work Order: 12060501

Project Location: Eddy Co., NM
Project Name: COG/McIntyre B Heater (SW Central TB)
Project Number: 114-6401409

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
299892	AH-1 0-1' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299893	AH-1 1-1.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299894	AH-1 2-2.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299895	AH-1 3-3.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299896	AH-1 4-4.5' (2 in scrape)	soil	2012-05-31	00:00	2012-06-04
299897	AH-1 5-5.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299898	AH-1 6-6.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299899	AH-1 7-7.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299900	AH-2 0-1' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299901	AH-2 1-1.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299902	AH-2 2-2.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299903	AH-2 3-3.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299904	AH-2 4-4.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299905	AH-2 5-5.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299906	AH-2 6-6.5' (2 in. scrape)	soil	2012-05-31	00:00	2012-06-04
299907	AH-3 0-1' (1.5' BEB)	soil	2012-05-31	00:00	2012-06-04
299908	AH-3 1-1.5' (1.5' BEB)	soil	2012-05-31	00:00	2012-06-04
299909	AH-3 2-2.5' (1.5' BEB)	soil	2012-05-31	00:00	2012-06-04

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
299910	AH-3 3-3.5' (1.5' BEB)	soil	2012-05-31	00:00	2012-06-04
299911	AH-4 0-.5' (1.5' BEB)	soil	2012-05-31	00:00	2012-06-04

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 46 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/McIntyre B Heater (SW Central TB) were received by TraceAnalysis, Inc. on 2012-06-04 and assigned to work order 12060501. Samples for work order 12060501 were received intact at a temperature of 2.6 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	77967	2012-06-06 at 08:30	91895	2012-06-06 at 09:20
BTEX	S 8021B	78016	2012-06-08 at 14:30	91972	2012-06-08 at 15:06
BTEX	S 8021B	78029	2012-06-09 at 11:00	91974	2012-06-09 at 12:49
Chloride (Titration)	SM 4500-Cl B	78014	2012-06-06 at 10:51	91957	2012-06-06 at 14:54
Chloride (Titration)	SM 4500-Cl B	78015	2012-06-08 at 09:59	91958	2012-06-08 at 15:00
Chloride (Titration)	SM 4500-Cl B	78015	2012-06-08 at 09:59	91995	2012-06-11 at 14:24
TPH DRO - NEW	S 8015 D	78010	2012-06-07 at 15:30	91950	2012-06-07 at 15:00
TPH DRO - NEW	S 8015 D	78030	2012-06-09 at 11:00	91976	2012-06-09 at 14:05
TPH GRO	S 8015 D	77967	2012-06-06 at 08:30	91896	2012-06-06 at 09:47
TPH GRO	S 8015 D	78016	2012-06-08 at 14:30	91973	2012-06-08 at 15:32
TPH GRO	S 8015 D	78029	2012-06-09 at 11:00	91975	2012-06-09 at 13:15

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 12060501 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: 299892 - AH-1 0-1' (2 in. scrape)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	91895	Date Analyzed:	2012-06-06	Analyzed By:	AG
Prep Batch:	77967	Sample Preparation:	2012-06-06	Prepared By:	AG

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.02	mg/Kg	1	2.00	101	70 - 135.4
4-Bromofluorobenzene (4-BFB)			2.81	mg/Kg	1	2.00	140	53.6 - 158.9

Sample: 299892 - AH-1 0-1' (2 in. scrape)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91957	Date Analyzed:	2012-06-06	Analyzed By:	AR
Prep Batch:	78014	Sample Preparation:	2012-06-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**2220**	mg/Kg	10	4.00

Sample: 299892 - AH-1 0-1' (2 in. scrape)

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	91950	Date Analyzed:	2012-06-07	Analyzed By:	AG
Prep Batch:	78010	Sample Preparation:	2012-06-07	Prepared By:	AG

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			92.4	mg/Kg	1	100	92	55.1 - 135.7

Sample: 299892 - AH-1 0-1' (2 in. scrape)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	91896	Date Analyzed:	2012-06-06	Analyzed By:	AG
Prep Batch:	77967	Sample Preparation:	2012-06-06	Prepared By:	AG

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.06	mg/Kg	1	2.00	103	58.5 - 155.1
4-Bromofluorobenzene (4-BFB)			3.04	mg/Kg	1	2.00	152	45.1 - 162.2

Sample: 299893 - AH-1 1-1.5' (2 in. scrape)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91958	Date Analyzed:	2012-06-08	Analyzed By:	AR
Prep Batch:	78015	Sample Preparation:	2012-06-11	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**2500**	mg/Kg	10	4.00

Sample: 299894 - AH-1 2-2.5' (2 in. scrape)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91958	Date Analyzed:	2012-06-08	Analyzed By:	AR
Prep Batch:	78015	Sample Preparation:	2012-06-11	Prepared By:	AR

continued ...

sample 299894 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**4260**	mg/Kg	10	4.00

Sample: 299895 - AH-1 3-3.5' (2 in. scrape)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91958	Date Analyzed:	2012-06-08	Analyzed By:	AR
Prep Batch:	78015	Sample Preparation:	2012-06-11	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**3560**	mg/Kg	10	4.00

Sample: 299896 - AH-1 4-4.5' (2 in scrape)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91958	Date Analyzed:	2012-06-08	Analyzed By:	AR
Prep Batch:	78015	Sample Preparation:	2012-06-11	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**5850**	mg/Kg	10	4.00

Sample: 299897 - AH-1 5-5.5' (2 in. scrape)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91958	Date Analyzed:	2012-06-08	Analyzed By:	AR
Prep Batch:	78015	Sample Preparation:	2012-06-11	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**5060**	mg/Kg	10	4.00

Sample: 299898 - AH-1 6-6.5' (2 in. scrape)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91958	Date Analyzed:	2012-06-08	Analyzed By:	AR
Prep Batch:	78015	Sample Preparation:	2012-06-11	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**2020**	mg/Kg	10	4.00

Sample: 299899 - AH-1 7-7.5' (2 in. scrape)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91958	Date Analyzed:	2012-06-08	Analyzed By:	AR
Prep Batch:	78015	Sample Preparation:	2012-06-11	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1250**	mg/Kg	10	4.00

Sample: 299900 - AH-2 0-1' (2 in. scrape)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	91895	Date Analyzed:	2012-06-06	Analyzed By:	AG
Prep Batch:	77967	Sample Preparation:	2012-06-06	Prepared By:	AG

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

continued ...

sample 299900 continued ...

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.26	mg/Kg	1	2.00	113	70 - 135.4
4-Bromofluorobenzene (4-BFB)			3.12	mg/Kg	1	2.00	156	53.6 - 158.9

Sample: 299900 - AH-2 0-1' (2 in. scrape)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91958	Date Analyzed:	2012-06-08	Analyzed By:	AR
Prep Batch:	78015	Sample Preparation:	2012-06-11	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**8610**	mg/Kg	10	4.00

Sample: 299900 - AH-2 0-1' (2 in. scrape)

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	91950	Date Analyzed:	2012-06-07	Analyzed By:	AG
Prep Batch:	78010	Sample Preparation:	2012-06-07	Prepared By:	AG

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			88.6	mg/Kg	1	100	89	55.1 - 135.7

Sample: 299900 - AH-2 0-1' (2 in. scrape)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	91896	Date Analyzed:	2012-06-06	Analyzed By:	AG
Prep Batch:	77967	Sample Preparation:	2012-06-06	Prepared By:	AG

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.28	mg/Kg	1	2.00	114	58.5 - 155.1
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	3.31	mg/Kg	1	2.00	166	45.1 - 162.2

Sample: 299901 - AH-2 1-1.5' (2 in. scrape)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91958	Date Analyzed:	2012-06-08	Analyzed By:	AR
Prep Batch:	78015	Sample Preparation:	2012-06-11	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**774**	mg/Kg	10	4.00

Sample: 299902 - AH-2 2-2.5' (2 in. scrape)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91958	Date Analyzed:	2012-06-08	Analyzed By:	AR
Prep Batch:	78015	Sample Preparation:	2012-06-11	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**392**	mg/Kg	5	4.00

Sample: 299903 - AH-2 3-3.5' (2 in. scrape)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91995	Date Analyzed:	2012-06-11	Analyzed By:	AR
Prep Batch:	78015	Sample Preparation:	2012-06-11	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**557**	mg/Kg	5	4.00

Sample: 299904 - AH-2 4-4.5' (2 in. scrape)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91995	Date Analyzed:	2012-06-11	Analyzed By:	AR
Prep Batch:	78015	Sample Preparation:	2012-06-11	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**557**	mg/Kg	5	4.00

Sample: 299905 - AH-2 5-5.5' (2 in. scrape)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91995	Date Analyzed:	2012-06-11	Analyzed By:	AR
Prep Batch:	78015	Sample Preparation:	2012-06-11	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**192**	mg/Kg	5	4.00

Sample: 299906 - AH-2 6-6.5' (2 in. scrape)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91995	Date Analyzed:	2012-06-11	Analyzed By:	AR
Prep Batch:	78015	Sample Preparation:	2012-06-11	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**379**	mg/Kg	5	4.00

Sample: 299907 - AH-3 0-1' (1.5' BEB)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	91895	Date Analyzed:	2012-06-06	Analyzed By:	AG
Prep Batch:	77967	Sample Preparation:	2012-06-06	Prepared By:	AG

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene		1	**7.40**	mg/Kg	50	0.0200
Toluene		1	**71.6**	mg/Kg	50	0.0200
Ethylbenzene		1	**56.9**	mg/Kg	50	0.0200
Xylene		1	**112**	mg/Kg	50	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			54.7	mg/Kg	50	50.0	109	70 - 135.4
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	98.2	mg/Kg	50	50.0	196	53.6 - 158.9

Sample: 299907 - AH-3 0-1' (1.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91995	Date Analyzed:	2012-06-11	Analyzed By:	AR
Prep Batch:	78015	Sample Preparation:	2012-06-11	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**4990**	mg/Kg	10	4.00

Sample: 299907 - AH-3 0-1' (1.5' BEB)

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	91950	Date Analyzed:	2012-06-07	Analyzed By:	AG
Prep Batch:	78010	Sample Preparation:	2012-06-07	Prepared By:	AG

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
DRO		1	**5380**	mg/Kg	5	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	595	mg/Kg	5	100	595	55.1 - 135.7

Sample: 299907 - AH-3 0-1' (1.5' BEB)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	91896	Date Analyzed:	2012-06-06	Analyzed By:	AG
Prep Batch:	77967	Sample Preparation:	2012-06-06	Prepared By:	AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Qs	1	**4770**	mg/Kg	50	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			56.1	mg/Kg	50	50.0	112	58.5 - 155.1
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	124	mg/Kg	50	50.0	248	45.1 - 162.2

Sample: 299908 - AH-3 1-1.5' (1.5' BEB)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	91972	Date Analyzed:	2012-06-08	Analyzed By:	AG
Prep Batch:	78016	Sample Preparation:	2012-06-08	Prepared By:	AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	**38.2**	mg/Kg	200	0.0200
Toluene		1	**256**	mg/Kg	200	0.0200
Ethylbenzene		1	**166**	mg/Kg	200	0.0200
Xylene		1	**227**	mg/Kg	200	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			188	mg/Kg	200	200	94	70 - 135.4
4-Bromofluorobenzene (4-BFB)			228	mg/Kg	200	200	114	53.6 - 158.9

Sample: 299908 - AH-3 1-1.5' (1.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91995	Date Analyzed:	2012-06-11	Analyzed By:	AR
Prep Batch:	78015	Sample Preparation:	2012-06-11	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**7090**	mg/Kg	10	4.00

Sample: 299908 - AH-3 1-1.5' (1.5' BEB)

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	91950	Date Analyzed:	2012-06-07	Analyzed By:	AG
Prep Batch:	78010	Sample Preparation:	2012-06-07	Prepared By:	AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	**5240**	mg/Kg	5	50.0

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr		453	mg/Kg	5	100	453	55.1 - 135.7

Sample: 299908 - AH-3 1-1.5' (1.5' BEB)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	91973	Date Analyzed:	2012-06-08	Analyzed By:	AG
Prep Batch:	78016	Sample Preparation:	2012-06-08	Prepared By:	AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**6910**	mg/Kg	200	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			168	mg/Kg	200	200	84	58.5 - 155.1
4-Bromofluorobenzene (4-BFB)			182	mg/Kg	200	200	91	45.1 - 162.2

Sample: 299909 - AH-3 2-2.5' (1.5' BEB)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	91972	Date Analyzed:	2012-06-08	Analyzed By:	AG
Prep Batch:	78016	Sample Preparation:	2012-06-08	Prepared By:	AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	**12.9**	mg/Kg	200	0.0200
Toluene		1	**127**	mg/Kg	200	0.0200
Ethylbenzene		1	**112**	mg/Kg	200	0.0200
Xylene		1	**149**	mg/Kg	200	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			196	mg/Kg	200	200	98	70 - 135.4
4-Bromofluorobenzene (4-BFB)			214	mg/Kg	200	200	107	53.6 - 158.9

Sample: 299909 - AH-3 2-2.5' (1.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91995	Date Analyzed:	2012-06-11	Analyzed By:	AR
Prep Batch:	78015	Sample Preparation:	2012-06-11	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**3210**	mg/Kg	10	4.00

Sample: 299909 - AH-3 2-2.5' (1.5' BEB)

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	91976	Date Analyzed:	2012-06-09	Analyzed By:	AG
Prep Batch:	78030	Sample Preparation:	2012-06-09	Prepared By:	AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	**8560**	mg/Kg	5	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	649	mg/Kg	5	100	649	55.1 - 135.7

Sample: 299909 - AH-3 2-2.5' (1.5' BEB)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	91973	Date Analyzed:	2012-06-08	Analyzed By:	AG
Prep Batch:	78016	Sample Preparation:	2012-06-08	Prepared By:	AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**4270**	mg/Kg	200	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			167	mg/Kg	200	200	84	58.5 - 155.1
4-Bromofluorobenzene (4-BFB)			172	mg/Kg	200	200	86	45.1 - 162.2

Sample: 299910 - AH-3 3-3.5' (1.5' BEB)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	91974	Date Analyzed:	2012-06-09	Analyzed By:	AG
Prep Batch:	78029	Sample Preparation:	2012-06-09	Prepared By:	AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1	<1.00	mg/Kg	50	0.0200
Toluene		1	**5.10**	mg/Kg	50	0.0200
Ethylbenzene		1	**11.5**	mg/Kg	50	0.0200
Xylene		1	**18.2**	mg/Kg	50	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			49.2	mg/Kg	50	50.0	98	70 - 135.4
4-Bromofluorobenzene (4-BFB)			49.2	mg/Kg	50	50.0	98	53.6 - 158.9

Sample: 299910 - AH-3 3-3.5' (1.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91995	Date Analyzed:	2012-06-11	Analyzed By:	AR
Prep Batch:	78015	Sample Preparation:	2012-06-11	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**2260**	mg/Kg	10	4.00

Sample: 299910 - AH-3 3-3.5' (1.5' BEB)

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	91976	Date Analyzed:	2012-06-09	Analyzed By:	AG
Prep Batch:	78030	Sample Preparation:	2012-06-09	Prepared By:	AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	**1890**	mg/Kg	5	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	258	mg/Kg	5	100	258	55.1 - 135.7

Sample: 299910 - AH-3 3-3.5' (1.5' BEB)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	91975	Date Analyzed:	2012-06-09	Analyzed By:	AG
Prep Batch:	78029	Sample Preparation:	2012-06-09	Prepared By:	AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**375**	mg/Kg	50	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			42.8	mg/Kg	50	50.0	86	58.5 - 155.1
4-Bromofluorobenzene (4-BFB)			37.8	mg/Kg	50	50.0	76	45.1 - 162.2

Sample: 299911 - AH-4 0-.5' (1.5' BEB)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	91895	Date Analyzed:	2012-06-06	Analyzed By:	AG
Prep Batch:	77967	Sample Preparation:	2012-06-06	Prepared By:	AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	<0.400	mg/Kg	20	0.0200
Toluene		1	**4.90**	mg/Kg	20	0.0200
Ethylbenzene		1	**4.59**	mg/Kg	20	0.0200

continued ...

sample 299911 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Xylene		1	**19.5**	mg/Kg	20	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			22.4	mg/Kg	20	20.0	112	70 - 135.4
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	37.0	mg/Kg	20	20.0	185	53.6 - 158.9

Sample: 299911 - AH-4 0-.5' (1.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91995	Date Analyzed:	2012-06-11	Analyzed By:	AR
Prep Batch:	78015	Sample Preparation:	2012-06-11	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**5750**	mg/Kg	10	4.00

Sample: 299911 - AH-4 0-.5' (1.5' BEB)

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	91950	Date Analyzed:	2012-06-07	Analyzed By:	AG
Prep Batch:	78010	Sample Preparation:	2012-06-07	Prepared By:	AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	**3830**	mg/Kg	5	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	352	mg/Kg	5	100	352	55.1 - 135.7

Sample: 299911 - AH-4 0-.5' (1.5' BEB)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	91896	Date Analyzed:	2012-06-06	Analyzed By:	AG
Prep Batch:	77967	Sample Preparation:	2012-06-06	Prepared By:	AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Qs	1	**1080**	mg/Kg	20	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			22.3	mg/Kg	20	20.0	112	58.5 - 155.1
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	47.2	mg/Kg	20	20.0	236	45.1 - 162.2

Method Blanks

Method Blank (1) QC Batch: 91895

QC Batch: 91895 | Date Analyzed: 2012-06-06 | Analyzed By: AG
Prep Batch: 77967 | QC Preparation: 2012-06-06 | Prepared By: AG

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00470	mg/Kg	0.02
Toluene		1	<0.00980	mg/Kg	0.02
Ethylbenzene		1	<0.00500	mg/Kg	0.02
Xylene		1	<0.0170	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.94	mg/Kg	1	2.00	97	78 - 123.6
4-Bromofluorobenzene (4-BFB)			1.61	mg/Kg	1	2.00	80	51.3 - 122.4

Method Blank (1) QC Batch: 91896

QC Batch: 91896 | Date Analyzed: 2012-06-06 | Analyzed By: AG
Prep Batch: 77967 | QC Preparation: 2012-06-06 | Prepared By: AG

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<1.22	mg/Kg	2

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.90	mg/Kg	1	2.00	95	78.6 - 131
4-Bromofluorobenzene (4-BFB)			1.62	mg/Kg	1	2.00	81	51 - 130

Method Blank (1) QC Batch: 91950

QC Batch: 91950 | Date Analyzed: 2012-06-07 | Analyzed By: AG
Prep Batch: 78010 | QC Preparation: 2012-06-07 | Prepared By: AG

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	<15.7	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			119	mg/Kg	1	100	119	61.6 - 141.2

Method Blank (1) QC Batch: 91957

QC Batch:	91957	Date Analyzed:	2012-06-06	Analyzed By:	AR
Prep Batch:	78014	QC Preparation:	2012-06-06	Prepared By:	AR

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

Method Blank (1) QC Batch: 91958

QC Batch:	91958	Date Analyzed:	2012-06-08	Analyzed By:	AR
Prep Batch:	78015	QC Preparation:	2012-06-08	Prepared By:	AR

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

Method Blank (1) QC Batch: 91972

QC Batch:	91972	Date Analyzed:	2012-06-08	Analyzed By:	AG
Prep Batch:	78016	QC Preparation:	2012-06-08	Prepared By:	AG

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00470	mg/Kg	0.02
Toluene		1	<0.00980	mg/Kg	0.02
Ethylbenzene		1	<0.00500	mg/Kg	0.02
Xylene		1	<0.0170	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.86	mg/Kg	1	2.00	93	78 - 123.6
4-Bromofluorobenzene (4-BFB)			1.52	mg/Kg	1	2.00	76	51.3 - 122.4

Method Blank (1) QC Batch: 91973

QC Batch:	91973	Date Analyzed:	2012-06-08	Analyzed By:	AG
Prep Batch:	78016	QC Preparation:	2012-06-08	Prepared By:	AG

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<1.22	mg/Kg	2

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.64	mg/Kg	1	2.00	82	78.6 - 131
4-Bromofluorobenzene (4-BFB)			1.11	mg/Kg	1	2.00	56	51 - 130

Method Blank (1) QC Batch: 91974

QC Batch:	91974	Date Analyzed:	2012-06-09	Analyzed By:	AG
Prep Batch:	78029	QC Preparation:	2012-06-09	Prepared By:	AG

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00470	mg/Kg	0.02
Toluene		1	<0.00980	mg/Kg	0.02
Ethylbenzene		1	<0.00500	mg/Kg	0.02
Xylene		1	<0.0170	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.93	mg/Kg	1	2.00	96	78 - 123.6
4-Bromofluorobenzene (4-BFB)			1.44	mg/Kg	1	2.00	72	51.3 - 122.4

Method Blank (1) QC Batch: 91975

QC Batch:	91975	Date Analyzed:	2012-06-09	Analyzed By:	AG
Prep Batch:	78029	QC Preparation:	2012-06-09	Prepared By:	AG

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<1.22	mg/Kg	2

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.62	mg/Kg	1	2.00	81	78.6 - 131
4-Bromofluorobenzene (4-BFB)			1.11	mg/Kg	1	2.00	56	51 - 130

Method Blank (1) QC Batch: 91976

QC Batch:	91976	Date Analyzed:	2012-06-09	Analyzed By:	AG
Prep Batch:	78030	QC Preparation:	2012-06-09	Prepared By:	AG

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	<15.7	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			137	mg/Kg	1	100	137	61.6 - 141.2

Method Blank (1) QC Batch: 91995

QC Batch:	91995	Date Analyzed:	2012-06-11	Analyzed By:	AR
Prep Batch:	78015	QC Preparation:	2012-06-08	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: 91895 | Date Analyzed: 2012-06-06 | Analyzed By: AG
Prep Batch: 77967 | QC Preparation: 2012-06-06 | Prepared By: AG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.12	mg/Kg	1	2.00	<0.00470	106	86.5 - 124.9
Toluene		1	2.04	mg/Kg	1	2.00	<0.00980	102	84.7 - 122.5
Ethylbenzene		1	1.85	mg/Kg	1	2.00	<0.00500	92	79.4 - 118.9
Xylene		1	5.37	mg/Kg	1	6.00	<0.0170	90	77.5 - 119

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.18	mg/Kg	1	2.00	<0.00470	109	86.5 - 124.9	3	20
Toluene		1	2.09	mg/Kg	1	2.00	<0.00980	104	84.7 - 122.5	2	20
Ethylbenzene		1	1.89	mg/Kg	1	2.00	<0.00500	94	79.4 - 118.9	2	20
Xylene		1	5.50	mg/Kg	1	6.00	<0.0170	92	77.5 - 119	2	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.93	1.86	mg/Kg	1	2.00	96	93	73.9 - 127
4-Bromofluorobenzene (4-BFB)	2.24	2.02	mg/Kg	1	2.00	112	101	65.4 - 149.9

Laboratory Control Spike (LCS-1)

QC Batch: 91896 | Date Analyzed: 2012-06-06 | Analyzed By: AG
Prep Batch: 77967 | QC Preparation: 2012-06-06 | Prepared By: AG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	14.9	mg/Kg	1	20.0	<1.22	74	65.3 - 105.7

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

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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	16.3	mg/Kg	1	20.0	<1.22	82	65.3 - 105.7	9	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)	1.88	1.93	mg/Kg	1	2.00	94	96	79 - 131.2
4-Bromofluorobenzene (4-BFB)	1.89	1.94	mg/Kg	1	2.00	94	97	56.4 - 136.6

Laboratory Control Spike (LCS-1)

QC Batch: 91950 | Date Analyzed: 2012-06-07 | Analyzed By: AG
Prep Batch: 78010 | QC Preparation: 2012-06-07 | Prepared By: AG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	246	mg/Kg	1	250	<15.7	98	66.9 - 119.9

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	249	mg/Kg	1	250	<15.7	100	66.9 - 119.9	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
n-Tricosane	94.0	94.4	mg/Kg	1	100	94	94	76.8 - 140.2

Laboratory Control Spike (LCS-1)

QC Batch: 91957 | Date Analyzed: 2012-06-06 | Analyzed By: AR
Prep Batch: 78014 | QC Preparation: 2012-06-06 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2400	mg/Kg	1	2500	<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			2520	mg/Kg	1	2500	<3.85	101	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: 91958 | Date Analyzed: 2012-06-08 | Analyzed By: AR
Prep Batch: 78015 | QC Preparation: 2012-06-08 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2520	mg/Kg	1	2500	<3.85	101	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			2700	mg/Kg	1	2500	<3.85	108	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: 91972 | Date Analyzed: 2012-06-08 | Analyzed By: AG
Prep Batch: 78016 | QC Preparation: 2012-06-08 | Prepared By: AG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.00	mg/Kg	1	2.00	<0.00470	100	86.5 - 124.9
Toluene		1	1.95	mg/Kg	1	2.00	<0.00980	98	84.7 - 122.5
Ethylbenzene		1	1.97	mg/Kg	1	2.00	<0.00500	98	79.4 - 118.9
Xylene		1	5.80	mg/Kg	1	6.00	<0.0170	97	77.5 - 119

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.02	mg/Kg	1	2.00	<0.00470	101	86.5 - 124.9	1	20
Toluene		1	2.02	mg/Kg	1	2.00	<0.00980	101	84.7 - 122.5	4	20
Ethylbenzene		1	2.03	mg/Kg	1	2.00	<0.00500	102	79.4 - 118.9	3	20
Xylene		1	5.97	mg/Kg	1	6.00	<0.0170	100	77.5 - 119	3	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.02	2.08	mg/Kg	1	2.00	101	104	73.9 - 127
4-Bromofluorobenzene (4-BFB)	2.23	2.34	mg/Kg	1	2.00	112	117	65.4 - 149.9

Laboratory Control Spike (LCS-1)

QC Batch: 91973 | Date Analyzed: 2012-06-08 | Analyzed By: AG
Prep Batch: 78016 | QC Preparation: 2012-06-08 | Prepared By: AG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO			14.7	mg/Kg	1	20.0	<1.22	74	65.3 - 105.7

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			14.3	mg/Kg	1	20.0	<1.22	72	65.3 - 105.7	3	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.85	1.81	mg/Kg	1	2.00	92	90	79 - 131.2
4-Bromofluorobenzene (4-BFB)	1.65	1.54	mg/Kg	1	2.00	82	77	56.4 - 136.6

Laboratory Control Spike (LCS-1)

QC Batch: 91974 | Date Analyzed: 2012-06-09 | Analyzed By: AG
Prep Batch: 78029 | QC Preparation: 2012-06-09 | Prepared By: AG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene			1.89	mg/Kg	1	2.00	<0.00470	94	86.5 - 124.9
Toluene			1.88	mg/Kg	1	2.00	<0.00980	94	84.7 - 122.5
Ethylbenzene			1.82	mg/Kg	1	2.00	<0.00500	91	79.4 - 118.9
Xylene			5.41	mg/Kg	1	6.00	<0.0170	90	77.5 - 119

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.03	mg/Kg	1	2.00	<0.00470	102	86.5 - 124.9	7	20
Toluene		1	2.07	mg/Kg	1	2.00	<0.00980	104	84.7 - 122.5	10	20
Ethylbenzene		1	2.07	mg/Kg	1	2.00	<0.00500	104	79.4 - 118.9	13	20
Xylene		1	6.30	mg/Kg	1	6.00	<0.0170	105	77.5 - 119	15	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)	1.99	2.13	mg/Kg	1	2.00	100	106	73.9 - 127
4-Bromofluorobenzene (4-BFB)	2.14	2.53	mg/Kg	1	2.00	107	126	65.4 - 149.9

Laboratory Control Spike (LCS-1)

QC Batch: 91975 | Date Analyzed: 2012-06-09 | Analyzed By: AG
Prep Batch: 78029 | QC Preparation: 2012-06-09 | Prepared By: AG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	17.6	mg/Kg	1	20.0	<1.22	88	65.3 - 105.7

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	<1.22	91	65.3 - 105.7	3	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.88	1.87	mg/Kg	1	2.00	94	94	79 - 131.2
4-Bromofluorobenzene (4-BFB)	1.67	1.70	mg/Kg	1	2.00	84	85	56.4 - 136.6

Laboratory Control Spike (LCS-1)

QC Batch: 91976 | Date Analyzed: 2012-06-09 | Analyzed By: AG
Prep Batch: 78030 | QC Preparation: 2012-06-09 | Prepared By: AG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	256	mg/Kg	1	250	<15.7	102	66.9 - 119.9

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	264	mg/Kg	1	250	<15.7	106	66.9 - 119.9	3	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	104	103	mg/Kg	1	100	104	103	76.8 - 140.2

Laboratory Control Spike (LCS-1)

QC Batch: 91995 | Date Analyzed: 2012-06-11 | Analyzed By: AR
Prep Batch: 78015 | QC Preparation: 2012-06-08 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2620	mg/Kg	1	2500	<3.85	105	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			2700	mg/Kg	1	2500	<3.85	108	85 - 115	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: 299882

QC Batch: 91895 | Date Analyzed: 2012-06-06 | Analyzed By: AG
Prep Batch: 77967 | QC Preparation: 2012-06-06 | Prepared By: AG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.95	mg/Kg	1	2.00	0.0175	97	69.3 - 159.2
Toluene		1	1.94	mg/Kg	1	2.00	0.0538	94	68.7 - 157
Ethylbenzene		1	1.90	mg/Kg	1	2.00	<0.00500	95	71.6 - 158.2
Xylene		1	5.36	mg/Kg	1	6.00	0.02	89	70.8 - 159.8

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

continued ...

matrix spikes continued ...

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.08	mg/Kg	1	2.00	0.0175	103	69.3 - 159.2	6	20
Toluene		1	2.07	mg/Kg	1	2.00	0.0538	101	68.7 - 157	6	20
Ethylbenzene		1	2.01	mg/Kg	1	2.00	<0.00500	100	71.6 - 158.2	6	20
Xylene		1	5.66	mg/Kg	1	6.00	0.02	94	70.8 - 159.8	5	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.29	2.18	mg/Kg	1	2	114	109	71.4 - 133.9
4-Bromofluorobenzene (4-BFB)	2.39	2.18	mg/Kg	1	2	120	109	72.6 - 144.1

Matrix Spike (MS-1) Spiked Sample: 299886

QC Batch: 91896 | Date Analyzed: 2012-06-06 | Analyzed By: AG
Prep Batch: 77967 | QC Preparation: 2012-06-06 | Prepared By: AG

Param		F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	Qs	Qs	1	32.6	mg/Kg	1	20.0	<1.22	163	28.2 - 157.2

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
GRO	Qs	Qs	1	39.2	mg/Kg	1	20.0	<1.22	196	28.2 - 157.2	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	2.63	2.39	mg/Kg	1	2	132	120	75.5 - 122.3
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	4.25	3.89	mg/Kg	1	2	212	194	77.9 - 122.4

Matrix Spike (MS-1) Spiked Sample: 299890

QC Batch: 91950 | Date Analyzed: 2012-06-07 | Analyzed By: AG
Prep Batch: 78010 | QC Preparation: 2012-06-07 | Prepared By: AG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	246	mg/Kg	1	250	<15.7	98	36.1 - 147.2

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
DRO		1	219	mg/Kg	1	250	<15.7	88	36.1 - 147.2	12	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	91.3	88.0	mg/Kg	1	100	91	88	78.3 - 131.6

Matrix Spike (MS-1) Spiked Sample: 299892

QC Batch: 91957 | Date Analyzed: 2012-06-06 | Analyzed By: AR
Prep Batch: 78014 | QC Preparation: 2012-06-06 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			4570	mg/Kg	10	2500	2220	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			4940	mg/Kg	10	2500	2220	109	79.4 - 120.6	8	20

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

Matrix Spike (MS-1) Spiked Sample: 299902

QC Batch: 91958 | Date Analyzed: 2012-06-08 | Analyzed By: AR
Prep Batch: 78015 | QC Preparation: 2012-06-08 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2920	mg/Kg	5	2500	392	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			3040	mg/Kg	5	2500	392	106	79.4 - 120.6	4	20

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

Matrix Spike (MS-1) Spiked Sample: 299940

QC Batch: 91972 | Date Analyzed: 2012-06-08 | Analyzed By: AG
Prep Batch: 78016 | QC Preparation: 2012-06-08 | Prepared By: AG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.94	mg/Kg	1	2.00	<0.00470	97	69.3 - 159.2
Toluene		1	1.98	mg/Kg	1	2.00	<0.00980	99	68.7 - 157
Ethylbenzene		1	2.17	mg/Kg	1	2.00	<0.00500	108	71.6 - 158.2
Xylene		1	6.34	mg/Kg	1	6.00	<0.0170	106	70.8 - 159.8

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	1.82	mg/Kg	1	2.00	<0.00470	91	69.3 - 159.2	6	20
Toluene		1	1.84	mg/Kg	1	2.00	<0.00980	92	68.7 - 157	7	20
Ethylbenzene		1	1.96	mg/Kg	1	2.00	<0.00500	98	71.6 - 158.2	10	20
Xylene		1	5.68	mg/Kg	1	6.00	<0.0170	95	70.8 - 159.8	11	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)	2.11	2.36	mg/Kg	1	2	106	118	71.4 - 133.9
4-Bromofluorobenzene (4-BFB)	2.25	2.31	mg/Kg	1	2	112	116	72.6 - 144.1

Matrix Spike (MS-1) Spiked Sample: 299880

QC Batch: 91973 | Date Analyzed: 2012-06-08 | Analyzed By: AG
Prep Batch: 78016 | QC Preparation: 2012-06-08 | Prepared By: AG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	29.1	mg/Kg	1	20.0	1.87	136	28.2 - 157.2

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
GRO		1	29.2	mg/Kg	1	20.0	1.87	146	28.2 - 157.2	0	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)	2.15	2.12	mg/Kg	1	2	108	106	75.5 - 122.3
4-Bromofluorobenzene (4-BFB)	2.25	2.42	mg/Kg	1	2	112	121	77.9 - 122.4

Matrix Spike (MS-1) Spiked Sample: 299963

QC Batch: 91974 | Date Analyzed: 2012-06-09 | Analyzed By: AG
Prep Batch: 78029 | QC Preparation: 2012-06-09 | Prepared By: AG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.97	mg/Kg	1	2.00	<0.00470	98	69.3 - 159.2
Toluene		1	2.00	mg/Kg	1	2.00	<0.00980	100	68.7 - 157
Ethylbenzene		1	2.17	mg/Kg	1	2.00	<0.00500	108	71.6 - 158.2
Xylene		1	6.40	mg/Kg	1	6.00	<0.0170	107	70.8 - 159.8

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	2.05	mg/Kg	1	2.00	<0.00470	102	69.3 - 159.2	4	20
Toluene		1	2.13	mg/Kg	1	2.00	<0.00980	106	68.7 - 157	6	20
Ethylbenzene		1	2.38	mg/Kg	1	2.00	<0.00500	119	71.6 - 158.2	9	20
Xylene		1	7.03	mg/Kg	1	6.00	<0.0170	117	70.8 - 159.8	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)	1.90	2.38	mg/Kg	1	2	95	119	71.4 - 133.9
4-Bromofluorobenzene (4-BFB)	2.24	2.86	mg/Kg	1	2	112	143	72.6 - 144.1

Matrix Spike (MS-1) Spiked Sample: 299963

QC Batch: 91975 | Date Analyzed: 2012-06-09 | Analyzed By: AG
Prep Batch: 78029 | QC Preparation: 2012-06-09 | Prepared By: AG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	24.9	mg/Kg	1	20.0	<1.22	124	28.2 - 157.2

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
GRO		1	26.3	mg/Kg	1	20.0	<1.22	132	28.2 - 157.2	6	20

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

Surrogate			MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)			2.05	2.09	mg/Kg	1	2	102	104	75.5 - 122.3
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	2.52	2.05	mg/Kg	1	2	126	102	77.9 - 122.4

Matrix Spike (MS-1) Spiked Sample: 299946

QC Batch: 91976 | Date Analyzed: 2012-06-09 | Analyzed By: AG
Prep Batch: 78030 | QC Preparation: 2012-06-09 | Prepared By: AG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	243	mg/Kg	1	250	16.8	90	36.1 - 147.2

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
DRO		1	240	mg/Kg	1	250	16.8	89	36.1 - 147.2	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	98.4	99.1	mg/Kg	1	100	98	99	78.3 - 131.6

Matrix Spike (MS-1) Spiked Sample: 299912

QC Batch: 91995 | Date Analyzed: 2012-06-11 | Analyzed By: AR
Prep Batch: 78015 | QC Preparation: 2012-06-08 | Prepared By: AR

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matrix spikes continued ...

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			11700	mg/Kg	10	2500	9180	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			12100	mg/Kg	10	2500	9180	117	79.4 - 120.6	3	20

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

Calibration Standards

Standard (CCV-1)

QC Batch: 91895 | Date Analyzed: 2012-06-06 | Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.110	110	80 - 120	2012-06-06
Toluene		1	mg/kg	0.100	0.105	105	80 - 120	2012-06-06
Ethylbenzene		1	mg/kg	0.100	0.0971	97	80 - 120	2012-06-06
Xylene		1	mg/kg	0.300	0.286	95	80 - 120	2012-06-06

Standard (CCV-2)

QC Batch: 91895 | Date Analyzed: 2012-06-06 | Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0987	99	80 - 120	2012-06-06
Toluene		1	mg/kg	0.100	0.0937	94	80 - 120	2012-06-06
Ethylbenzene		1	mg/kg	0.100	0.0851	85	80 - 120	2012-06-06
Xylene		1	mg/kg	0.300	0.243	81	80 - 120	2012-06-06

Standard (CCV-3)

QC Batch: 91895 | Date Analyzed: 2012-06-06 | Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.102	102	80 - 120	2012-06-06
Toluene		1	mg/kg	0.100	0.103	103	80 - 120	2012-06-06
Ethylbenzene		1	mg/kg	0.100	0.104	104	80 - 120	2012-06-06
Xylene		1	mg/kg	0.300	0.322	107	80 - 120	2012-06-06

Standard (CCV-1)

QC Batch: 91896 | Date Analyzed: 2012-06-06 | Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.967	97	80 - 120	2012-06-06

Standard (CCV-2)

QC Batch: 91896 | Date Analyzed: 2012-06-06 | Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.901	90	80 - 120	2012-06-06

Standard (CCV-3)

QC Batch: 91896 | Date Analyzed: 2012-06-06 | Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.10	110	80 - 120	2012-06-06

Standard (CCV-1)

QC Batch: 91950 | Date Analyzed: 2012-06-07 | Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	249	100	80 - 120	2012-06-07

Standard (CCV-2)

QC Batch: 91950 | Date Analyzed: 2012-06-07 | Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	242	97	80 - 120	2012-06-07

Standard (CCV-3)

QC Batch: 91950 Date Analyzed: 2012-06-07 Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	223	89	80 - 120	2012-06-07

Standard (CCV-4)

QC Batch: 91950 Date Analyzed: 2012-06-07 Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	247	99	80 - 120	2012-06-07

Standard (CCV-1)

QC Batch: 91957 Date Analyzed: 2012-06-06 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	99.9	100	85 - 115	2012-06-06

Standard (CCV-2)

QC Batch: 91957 Date Analyzed: 2012-06-06 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-06-06

Standard (CCV-1)

QC Batch: 91958 Date Analyzed: 2012-06-08 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-06-08

Standard (CCV-2)

QC Batch: 91958 Date Analyzed: 2012-06-08 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	99.8	100	85 - 115	2012-06-08

Standard (CCV-1)

QC Batch: 91972 Date Analyzed: 2012-06-08 Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.100	100	80 - 120	2012-06-08
Toluene		1	mg/kg	0.100	0.100	100	80 - 120	2012-06-08
Ethylbenzene		1	mg/kg	0.100	0.100	100	80 - 120	2012-06-08
Xylene		1	mg/kg	0.300	0.306	102	80 - 120	2012-06-08

Standard (CCV-2)

QC Batch: 91972 Date Analyzed: 2012-06-08 Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0959	96	80 - 120	2012-06-08
Toluene		1	mg/kg	0.100	0.0925	92	80 - 120	2012-06-08
Ethylbenzene		1	mg/kg	0.100	0.0911	91	80 - 120	2012-06-08
Xylene		1	mg/kg	0.300	0.270	90	80 - 120	2012-06-08

Standard (CCV-3)

QC Batch: 91972 Date Analyzed: 2012-06-08 Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0906	91	80 - 120	2012-06-08
Toluene		1	mg/kg	0.100	0.0882	88	80 - 120	2012-06-08
Ethylbenzene		1	mg/kg	0.100	0.0854	85	80 - 120	2012-06-08
Xylene		1	mg/kg	0.300	0.253	84	80 - 120	2012-06-08

Standard (CCV-1)

QC Batch: 91973 Date Analyzed: 2012-06-08 Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.824	82	80 - 120	2012-06-08

Standard (CCV-2)

QC Batch: 91973 Date Analyzed: 2012-06-08 Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.813	81	80 - 120	2012-06-08

Standard (CCV-3)

QC Batch: 91973 | Date Analyzed: 2012-06-08 | Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.813	81	80 - 120	2012-06-08

Standard (CCV-1)

QC Batch: 91974 | Date Analyzed: 2012-06-09 | Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0916	92	80 - 120	2012-06-09
Toluene		1	mg/kg	0.100	0.0904	90	80 - 120	2012-06-09
Ethylbenzene		1	mg/kg	0.100	0.0905	90	80 - 120	2012-06-09
Xylene		1	mg/kg	0.300	0.272	91	80 - 120	2012-06-09

Standard (CCV-2)

QC Batch: 91974 | Date Analyzed: 2012-06-09 | Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0971	97	80 - 120	2012-06-09
Toluene		1	mg/kg	0.100	0.0948	95	80 - 120	2012-06-09
Ethylbenzene		1	mg/kg	0.100	0.0918	92	80 - 120	2012-06-09
Xylene		1	mg/kg	0.300	0.268	89	80 - 120	2012-06-09

Standard (CCV-1)

QC Batch: 91975 | Date Analyzed: 2012-06-09 | Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.962	96	80 - 120	2012-06-09

Standard (CCV-2)

QC Batch: 91975 | Date Analyzed: 2012-06-09 | Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.951	95	80 - 120	2012-06-09

Standard (CCV-1)

QC Batch: 91976 | Date Analyzed: 2012-06-09 | Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	263	105	80 - 120	2012-06-09

Standard (CCV-2)

QC Batch: 91976 | Date Analyzed: 2012-06-09 | Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	256	102	80 - 120	2012-06-09

Standard (CCV-3)

QC Batch: 91976 | Date Analyzed: 2012-06-09 | Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	246	98	80 - 120	2012-06-09

Standard (CCV-1)

QC Batch: 91995 | Date Analyzed: 2012-06-11 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	98.8	99	85 - 115	2012-06-11

Standard (CCV-2)

QC Batch: 91995 Date Analyzed: 2012-06-11 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	2012-06-11

Appendix

Report Definitions

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

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-11-3	Midland

Standard Flags

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

Attachments

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

120605O1

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.: 114-6410409

PROJECT NAME: McIntyre B Heater (SW Central TB)

Eddy Co., NM

LAB I.D. NUMBER	DATE 2012	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
892	5/31		S		X	AH-1 0-1' (2" Scrape)	1				X		X	X											X				
893						1-1.5' "	1				X														X				
894						2-2.5' "	1				X														X				
895						3-3.5' "	1				X														X				
896						4-4.5' "	1				X														X				
897						5-5.5' "	1				X														X				
898						6-6.5' "	1				X														X				
899						7-7.5' "	1				X														X				
900						AH-2 0-1' (2" Scrape)	1				X		X	X											X				
901						1-1.5' "	1				X														X				

RELINQUISHED BY: (Signature) Date: 6-1-12 Time: 3:30 PM — RECEIVED BY: (Signature) Date: 6/4/12 Time: 8:30

SAMPLED BY: (Print & Initial) Kim Date: 6/4/12 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: MIDLAND STATE: TX ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature)
DATE: TIME:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 2c

REMARKS: If TPH > 5,000 mg/kg or Total BTEX > 50 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.

120605201

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: 2 OF: 2

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-640/1409

PROJECT NAME: Mc Intyre B Heater (SW Central TB)

LAB I.D. NUMBER	DATE 2012	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION (Eddy Co., NM)	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD.	TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
902	5/31		S		X	AH-2 2-2.5' (2" Scrape)	1				X															X				
903						3-3.5' "	1				X															X				
904						4-4.5' "	1				X															X				
905						5-5.5' "	1				X															X				
906						6-6.5' "	1				X															X				
907						AH-3 0-1' (1.5' BEB)	1				X		X	X												X				
908						1-1.5' "	1				X															X				
909						2-2.5' "	1				X															X				
910						3-3.5' "	1				X															X				
911						AH-4 0-.5' (1.5' BEB)	1				X		X	X												X				

RELINQUISHED BY: (Signature) Date: 6/14/12 Time: 3:30 PM

RECEIVED BY: (Signature) Date: 6/14/12 Time: 15:30

SAMPLED BY: (Print & Initial) Kim Date: 6/14/12 Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

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

AIRBILL #:

OTHER:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: TRACE

ADDRESS:

CITY: MIDLAND STATE: TX ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: TIME:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

REMARKS: IF TPH > 5,000 mg/kg or total BTEX > 50 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.

Summary Report

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

Report Date: March 15, 2013

Work Order: 13030827

Project Location: Eddy Co., NM
Project Name: COG/McIntyre B Heater (SW Central TB)
Project Number: 114-6401409

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
322875	T-1 (AH-3/4) 3'	soil	2013-02-21	00:00	2013-03-08
322876	T-1 (AH-3/4) 5'	soil	2013-02-21	00:00	2013-03-08
322877	T-1 (AH-3/4) 7'	soil	2013-02-21	00:00	2013-03-08
322878	T-1 (AH-3/4) 9'	soil	2013-02-21	00:00	2013-03-08
322879	T-1 (AH-3/4) 11'	soil	2013-02-21	00:00	2013-03-08

Sample: 322875 - T-1 (AH-3/4) 3'

Param	Flag	Result	Units	RL
Chloride		**1770**	mg/Kg	4

Sample: 322876 - T-1 (AH-3/4) 5'

Param	Flag	Result	Units	RL
Chloride		**2010**	mg/Kg	4

Sample: 322877 - T-1 (AH-3/4) 7'

Param	Flag	Result	Units	RL
Chloride		**2180**	mg/Kg	4

Sample: 322878 - T-1 (AH-3/4) 9'

Param	Flag	Result	Units	RL
Chloride		**2080**	mg/Kg	4

Sample: 322879 - T-1 (AH-3/4) 11'

Param	Flag	Result	Units	RL
Chloride		**715**	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 15, 2013

Work Order: 13030827

Project Location: Eddy Co., NM
Project Name: COG/McIntyre B Heater (SW Central TB)
Project Number: 114-6401409

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
322875	T-1 (AH-3/4) 3'	soil	2013-02-21	00:00	2013-03-08
322876	T-1 (AH-3/4) 5'	soil	2013-02-21	00:00	2013-03-08
322877	T-1 (AH-3/4) 7'	soil	2013-02-21	00:00	2013-03-08
322878	T-1 (AH-3/4) 9'	soil	2013-02-21	00:00	2013-03-08
322879	T-1 (AH-3/4) 11'	soil	2013-02-21	00:00	2013-03-08

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/McIntyre B Heater (SW Central TB) were received by TraceAnalysis, Inc. on 2013-03-08 and assigned to work order 13030827. Samples for work order 13030827 were received intact at a temperature of 5.8 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	84430	2013-03-13 at 10:25	99744	2013-03-15 at 14:10
Chloride (Titration)	SM 4500-Cl B	84430	2013-03-13 at 10:25	99745	2013-03-15 at 14:12

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 13030827 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: 322875 - T-1 (AH-3/4) 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	99744	Date Analyzed:	2013-03-15	Analyzed By:	AR
Prep Batch:	84430	Sample Preparation:	2013-03-13	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**1770**	mg/Kg	10	4.00

Sample: 322876 - T-1 (AH-3/4) 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	99745	Date Analyzed:	2013-03-15	Analyzed By:	AR
Prep Batch:	84430	Sample Preparation:	2013-03-13	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**2010**	mg/Kg	10	4.00

Sample: 322877 - T-1 (AH-3/4) 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	99745	Date Analyzed:	2013-03-15	Analyzed By:	AR
Prep Batch:	84430	Sample Preparation:	2013-03-13	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**2180**	mg/Kg	10	4.00

Sample: 322878 - T-1 (AH-3/4) 9'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	99745	Date Analyzed:	2013-03-15	Analyzed By:	AR
Prep Batch:	84430	Sample Preparation:	2013-03-13	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**2080**	mg/Kg	10	4.00

Sample: 322879 - T-1 (AH-3/4) 11'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	99745	Date Analyzed:	2013-03-15	Analyzed By:	AR
Prep Batch:	84430	Sample Preparation:	2013-03-13	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**715**	mg/Kg	5	4.00

Method Blanks

Method Blank (1) QC Batch: 99744

QC Batch:	99744	Date Analyzed:	2013-03-15	Analyzed By:	AR
Prep Batch:	84430	QC Preparation:	2013-03-13	Prepared By:	AR

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

Method Blank (1) QC Batch: 99745

QC Batch:	99745	Date Analyzed:	2013-03-15	Analyzed By:	AR
Prep Batch:	84430	QC Preparation:	2013-03-13	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: 99744 | Date Analyzed: 2013-03-15 | Analyzed By: AR
Prep Batch: 84430 | QC Preparation: 2013-03-13 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2430	mg/Kg	1	2500	<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			2610	mg/Kg	1	2500	<3.85	104	85 - 115	7	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 99745 | Date Analyzed: 2013-03-15 | Analyzed By: AR
Prep Batch: 84430 | QC Preparation: 2013-03-13 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2790	mg/Kg	1	2500	<3.85	112	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			2640	mg/Kg	1	2500	<3.85	106	85 - 115	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: 322875*

QC Batch: 99744 | Date Analyzed: 2013-03-15 | Analyzed By: AR
Prep Batch: 84430 | QC Preparation: 2013-03-13 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			4120	mg/Kg	10	2500	1770	94	78.9 - 121

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			4460	mg/Kg	10	2500	1770	108	78.9 - 121	8	20

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

Matrix Spike (MS-1) Spiked Sample: 322885

QC Batch: 99745 | Date Analyzed: 2013-03-15 | Analyzed By: AR
Prep Batch: 84430 | QC Preparation: 2013-03-13 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2780	mg/Kg	5	2500	210	103	78.9 - 121

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			2640	mg/Kg	5	2500	210	97	78.9 - 121	5	20

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

Calibration Standards

Standard (CCV-1)

QC Batch: 99744 | Date Analyzed: 2013-03-15 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2013-03-15

Standard (CCV-2)

QC Batch: 99744 | Date Analyzed: 2013-03-15 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.6	100	85 - 115	2013-03-15

Standard (CCV-1)

QC Batch: 99745 | Date Analyzed: 2013-03-15 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2013-03-15

Standard (CCV-2)

QC Batch: 99745 | Date Analyzed: 2013-03-15 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2013-03-15

Appendix

Report Definitions

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

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-12-4	Midland

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
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.

1303082?

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: COG

SITE MANAGER: The Tarver

PROJECT NO.: 114-640-409

PROJECT NAME: COG - McKinley B Heater Eddy County NM

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
322875	9/21		S		X	T-1 (AH-3:4) 3'	1					X
876	9/21		S		X	T-1 (AH-3:4) 5'	1					X
877	9/21		S		X	T-1 (AH-3:4) 7'	1					X
878	9/21		S		X	T-1 (AH-3:4) 9'	1					X
879	9/21		S		X	T-1 (AH-3:4) 11'	1					X

ANALYSIS REQUEST	Chloride
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	X
Gamma Spec.	
Alpha Beta (Air)	
PLM (Asbestos)	
Major Anions/Cations, pH, TDS	

RELINQUISHED BY: (Signature) — Date: 3/8/13 Time: 14:45
RECEIVED BY: (Signature) — Date: 3/8/13 Time: 14:45
SAMPLED BY: (Print & Initial) Monica Kuykendall/mk — Date: 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: The Tarver — Results by:

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

SAMPLE CONDITION WHEN RECEIVED: 5.8°
REMARKS: Midland all

AP

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 15, 2013

Work Order: 13030826

Project Location: Eddy Co., NM
Project Name: COG/McIntyre B Heater (SW Central TB)
Project Number: 114-6401409

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
322866	CS-1 (AH-1) North Wall	soil	2013-02-26	00:00	2013-03-08
322867	CS-1 (AH-1) South Wall	soil	2013-02-26	00:00	2013-03-08
322868	CS-1 (AH-1) East Wall	soil	2013-02-26	00:00	2013-03-08
322869	CS-1 (AH-1) West Wall	soil	2013-02-26	00:00	2013-03-08
322870	CS-1 (AH-1) Bottom Hole	soil	2013-02-26	00:00	2013-03-08
322871	CS-2 (AH-4) North Wall	soil	2013-02-26	00:00	2013-03-08
322872	CS-2 (AH-3) South Wall	soil	2013-02-26	00:00	2013-03-08
322873	CS-2 (AH-4) East Wall	soil	2013-02-26	00:00	2013-03-08
322874	CS-2 (AH-3) West Wall	soil	2013-02-26	00:00	2013-03-08

Sample: 322866 - CS-1 (AH-1) North Wall

Param	Flag	Result	Units	RL
Chloride		**2250**	mg/Kg	4

Sample: 322867 - CS-1 (AH-1) South Wall

Param	Flag	Result	Units	RL
Chloride		**3020**	mg/Kg	4

Sample: 322868 - CS-1 (AH-1) East Wall

continued ...

sample 322868 continued ...

Param	Flag	Result	Units	RL

Param	Flag	Result	Units	RL
Chloride		**1160**	mg/Kg	4

Sample: 322869 - CS-1 (AH-1) West Wall

Param	Flag	Result	Units	RL
Chloride		**5210**	mg/Kg	4

Sample: 322870 - CS-1 (AH-1) Bottom Hole

Param	Flag	Result	Units	RL
Chloride		**3250**	mg/Kg	4

Sample: 322871 - CS-2 (AH-4) North Wall

Param	Flag	Result	Units	RL
Chloride		**1270**	mg/Kg	4

Sample: 322872 - CS-2 (AH-3) South Wall

Param	Flag	Result	Units	RL
Chloride		**961**	mg/Kg	4

Sample: 322873 - CS-2 (AH-4) East Wall

Param	Flag	Result	Units	RL
Chloride		**1180**	mg/Kg	4

Sample: 322874 - CS-2 (AH-3) West Wall

Param	Flag	Result	Units	RL
Chloride		**3300**	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 15, 2013

Work Order: 13030826

Project Location: Eddy Co., NM
Project Name: COG/McIntyre B Heater (SW Central TB)
Project Number: 114-6401409

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
322866	CS-1 (AH-1) North Wall	soil	2013-02-26	00:00	2013-03-08
322867	CS-1 (AH-1) South Wall	soil	2013-02-26	00:00	2013-03-08
322868	CS-1 (AH-1) East Wall	soil	2013-02-26	00:00	2013-03-08
322869	CS-1 (AH-1) West Wall	soil	2013-02-26	00:00	2013-03-08
322870	CS-1 (AH-1) Bottom Hole	soil	2013-02-26	00:00	2013-03-08
322871	CS-2 (AH-4) North Wall	soil	2013-02-26	00:00	2013-03-08
322872	CS-2 (AH-3) South Wall	soil	2013-02-26	00:00	2013-03-08
322873	CS-2 (AH-4) East Wall	soil	2013-02-26	00:00	2013-03-08
322874	CS-2 (AH-3) West Wall	soil	2013-02-26	00:00	2013-03-08

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.

Michael Abel

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

Report Contents

Case Narrative

Samples for project COG/McIntyre B Heater (SW Central TB) were received by TraceAnalysis, Inc. on 2013-03-08 and assigned to work order 13030826. Samples for work order 13030826 were received intact at a temperature of 5.8 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	84430	2013-03-13 at 10:25	99744	2013-03-15 at 14:10

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 13030826 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: 322866 - CS-1 (AH-1) North Wall

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	99744	Date Analyzed:	2013-03-15	Analyzed By:	AR
Prep Batch:	84430	Sample Preparation:	2013-03-13	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**2250**	mg/Kg	10	4.00

Sample: 322867 - CS-1 (AH-1) South Wall

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	99744	Date Analyzed:	2013-03-15	Analyzed By:	AR
Prep Batch:	84430	Sample Preparation:	2013-03-13	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**3020**	mg/Kg	10	4.00

Sample: 322868 - CS-1 (AH-1) East Wall

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	99744	Date Analyzed:	2013-03-15	Analyzed By:	AR
Prep Batch:	84430	Sample Preparation:	2013-03-13	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**1160**	mg/Kg	5	4.00

Sample: 322869 - CS-1 (AH-1) West Wall

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	99744	Date Analyzed:	2013-03-15	Analyzed By:	AR
Prep Batch:	84430	Sample Preparation:	2013-03-13	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**5210**	mg/Kg	10	4.00

Sample: 322870 - CS-1 (AH-1) Bottom Hole

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	99744	Date Analyzed:	2013-03-15	Analyzed By:	AR
Prep Batch:	84430	Sample Preparation:	2013-03-13	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**3250**	mg/Kg	10	4.00

Sample: 322871 - CS-2 (AH-4) North Wall

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	99744	Date Analyzed:	2013-03-15	Analyzed By:	AR
Prep Batch:	84430	Sample Preparation:	2013-03-13	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**1270**	mg/Kg	10	4.00

Sample: 322872 - CS-2 (AH-3) South Wall

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	99744	Date Analyzed:	2013-03-15	Analyzed By:	AR
Prep Batch:	84430	Sample Preparation:	2013-03-13	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**961**	mg/Kg	5	4.00

Sample: 322873 - CS-2 (AH-4) East Wall

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	99744	Date Analyzed:	2013-03-15	Analyzed By:	AR
Prep Batch:	84430	Sample Preparation:	2013-03-13	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1180**	mg/Kg	5	4.00

Sample: 322874 - CS-2 (AH-3) West Wall

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	99744	Date Analyzed:	2013-03-15	Analyzed By:	AR
Prep Batch:	84430	Sample Preparation:	2013-03-13	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**3300**	mg/Kg	10	4.00

Method Blanks

Method Blank (1) QC Batch: 99744

QC Batch:	99744	Date Analyzed:	2013-03-15	Analyzed By:	AR
Prep Batch:	84430	QC Preparation:	2013-03-13	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: 99744 | Date Analyzed: 2013-03-15 | Analyzed By: AR
Prep Batch: 84430 | QC Preparation: 2013-03-13 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2430	mg/Kg	1	2500	<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			2610	mg/Kg	1	2500	<3.85	104	85 - 115	7	20

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

Matrix Spike (MS-1) Spiked Sample: 322875

QC Batch: 99744 | Date Analyzed: 2013-03-15 | Analyzed By: AR
Prep Batch: 84430 | QC Preparation: 2013-03-13 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			4120	mg/Kg	10	2500	1770	94	78.9 - 121

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			4460	mg/Kg	10	2500	1770	108	78.9 - 121	8	20

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

Calibration Standards

Standard (CCV-1)

QC Batch: 99744 | Date Analyzed: 2013-03-15 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2013-03-15

Standard (CCV-2)

QC Batch: 99744 | Date Analyzed: 2013-03-15 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.6	100	85 - 115	2013-03-15

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.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
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.

1303082 6

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-640 1409

PROJECT NAME: COG - McIntyre B Heater Eddy Co, NM

ANALYSIS REQUEST (Circle or Specify Method No.)

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
322866	2/26		S		X	CS-1 (AH-1) North wall	1					X													X				
867						CS-1 (AH-1) South wall	1					X													X				
868						CS-1 (AH-1) East wall	1					X													X				
869						CS-1 (AH-1) West wall	1					X													X				
870						CS-1 (AH-1) Bottom hole	1					X													X				
871						CS-2 (AH-4) North wall	1					X													X				
872						CS-2 (AH-3) South wall	1					X													X				
873						CS-2 (AH-4) East wall	1					X													X				
874						CS-2 (AH-3) West wall	1					X													X				

RELINQUISHED BY: (Signature) — Date: 3/8/13 Time: 1445 — RECEIVED BY: (Signature) — Date: 3/8/13 Time: 1445 — SAMPLED BY: (Print & Initial) Mario Rueda Jr. — Date: — 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 — RECEIVED BY: (Signature)
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE: DATE: TIME:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 5.8

REMARKS: Midland all

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