SITE INFORMATION

Report Type: Closure Report

General Site Information:						
Site:	White Star Federal #1 Tank Battery					
Company:	COG Operating LLC					
Section, Township and Range	Unit H	Sec 29	T17S	R29E		
Lease Number:	API-30-015-29986					
County:	Eddy County					
GPS:	32.08663			104.08909		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	In Loco Hills, from the intersection of Haggerman Cutoff and 82, travel west on 82 for 6.4 miles. Turn left (south) onto CR 210 and travel for 0.5 miles, turn left (east) and travel 0.2 miles to the site.					

Release Data:	
Date Released:	3/12/2013
Type Release:	Oil
Source of Contamination:	Gauge glass nipple on the heater treater
Fluid Released:	15 bbls
Fluids Recovered:	3 bbls

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AUG 23 2013
NMOCD ARTESIA

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

Ranking Criteria		
Depth to Groundwater:	***Ranking Score***	***Site Data***
<50 ft	20	
50-99 ft	10	
>100 ft.	0	0
WellHead Protection:	***Ranking Score***	***Site Data***
Water Source <1,000 ft., Private <200 ft.	*20*	
Water Source >1,000 ft., Private >200 ft.	0	0
Surface Body of Water:	***Ranking Score***	***Site Data***
<200 ft.	*20*	
200 ft - 1,000 ft.	10	
>1,000 ft.	0	0
Total Ranking Score:	**0**	

Acceptable Soil RRAL (mg/kg)		
Benzene	***Total BTEX***	***TPH***
10	50	5,000

TETRA TECH

July 17, 2013

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

Re: Closure Request for the COG Operating LLC., White Star Federal #1 Tank Battery, Unit H, Section 29, Township 17 South, Range 29 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Folk Federal B Tank Battery, located in Unit H, Section 29, Township 17 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.08663°, W 104.08909°. 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 March 12, 2013, and released approximately fifteen (15) barrels of oil from a gauge glass nipple on the heater treater. Three (3) barrels of oil were recovered. The gauge glass nipple has been replaced and the heater treater was returned to service. The inital C-141 form is enclosed in Appendix A.

Groundwater

Two water wells were listed within Section 29. According to the Geology and Ground-Water Resources of Eddy County, New Mexico, one water well was listed with a depth to ground water of 210' below surface. The other well was a water level collected in the field with a depth of 208' below surface. According to the NMOCD groundwater map, the average depth to groundwater in this area is greater than 175' 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 April 5, 2013, Tetra Tech personnel inspected and sampled the spill area. Seven (7) auger holes (AH-1 through AH-7) were installed using a stainless steel hand auger to assess the impacted soils. 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, all of the auger hole samples were below the RRAL for benzene. However, auger holes (AH-3 and AH-4) exceeded the RRAL for total BTEX at 0-1' of 121 mg/kg and 169 mg/kg, respectively. In addition, the auger holes (AH-3 and AH-4) also showed TPH concentrations above the RRAL at 0-1' below surface at 11,120 mg/kg and 15,840 mg/kg, respectively. All auger holes were vertically defined and there was not a significant chloride impact detected in the soils.

Site Remediation and Conclusion

On July 8, 2013, Tetra Tech personnel supervised the excavation of the impacted soils. In order to remove the chloride impacts, a depth of 1.0' below surface was excavated in the areas of AH-3 and AH-4. The excavated areas and depths are highlighted in Table 1 and shown on Figure 4. As requested by the BLM, confirmation samples were collected from these areas for TPH and BTEX analysis. The confirmation results are shown in Table 1. Referring to Table 1, the samples did not show any concentrations above the RRAL.

TETRA TECH

Approximately 40 cubic yards^3 of soil were removed and transported to R360 facility for proper disposal. The site was then backfilled with clean material to surface grade and the pasture was ripped and seeded.

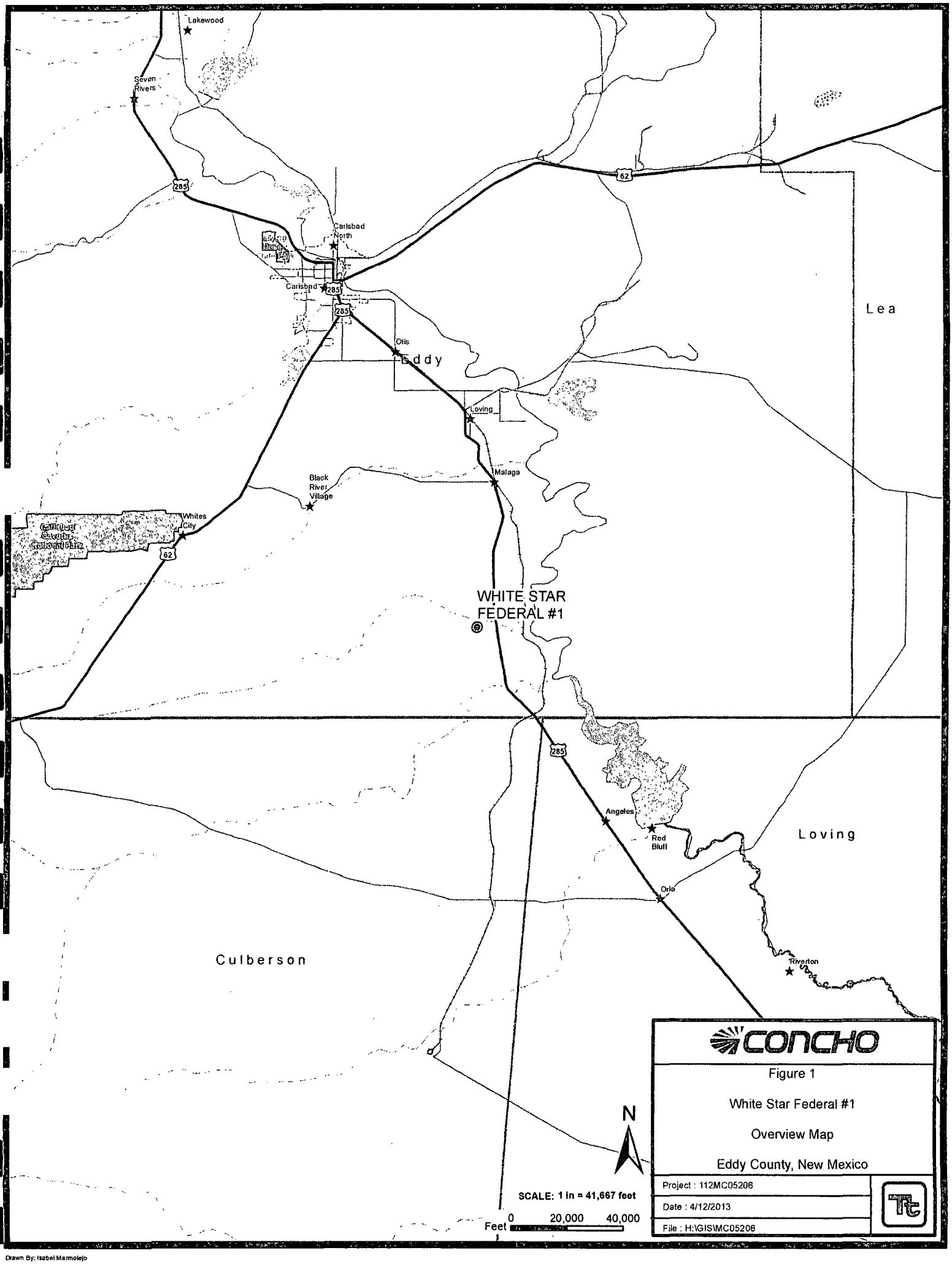
Based on the remediation activities performed at this location, COG requests closure for this site. The C-141 (Final) is included in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities performed at the site, please call me at (432) 682-4559.

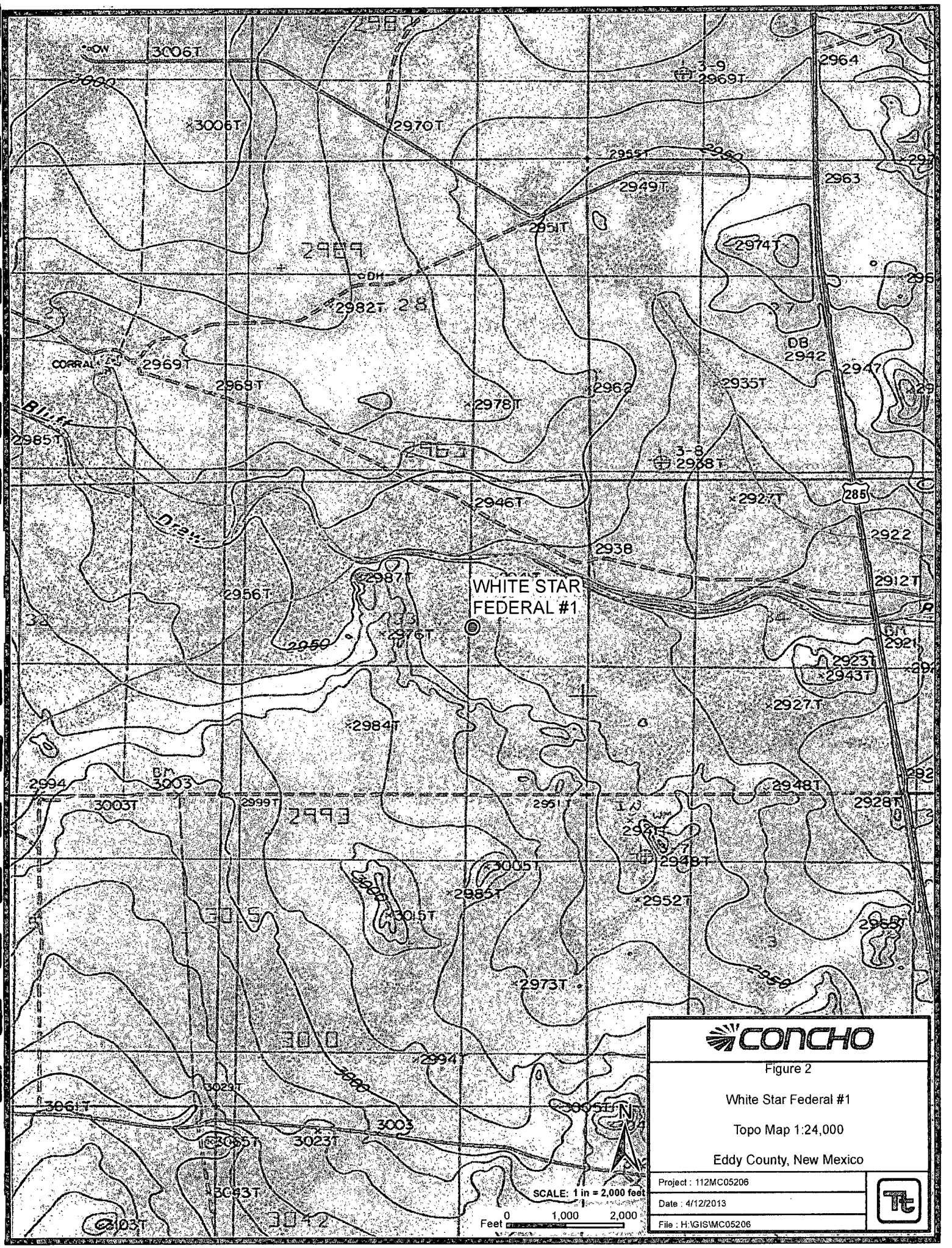
Respectfully submitted,
TETRA TECH

Ike Tavarez
Senior Project Manager

cc: Pat Ellis – COG
Mike Burton - BLM

FIGURES


Lakewood
Seven Rivers
285
62
Carlsbad North
Carlsbad
285
285
Otis
Eddy
Lea
Loving
Malaga
Black River Village
Whites City
62
WHITE STAR FEDERAL #1
285
Angeles
Red Bluff
Loving
Orla
Culberson
Riverton
N
SCALE: 1 in = 41,667 feet
0
20,000
40,000
Feet
CONCHO
Figure 1
White Star Federal #1
Overview Map
Eddy County, New Mexico
Project : 112MC05206
Date : 4/12/2013
File : H:\GIS\MC05206
Drawn By: Isabel Marmolejo



CONCHO

Figure 2

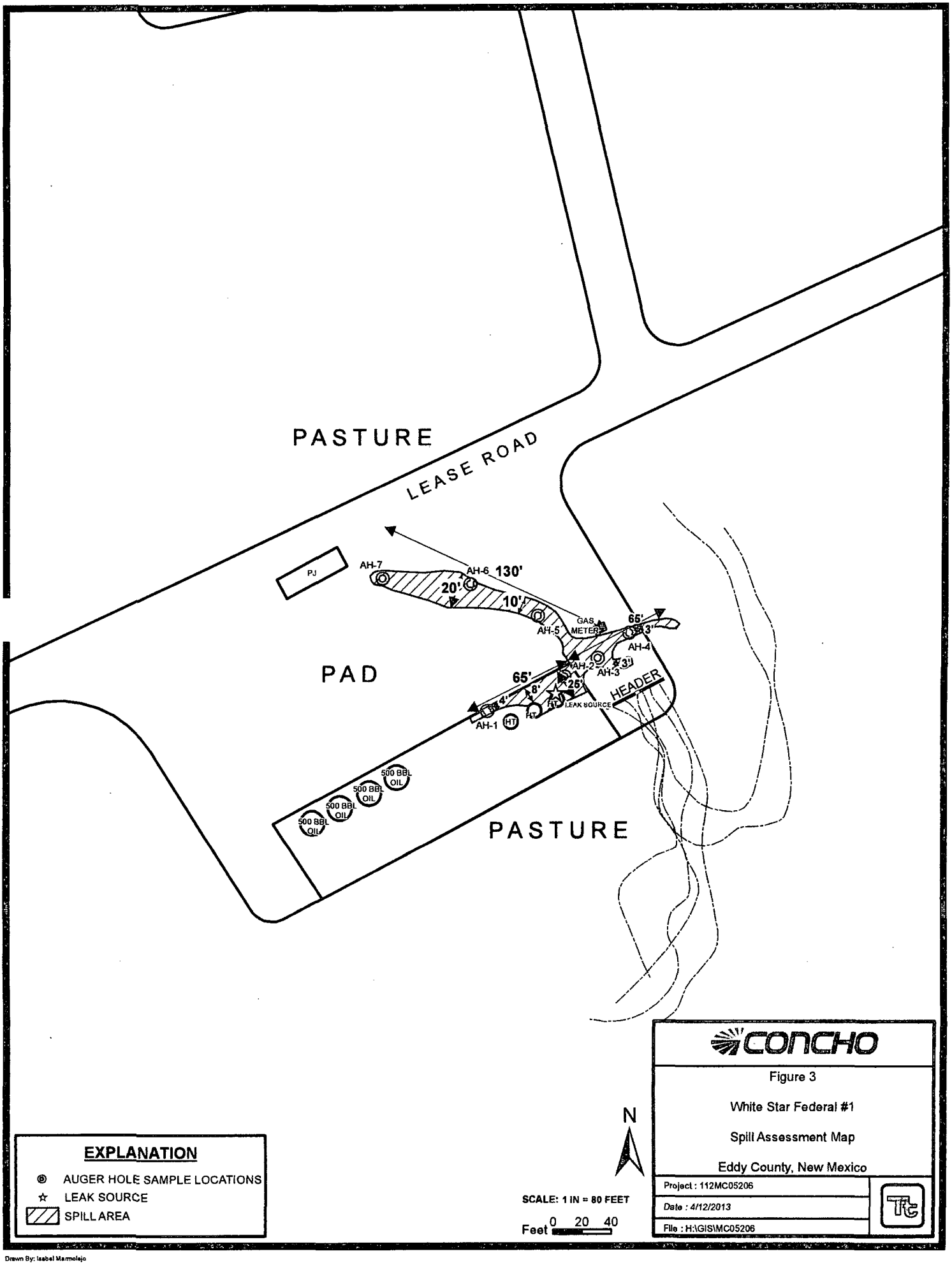
White Star Federal #1

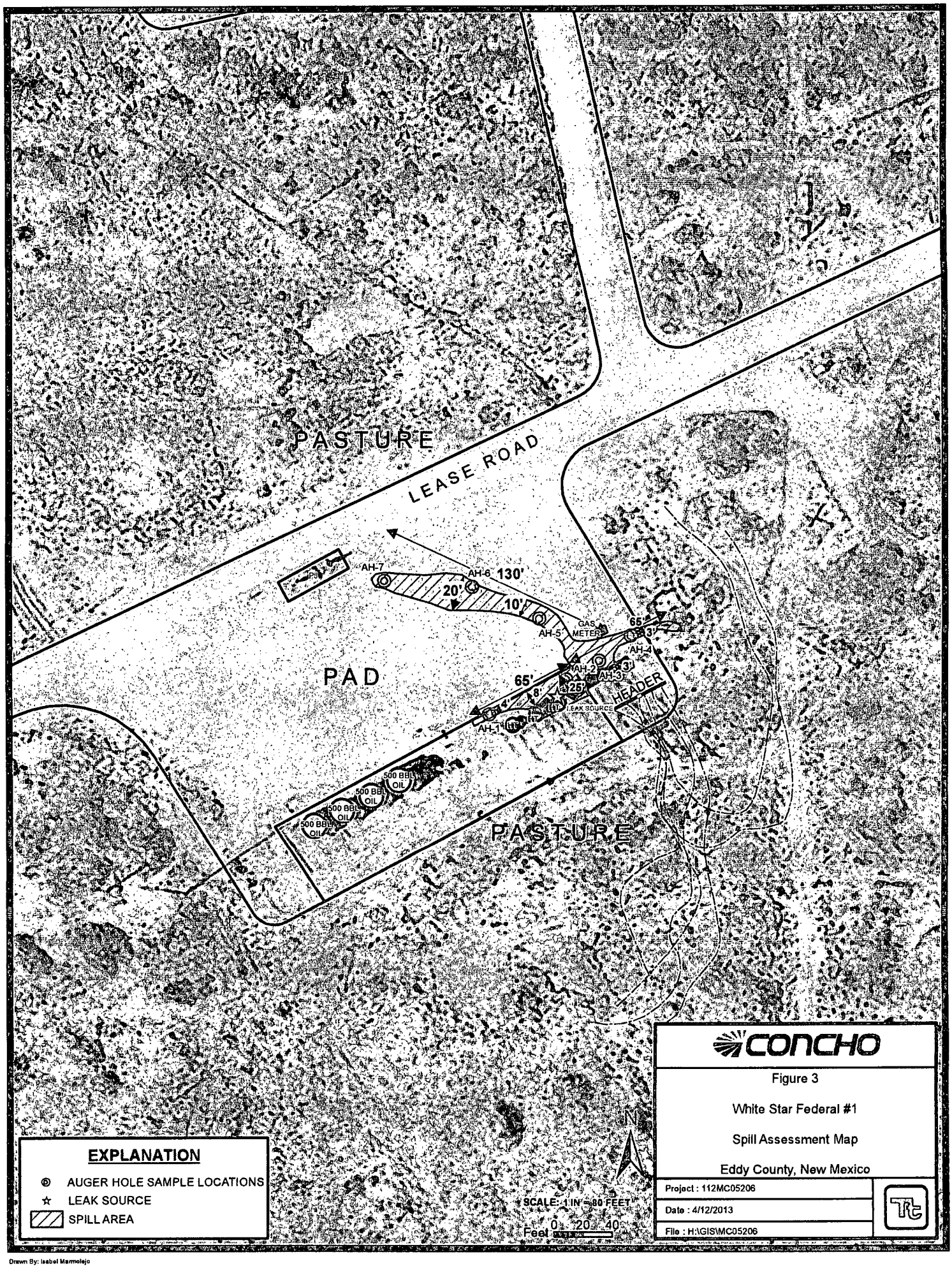
Topo Map 1:24,000

Eddy County, New Mexico

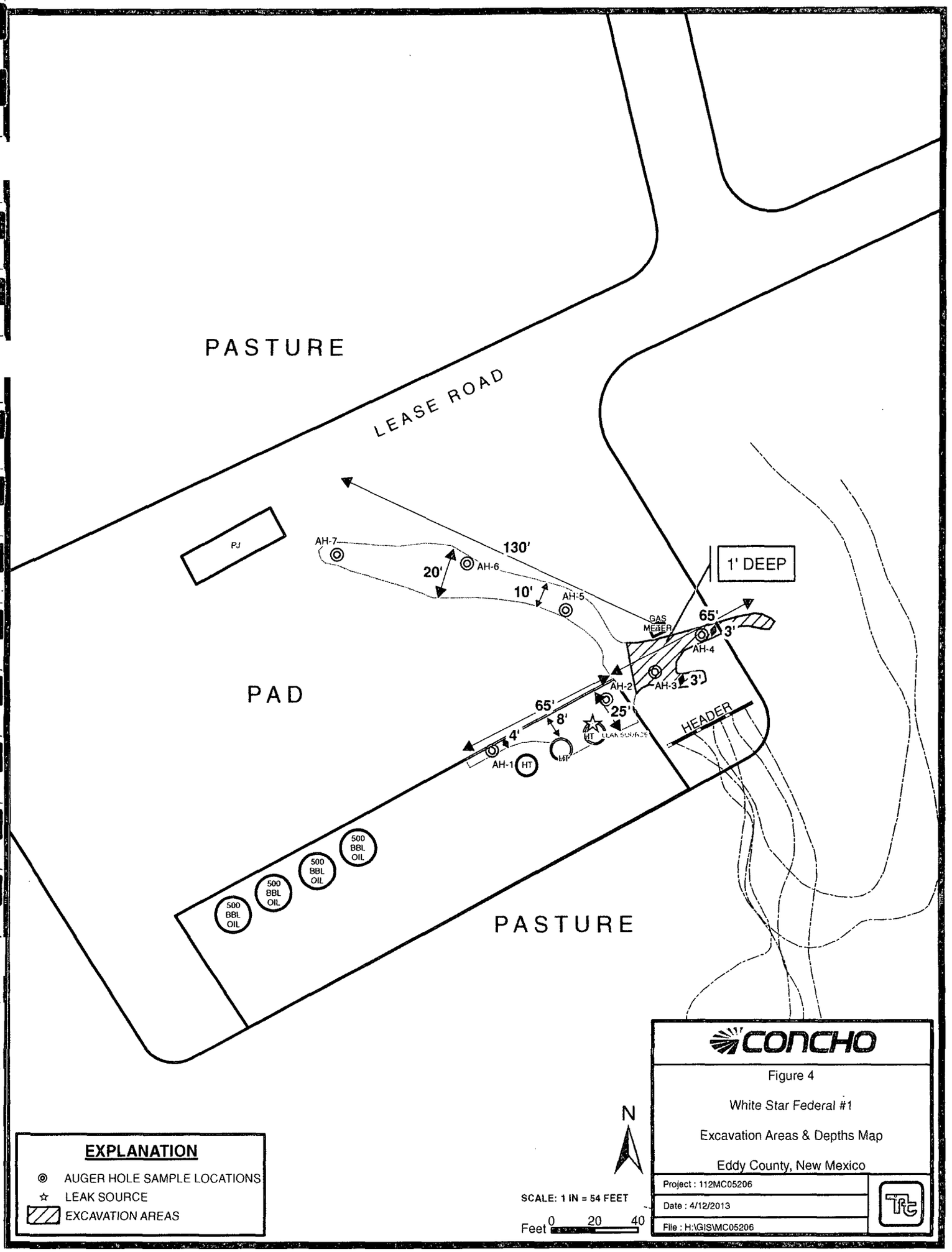
Project : 112MC05206	
Date : 4/12/2013	
File : H:\GIS\MC05206	

Drawn By: Isabel Marmolejo


PASTURE
LEASE ROAD
PJ
AH-7
AH-6
130'
20'
10'
AH-5
GAS METER
65'
3'
AH-4
PAD
AH-2
3"
AH-3
65'
8'
25'
HEADER
4'
HT
LEAK SOURCE
AH-1
500 BBL OIL
500 BBL OIL
500 BBL OIL
500 BBL OIL
PASTURE
EXPLANATION
AUGER HOLE SAMPLE LOCATIONS
LEAK SOURCE
SPILL AREA
N
SCALE: 1 IN = 80 FEET
Feet 0 20 40
CONCHO
Figure 3
White Star Federal #1
Spill Assessment Map
Eddy County, New Mexico
Project : 112MC05206
Date : 4/12/2013
File : H:\GIS\MC05206
Drawn By: Isabel Marmolejo



Drawn By: Isabel Marmolejo



Drawn By: Isabel Marmolejo

Table 1
COG Operating LLC.
White Star Federal #1
Eddy County, New Mexico

Sample ID	Sample Date	BEB Sample Depth (ft)	Excavation Bottom 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	4/5/2013	0-1	0.5	X		278	141	419	<0.0200	0.0852	0.822	1.74	2.65	1,120
	"	1-1.5	"	X		-	-	-	-	-	-	-	-	445
	"	2-2.5	"	X		-	-	-	-	-	-	-	-	137
AH-2	4/5/2013	0-1	0.5	X		11.1	50.1	61.2	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	1,360
	"	1-1.5	"	X		-	-	-	-	-	-	-	-	347
	"	2-2.5	"	X		-	-	-	-	-	-	-	-	<20.0
	"	3-3.5	"	X		-	-	-	-	-	-	-	-	201
AH-3	4/5/2013	0-1	0.5		X	4,000	7,120	**11,120**	<0.200	24.8	20.9	75.4	**121**	63.6
	"	1-1.5	"	X		<4.00	<50.0	<50.0	<0.0200	0.0245	<0.0200	0.0563	0.0808	543
CS-1	7/9/2013	1'		X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	-
AH-4	4/5/2013	0-1	0.5		X	6,820	9,020	**15,840**	1.93	54.7	45.5	66.8	**169**	<20.0
	"	1-1.5	"	X		8.70	<50.0	8.70	<0.0400	<0.0400	<0.0400	<0.0400	<0.0400	147
	"	2-2.5	"	X		-	-	-	-	-	-	-	-	166
CS-2	7/9/2013	1'		X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	-

Table 1
COG Operating LLC.
White Star Federal #1
Eddy County, New Mexico

Sample ID	Sample Date	BEB Sample Depth (ft)	Excavation Bottom 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-5	4/5/2013	0-1	0	X		32.1	<50.0	32.1	<0.0200	0.0281	0.0239	0.103	0.155	<20.0
	"	1-1.5	"	X		-	-	-	-	-	-	-	-	<20.0
	"	2-2.5	"	X		-	-	-	-	-	-	-	-	54.0
AH-6	4/5/2013	0-1	0	X		5.02	59.2	64.2	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	83.5
	"	1-1.5	"	X		-	-	-	-	-	-	-	-	<20.0
	"	2-2.5	"	X		-	-	-	-	-	-	-	-	<20.0
AH-7	4/5/2013	0-1	0	X		21.4	216	237	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	24.6
	"	1-1.5	"	X		-	-	-	-	-	-	-	-	93.3
	"	2-2.5	"	X		-	-	-	-	-	-	-	-	<20.0

(-) Not Analyzed

(BEB) Below Excavation Bottom

Excavation Depths

CS Confirmation Samples

PHOTOGRAPHS

COG Operating LLC
White Star Federal #1
Eddy County, New Mexico

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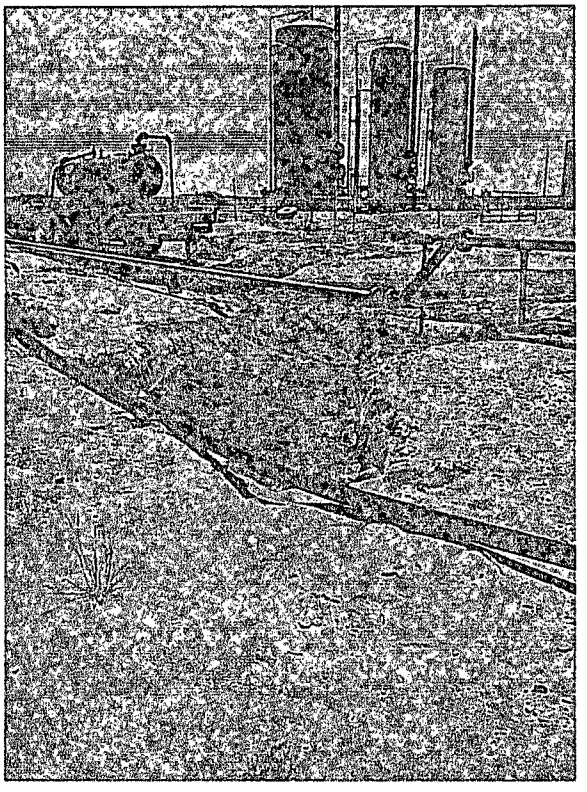
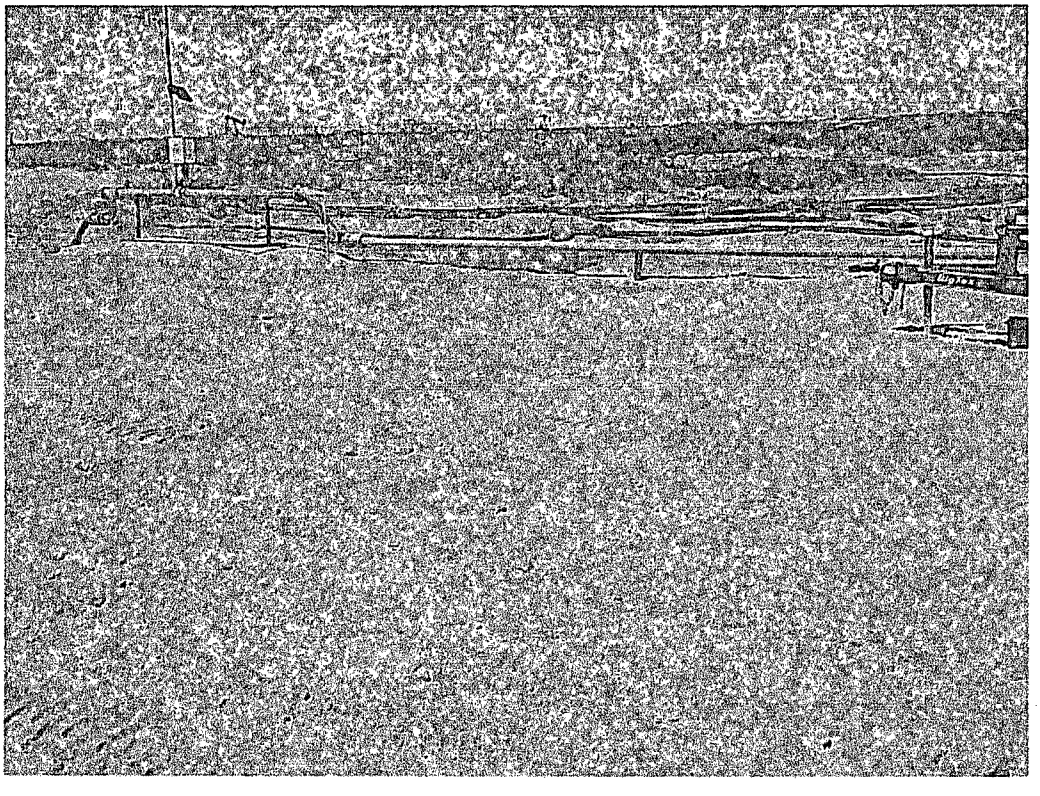


View Southeast – Excavated area of AH-3 and AH-4.



View East – 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	**600 West Illinois Avenue, Midland, TX 79701**	Telephone No.	**(432) 230-0077**
Facility Name	**White Star Federal #001**	Facility Type	Tank Battery

Surface Owner: Federal	Mineral Owner	Lease No. (API#)30-015-29986

LOCATION OF RELEASE

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

Latitude N32.80688° **Longitude** W104.08945°

NATURE OF RELEASE

Type of Release: Oil	Volume of Release 15 bbls Oil	Volume Recovered 3 bbls Oil
Source of Release: Gauge glass blew out on heater treater.	Date and Hour of Occurrence 03/12/2013	Date and Hour of Discovery 03/12/2013 11:30 a.m.
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom? Michelle Mullins	Date and Hour 02/27/2013 10:02 am	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The gauge glass nipple blew out. We replaced the gauge glass nipple with a new one.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech personnel inspected the site and collected samples to define the spill extents. Soil that exceeded the RRAL was removed and hauled away for proper disposal. The site was then brought up to surface grade with clean backfill material. Tetra Tech prepared a closure report and submitted it to NMOCD for review.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Ike Tavarez (agent for COG)	Approved by District Supervisor:	
Title: Project Manager	Approval Date:	Expiration Date:
E-mail Address: Ike Tavarez@tetratech.com	Conditions of Approval:	Attached ☐
Date: 7-17-13 Phone: (432) 682-4559		

* Attach Additional Sheets If Necessary

District I
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State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
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RECEIVED
AUG 23 2013
NMOCD ARTESIA

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	600 West Illinois Avenue, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	WHITE STAR FEDERAL #001	Facility Type	TANK BATTERY

Surface Owner FEDERAL	Mineral Owner	Lease No. (API#) 30-015-29986

LOCATION OF RELEASE

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

Latitude 32.80688 **Longitude** 104.08945

NATURE OF RELEASE

Type of Release Oil	Volume of Release 15bbls	Volume Recovered 3bbls
Source of Release Gauge glass blew out on heater treater.	Date and Hour of Occurrence 03-12-2013	Date and Hour of Discovery 03-12-2013 11:30am
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The gauge glass nipple blew out. We replaced the gauge glass nipple with a new one.

Describe Area Affected and Cleanup Action Taken.*

Initially 15bbls of oil were released from a glass nipple that blew out on a heater treater. We were able to recover 3bbls with a vacuum truck. The release was contained on location All free fluids have been recovered. 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: Senior Environmental Coordinator	Approval Date:	Expiration Date:
E-mail Address: jrusso@concho.com	Conditions of Approval:	Attached ☐
Date: 03-22-2013 Phone: 432-212-2399		

* Attach Additional Sheets If Necessary

APPENDIX B

Water Well Data
Average Depth to Groundwater (ft)
COG-White Star Federal #1
Eddy County, New Mexico

16 South 28 East

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

16 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14 220 dry	13
19 **110**	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

16 South 30 East

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

17 South 28 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22 **79**	23	24
30	29	28	27	26	25
31	32	33	34	35 **258**	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	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

18 South 28 East

6	5	4 **108**	3	2	1
7 **49**	8 **69**	9	10	11	12
18	17	16	15	14	13
19	20	21 **226**	22	23	24
49	29	28	27	26	25
31	32	33	34	35 **65**	36

18 South 29 East

6	5	4	3	2	1
7	8	9	10 **95**	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

18 South 30 East

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

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

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

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

See explanation at beginning of table.

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

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

APPENDIX C

Summary Report

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

Report Date: April 12, 2013

Work Order: 13040903

Project Location: Eddy Co., NM
Project Name: COG/White Star Federal #1
Project Number: 112MC05206

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
325450	AH-1 0-1' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325451	AH-1 1-1.5' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325452	AH-1 2-2.5' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325456	AH-2 0-1' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325457	AH-2 1-1.5' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325458	AH-2 2-2.5' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325459	AH-2 3-3.5' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325466	AH-3 0-1' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325467	AH-3 1-1.5' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325473	AH-4 0-1' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325474	AH-4 1-1.5' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325475	AH-4 2-2.5' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325477	AH-5 0-1'	soil	2013-04-05	00:00	2013-04-08
325478	AH-5 1-1.5'	soil	2013-04-05	00:00	2013-04-08
325479	AH-5 2-2.5'	soil	2013-04-05	00:00	2013-04-08
325481	AH-6 0-1'	soil	2013-04-05	00:00	2013-04-08
325482	AH-6 1-1.5'	soil	2013-04-05	00:00	2013-04-08
325483	AH-6 2-2.5'	soil	2013-04-05	00:00	2013-04-08
325484	AH-7 0-1'	soil	2013-04-05	00:00	2013-04-08
325485	AH-7 1-1.5'	soil	2013-04-05	00:00	2013-04-08
325486	AH-7 2-2.5'	soil	2013-04-05	00:00	2013-04-08

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)
325450 - AH-1 0-1' 0.5' EB	<0.0200	**0.0852**	**0.822**	**1.74**	**141**	**278** Qr,Qs
325456 - AH-2 0-1' 0.5' EB	<0.0200	<0.0200	<0.0200	<0.0200	**50.1**	**11.1** Qs

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)
325466 - AH-3 0-1' 0.5' EB	<0.200 [1]	**24.8**	**20.9**	**75.4**	**7120**	**4000** Qr,Qs
325467 - AH-3 1-1.5' 0.5' EB	<0.0200	**0.0245**	<0.0200	**0.0563**	<50.0	<4.00 Qs
325473 - AH-4 0-1' 0.5' EB	**1.93**	**54.7**	**45.5**	**66.8**	**9020**	**6820** Qr,Qs
325474 - AH-4 1-1.5' 0.5' EB	<0.0400 [2]	<0.0400	<0.0400	<0.0400	<50.0	**8.70** Qs
325477 - AH-5 0-1'	<0.0200	**0.0281**	**0.0239**	**0.103**	<50.0	**32.1** Qs
325481 - AH-6 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	**59.2**	**5.02** Qs
325484 - AH-7 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	**216**	**21.4** Qs

Sample: 325450 - AH-1 0-1' 0.5' EB

Param	Flag	Result	Units	RL
Chloride		**1120**	mg/Kg	4

Sample: 325451 - AH-1 1-1.5' 0.5' EB

Param	Flag	Result	Units	RL
Chloride		**445**	mg/Kg	4

Sample: 325452 - AH-1 2-2.5' 0.5' EB

Param	Flag	Result	Units	RL
Chloride		**137**	mg/Kg	4

Sample: 325456 - AH-2 0-1' 0.5' EB

Param	Flag	Result	Units	RL
Chloride		**1360**	mg/Kg	4

Sample: 325457 - AH-2 1-1.5' 0.5' EB

Param	Flag	Result	Units	RL
Chloride		**347**	mg/Kg	4

Sample: 325458 - AH-2 2-2.5' 0.5' EB

[1] Dilution due to hydrocarbons.
[2] Dilution due to hydrocarbons.

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 325459 - AH-2 3-3.5' 0.5' EB

Param	Flag	Result	Units	RL
Chloride		**201**	mg/Kg	4

Sample: 325466 - AH-3 0-1' 0.5' EB

Param	Flag	Result	Units	RL
Chloride		**63.6**	mg/Kg	4

Sample: 325467 - AH-3 1-1.5' 0.5' EB

Param	Flag	Result	Units	RL
Chloride		**543**	mg/Kg	4

Sample: 325473 - AH-4 0-1' 0.5' EB

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 325474 - AH-4 1-1.5' 0.5' EB

Param	Flag	Result	Units	RL
Chloride		**147**	mg/Kg	4

Sample: 325475 - AH-4 2-2.5' 0.5' EB

Param	Flag	Result	Units	RL
Chloride		**166**	mg/Kg	4

Sample: 325477 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 325478 - AH-5 1-1.5'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 325479 - AH-5 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**54.0**	mg/Kg	4

Sample: 325481 - AH-6 0-1'

Param	Flag	Result	Units	RL
Chloride		**83.5**	mg/Kg	4

Sample: 325482 - AH-6 1-1.5'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 325483 - AH-6 2-2.5'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 325484 - AH-7 0-1'

Param	Flag	Result	Units	RL
Chloride		**24.6**	mg/Kg	4

Sample: 325485 - AH-7 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**93.3**	mg/Kg	4

Sample: 325486 - AH-7 2-2.5'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

TRACEANALYSIS, INC.

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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: April 12, 2013

Work Order: 13040903

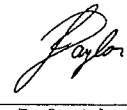
Project Location: Eddy Co., NM
Project Name: COG/White Star Federal #1
Project Number: 112MC05206

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
325450	AH-1 0-1' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325451	AH-1 1-1.5' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325452	AH-1 2-2.5' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325456	AH-2 0-1' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325457	AH-2 1-1.5' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325458	AH-2 2-2.5' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325459	AH-2 3-3.5' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325466	AH-3 0-1' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325467	AH-3 1-1.5' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325473	AH-4 0-1' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325474	AH-4 1-1.5' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325475	AH-4 2-2.5' 0.5' EB	soil	2013-04-05	00:00	2013-04-08
325477	AH-5 0-1'	soil	2013-04-05	00:00	2013-04-08
325478	AH-5 1-1.5'	soil	2013-04-05	00:00	2013-04-08
325479	AH-5 2-2.5'	soil	2013-04-05	00:00	2013-04-08
325481	AH-6 0-1'	soil	2013-04-05	00:00	2013-04-08
325482	AH-6 1-1.5'	soil	2013-04-05	00:00	2013-04-08
325483	AH-6 2-2.5'	soil	2013-04-05	00:00	2013-04-08

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
325484	AH-7 0-1'	soil	2013-04-05	00:00	2013-04-08
325485	AH-7 1-1.5'	soil	2013-04-05	00:00	2013-04-08
325486	AH-7 2-2.5'	soil	2013-04-05	00:00	2013-04-08

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/White Star Federal #1 were received by TraceAnalysis, Inc. on 2013-04-08 and assigned to work order 13040903. Samples for work order 13040903 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
BTEX	S 8021B	85036	2013-04-10 at 09:53	100355	2013-04-10 at 09:54
BTEX	S 8021B	85072	2013-04-11 at 10:02	100384	2013-04-11 at 10:02
Chloride (Titration)	SM 4500-Cl B	85093	2013-04-10 at 14:08	100411	2013-04-11 at 14:08
Chloride (Titration)	SM 4500-Cl B	85093	2013-04-10 at 14:08	100412	2013-04-11 at 14:09
Chloride (Titration)	SM 4500-Cl B	85093	2013-04-10 at 14:08	100413	2013-04-11 at 14:10
TPH DRO - NEW	S 8015 D	85031	2013-04-09 at 08:00	100353	2013-04-10 at 08:58
TPH DRO - NEW	S 8015 D	85075	2013-04-10 at 11:00	100387	2013-04-11 at 10:22
TPH GRO	S 8015 D	85039	2013-04-10 at 10:34	100358	2013-04-10 at 10:35
TPH GRO	S 8015 D	85074	2013-04-11 at 10:11	100386	2013-04-11 at 10:13
TPH GRO	S 8015 D	85101	2013-04-12 at 09:38	100426	2013-04-12 at 09:41

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 13040903 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: 325450 - AH-1 0-1' 0.5' EB

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	100355	Date Analyzed:	2013-04-10	Analyzed By:	AH
Prep Batch:	85036	Sample Preparation:	2013-04-09	Prepared By:	AH

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	1	<0.0200	mg/Kg	1	0.0200
Toluene		1	**0.0852**	mg/Kg	1	0.0200
Ethylbenzene		1	**0.822**	mg/Kg	1	0.0200
Xylene		1	**1.74**	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.86	mg/Kg	1	2.00	93	70 - 130
4-Bromofluorobenzene (4-BFB)			1.73	mg/Kg	1	2.00	86	70 - 130

Sample: 325450 - AH-1 0-1' 0.5' EB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100411	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**1120**	mg/Kg	10	4.00

Sample: 325450 - AH-1 0-1' 0.5' EB

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	100353	Date Analyzed:	2013-04-10	Analyzed By:	CW
Prep Batch:	85031	Sample Preparation:	2013-04-09	Prepared By:	CW

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
DRO		1	**141**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			109	mg/Kg	1	100	109	70 - 130

Sample: 325450 - AH-1 0-1' 0.5' EB

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	100386	Date Analyzed:	2013-04-11	Analyzed By:	AH
Prep Batch:	85074	Sample Preparation:	2013-04-10	Prepared By:	AH

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
GRO	Qr,Qs	1	**278**		mg/Kg	5	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			8.35	mg/Kg	5	10.0	84	70 - 130
4-Bromofluorobenzene (4-BFB)			10.5	mg/Kg	5	10.0	105	70 - 130

Sample: 325451 - AH-1 1-1.5' 0.5' EB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100411	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Chloride			**445**		mg/Kg	5	4.00

Sample: 325452 - AH-1 2-2.5' 0.5' EB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100412	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

continued ...

sample 325452 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**137**	mg/Kg	5	4.00

Sample: 325456 - AH-2 0-1' 0.5' EB

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	100355	Date Analyzed:	2013-04-10	Analyzed By:	AH
Prep Batch:	85036	Sample Preparation:	2013-04-09	Prepared By:	AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.83	mg/Kg	1	2.00	92	70 - 130
4-Bromofluorobenzene (4-BFB)			1.68	mg/Kg	1	2.00	84	70 - 130

Sample: 325456 - AH-2 0-1' 0.5' EB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100412	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1360**	mg/Kg	10	4.00

Sample: 325456 - AH-2 0-1' 0.5' EB

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	100353	Date Analyzed:	2013-04-10	Analyzed By:	CW
Prep Batch:	85031	Sample Preparation:	2013-04-09	Prepared By:	CW

Parameter	Flag	Cert	Result	RL Result	Units	Dilution	RL
DRO		1		**50.1**	mg/Kg	1	50.0

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

Sample: 325456 - AH-2 0-1' 0.5' EB

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	100358	Date Analyzed:	2013-04-10	Analyzed By:	AH
Prep Batch:	85039	Sample Preparation:	2013-04-10	Prepared By:	AH

Parameter	Flag	Cert	Result	RL Result	Units	Dilution	RL
GRO	Qs	1		**11.1**	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.66	mg/Kg	1	2.00	83	70 - 130
4-Bromofluorobenzene (4-BFB)			1.84	mg/Kg	1	2.00	92	70 - 130

Sample: 325457 - AH-2 1-1.5' 0.5' EB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100412	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Result	Units	Dilution	RL
Chloride				**347**	mg/Kg	5	4.00

Sample: 325458 - AH-2 2-2.5' 0.5' EB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100412	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Chloride	U		<20.0		mg/Kg	5	4.00

Sample: 325459 - AH-2 3-3.5' 0.5' EB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100412	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Chloride			**201**		mg/Kg	5	4.00

Sample: 325466 - AH-3 0-1' 0.5' EB

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	100355	Date Analyzed:	2013-04-10	Analyzed By:	AH
Prep Batch:	85036	Sample Preparation:	2013-04-09	Prepared By:	AH

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Benzene	U	1	<0.200		mg/Kg	10	0.0200
Toluene		1	**24.8**		mg/Kg	10	0.0200
Ethylbenzene		1	**20.9**		mg/Kg	10	0.0200
Xylene		1	**75.4**		mg/Kg	10	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			18.1	mg/Kg	10	20.0	90	70 - 130
4-Bromofluorobenzene (4-BFB)			18.8	mg/Kg	10	20.0	94	70 - 130

Sample: 325466 - AH-3 0-1' 0.5' EB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100412	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**63.6**	mg/Kg	5	4.00

Sample: 325466 - AH-3 0-1' 0.5' EB

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	100353	Date Analyzed:	2013-04-10	Analyzed By:	CW
Prep Batch:	85031	Sample Preparation:	2013-04-09	Prepared By:	CW

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
DRO		1	**7120**	mg/Kg	5	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	466	mg/Kg	5	100	466	70 - 130

Sample: 325466 - AH-3 0-1' 0.5' EB

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	100386	Date Analyzed:	2013-04-11	Analyzed By:	AH
Prep Batch:	85074	Sample Preparation:	2013-04-10	Prepared By:	AH

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
GRO	Qr,Qs	1	**4000**	mg/Kg	50	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			81.8	mg/Kg	50	100	82	70 - 130
4-Bromofluorobenzene (4-BFB)			129	mg/Kg	50	100	129	70 - 130

Sample: 325467 - AH-3 1-1.5' 0.5' EB

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	100384	Date Analyzed:	2013-04-11	Analyzed By:	AH
Prep Batch:	85072	Sample Preparation:	2013-04-10	Prepared By:	AH

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	1	<0.0200	mg/Kg	1	0.0200
Toluene		1	**0.0245**	mg/Kg	1	0.0200
Ethylbenzene	U	1	<0.0200	mg/Kg	1	0.0200
Xylene		1	**0.0563**	mg/Kg	1	0.0200

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

Sample: 325467 - AH-3 1-1.5' 0.5' EB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100412	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**543**	mg/Kg	5	4.00

Sample: 325467 - AH-3 1-1.5' 0.5' EB

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	100387	Date Analyzed:	2013-04-11	Analyzed By:	CW
Prep Batch:	85075	Sample Preparation:	2013-04-10	Prepared By:	CW

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			124	mg/Kg	1	100	124	70 - 130

Sample: 325467 - AH-3 1-1.5' 0.5' EB

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	100426	Date Analyzed:	2013-04-12	Analyzed By:	AH
Prep Batch:	85101	Sample Preparation:	2013-04-11	Prepared By:	AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.66	mg/Kg	1	2.00	83	70 - 130
4-Bromofluorobenzene (4-BFB)			1.66	mg/Kg	1	2.00	83	70 - 130

Sample: 325473 - AH-4 0-1' 0.5' EB

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	100355	Date Analyzed:	2013-04-10	Analyzed By:	AH
Prep Batch:	85036	Sample Preparation:	2013-04-09	Prepared By:	AH

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene		1	**1.93**	mg/Kg	5	0.0200
Toluene		1	**54.7**	mg/Kg	5	0.0200
Ethylbenzene		1	**45.5**	mg/Kg	5	0.0200
Xylene		1	**66.8**	mg/Kg	5	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			8.80	mg/Kg	5	10.0	88	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	13.7	mg/Kg	5	10.0	137	70 - 130

Sample: 325473 - AH-4 0-1' 0.5' EB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100412	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

continued ...

sample 325473 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Sample: 325473 - AH-4 0-1' 0.5' EB

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	100353	Date Analyzed:	2013-04-10	Analyzed By:	CW
Prep Batch:	85031	Sample Preparation:	2013-04-09	Prepared By:	CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	**9020**	mg/Kg	5	50.0

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr		939	mg/Kg	5	100	939	70 - 130

Sample: 325473 - AH-4 0-1' 0.5' EB

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	100386	Date Analyzed:	2013-04-11	Analyzed By:	AH
Prep Batch:	85074	Sample Preparation:	2013-04-10	Prepared By:	AH

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Qr,Qs	1	**6820**	mg/Kg	100	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			162	mg/Kg	100	200	81	70 - 130
4-Bromofluorobenzene (4-BFB)			241	mg/Kg	100	200	120	70 - 130

Sample: 325474 - AH-4 1-1.5' 0.5' EB

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	100384	Date Analyzed:	2013-04-11	Analyzed By:	AH
Prep Batch:	85072	Sample Preparation:	2013-04-10	Prepared By:	AH

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene [2]	U	1	<0.0400	mg/Kg	2	0.0200
Toluene	U	1	<0.0400	mg/Kg	2	0.0200
Ethylbenzene	U	1	<0.0400	mg/Kg	2	0.0200
Xylene	U	1	<0.0400	mg/Kg	2	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			3.56	mg/Kg	2	4.00	89	70 - 130
4-Bromofluorobenzene (4-BFB)			3.50	mg/Kg	2	4.00	88	70 - 130

Sample: 325474 - AH-4 1-1.5' 0.5' EB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100412	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**147**	mg/Kg	5	4.00

Sample: 325474 - AH-4 1-1.5' 0.5' EB

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	100387	Date Analyzed:	2013-04-11	Analyzed By:	CW
Prep Batch:	85075	Sample Preparation:	2013-04-10	Prepared By:	CW

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

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

Sample: 325474 - AH-4 1-1.5' 0.5' EB

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	100426	Date Analyzed:	2013-04-12	Analyzed By:	AH
Prep Batch:	85101	Sample Preparation:	2013-04-11	Prepared By:	AH

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	B,Qs	1	**8.70**	mg/Kg	2	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			3.25	mg/Kg	2	4.00	81	70 - 130
4-Bromofluorobenzene (4-BFB)			3.40	mg/Kg	2	4.00	85	70 - 130

Sample: 325475 - AH-4 2-2.5' 0.5' EB

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100412	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**166**	mg/Kg	5	4.00

Sample: 325477 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	100355	Date Analyzed:	2013-04-10	Analyzed By:	AH
Prep Batch:	85036	Sample Preparation:	2013-04-09	Prepared By:	AH

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1	<0.0200	mg/Kg	1	0.0200
Toluene		1	**0.0281**	mg/Kg	1	0.0200
Ethylbenzene		1	**0.0239**	mg/Kg	1	0.0200
Xylene		1	**0.103**	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.81	mg/Kg	1	2.00	90	70 - 130
4-Bromofluorobenzene (4-BFB)			1.80	mg/Kg	1	2.00	90	70 - 130

Sample: 325477 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100413	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Sample: 325477 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	100353	Date Analyzed:	2013-04-10	Analyzed By:	CW
Prep Batch:	85031	Sample Preparation:	2013-04-09	Prepared By:	CW

Parameter	Flag	Cert	Result	RL 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			111	mg/Kg	1	100	111	70 - 130

Sample: 325477 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	100358	Date Analyzed:	2013-04-10	Analyzed By:	AH
Prep Batch:	85039	Sample Preparation:	2013-04-10	Prepared By:	AH

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
GRO	Q8	1	**32.1**	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.66	mg/Kg	1	2.00	83	70 - 130
4-Bromofluorobenzene (4-BFB)			1.89	mg/Kg	1	2.00	94	70 - 130

Sample: 325478 - AH-5 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100413	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Sample: 325479 - AH-5 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100413	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**54.0**	mg/Kg	5	4.00

Sample: 325481 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	100355	Date Analyzed:	2013-04-10	Analyzed By:	AH
Prep Batch:	85036	Sample Preparation:	2013-04-09	Prepared By:	AH

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

continued ...

sample 325481 continued ...

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.84	mg/Kg	1	2.00	92	70 - 130
4-Bromofluorobenzene (4-BFB)			1.68	mg/Kg	1	2.00	84	70 - 130

Sample: 325481 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100413	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**83.5**	mg/Kg	5	4.00

Sample: 325481 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	100353	Date Analyzed:	2013-04-10	Analyzed By:	CW
Prep Batch:	85031	Sample Preparation:	2013-04-09	Prepared By:	CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	**59.2**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			114	mg/Kg	1	100	114	70 - 130

Sample: 325481 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	100358	Date Analyzed:	2013-04-10	Analyzed By:	AH
Prep Batch:	85039	Sample Preparation:	2013-04-10	Prepared By:	AH

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Qs	1	**5.02**	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.67	mg/Kg	1	2.00	84	70 - 130
4-Bromofluorobenzene (4-BFB)			1.78	mg/Kg	1	2.00	89	70 - 130

Sample: 325482 - AH-6 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100413	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Sample: 325483 - AH-6 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100413	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Sample: 325484 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	100355	Date Analyzed:	2013-04-10	Analyzed By:	AH
Prep Batch:	85036	Sample Preparation:	2013-04-09	Prepared By:	AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.84	mg/Kg	1	2.00	92	70 - 130
4-Bromofluorobenzene (4-BFB)			1.63	mg/Kg	1	2.00	82	70 - 130

Sample: 325484 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100413	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Chloride			**24.6**		mg/Kg	5	4.00

Sample: 325484 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	100353	Date Analyzed:	2013-04-10	Analyzed By:	CW
Prep Batch:	85031	Sample Preparation:	2013-04-09	Prepared By:	CW

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
DRO		1	**216**		mg/Kg	1	50.0

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

Sample: 325484 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	100358	Date Analyzed:	2013-04-10	Analyzed By:	AH
Prep Batch:	85039	Sample Preparation:	2013-04-10	Prepared By:	AH

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Qs	1	**21.4**	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.66	mg/Kg	1	2.00	83	70 - 130
4-Bromofluorobenzene (4-BFB)			1.51	mg/Kg	1	2.00	76	70 - 130

Sample: 325485 - AH-7 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100413	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**93.3**	mg/Kg	5	4.00

Sample: 325486 - AH-7 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	100413	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	Sample Preparation:	2013-04-10	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Method Blanks

Method Blank (1) QC Batch: 100353

QC Batch:	100353	Date Analyzed:	2013-04-10	Analyzed By:	CW
Prep Batch:	85031	QC Preparation:	2013-04-09	Prepared By:	CW

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	<6.88	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			102	mg/Kg	1	100	102	70 - 130

Method Blank (1) QC Batch: 100355

QC Batch:	100355	Date Analyzed:	2013-04-10	Analyzed By:	AH
Prep Batch:	85036	QC Preparation:	2013-04-10	Prepared By:	AH

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00810	mg/Kg	0.02
Toluene		1	<0.00750	mg/Kg	0.02
Ethylbenzene		1	<0.00730	mg/Kg	0.02
Xylene		1	<0.00700	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.81	mg/Kg	1	2.00	90	70 - 130
4-Bromofluorobenzene (4-BFB)			1.65	mg/Kg	1	2.00	82	70 - 130

Method Blank (1) QC Batch: 100358

QC Batch:	100358	Date Analyzed:	2013-04-10	Analyzed By:	AH
Prep Batch:	85039	QC Preparation:	2013-04-10	Prepared By:	AH

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<2.32	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.70	mg/Kg	1	2.00	85	70 - 130
4-Bromofluorobenzene (4-BFB)			1.66	mg/Kg	1	2.00	83	70 - 130

Method Blank (1) QC Batch: 100384

QC Batch:	100384	Date Analyzed:	2013-04-11	Analyzed By:	AH
Prep Batch:	85072	QC Preparation:	2013-04-11	Prepared By:	AH

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00810	mg/Kg	0.02
Toluene		1	<0.00750	mg/Kg	0.02
Ethylbenzene		1	<0.00730	mg/Kg	0.02
Xylene		1	<0.00700	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.83	mg/Kg	1	2.00	92	70 - 130
4-Bromofluorobenzene (4-BFB)			1.62	mg/Kg	1	2.00	81	70 - 130

Method Blank (1) QC Batch: 100386

QC Batch:	100386	Date Analyzed:	2013-04-11	Analyzed By:	AH
Prep Batch:	85074	QC Preparation:	2013-04-11	Prepared By:	AH

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	2.34	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.66	mg/Kg	1	2.00	83	70 - 130
4-Bromofluorobenzene (4-BFB)			1.87	mg/Kg	1	2.00	94	70 - 130

Method Blank (1) QC Batch: 100387

QC Batch:	100387	Date Analyzed:	2013-04-11	Analyzed By:	CW
Prep Batch:	85075	QC Preparation:	2013-04-10	Prepared By:	CW

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	19.9	mg/Kg	50

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

Method Blank (1) QC Batch: 100411

QC Batch:	100411	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	QC Preparation:	2013-04-10	Prepared By:	AR

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

Method Blank (1) QC Batch: 100412

QC Batch:	100412	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	QC Preparation:	2013-04-10	Prepared By:	AR

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

Method Blank (1) QC Batch: 100413

QC Batch:	100413	Date Analyzed:	2013-04-11	Analyzed By:	AR
Prep Batch:	85093	QC Preparation:	2013-04-10	Prepared By:	AR

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

Method Blank (1) QC Batch: 100426

QC Batch:	100426	Date Analyzed:	2013-04-12	Analyzed By:	AH
Prep Batch:	85101	QC Preparation:	2013-04-12	Prepared By:	AH

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	2.94	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.66	mg/Kg	1	2.00	83	70 - 130
4-Bromofluorobenzene (4-BFB)			1.67	mg/Kg	1	2.00	84	70 - 130

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 100353 | Date Analyzed: 2013-04-10 | Analyzed By: CW
Prep Batch: 85031 | QC Preparation: 2013-04-09 | Prepared By: CW

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	254	mg/Kg	1	250	<6.88	102	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	261	mg/Kg	1	250	<6.88	104	70 - 130	3	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	114	110	mg/Kg	1	100	114	110	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 100355 | Date Analyzed: 2013-04-10 | Analyzed By: AH
Prep Batch: 85036 | QC Preparation: 2013-04-10 | Prepared By: AH

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.78	mg/Kg	1	2.00	<0.00810	89	70 - 130
Toluene		1	1.74	mg/Kg	1	2.00	<0.00750	87	70 - 130
Ethylbenzene		1	1.78	mg/Kg	1	2.00	<0.00730	89	70 - 130
Xylene		1	5.32	mg/Kg	1	6.00	<0.00700	89	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.90	mg/Kg	1	2.00	<0.00810	95	70 - 130	6	20
Toluene		1	1.90	mg/Kg	1	2.00	<0.00750	95	70 - 130	9	20
Ethylbenzene		1	1.91	mg/Kg	1	2.00	<0.00730	96	70 - 130	7	20
Xylene		1	5.68	mg/Kg	1	6.00	<0.00700	95	70 - 130	6	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.84	1.86	mg/Kg	1	2.00	92	93	70 - 130
4-Bromofluorobenzene (4-BFB)	1.67	1.70	mg/Kg	1	2.00	84	85	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 100358 | Date Analyzed: 2013-04-10 | Analyzed By: AH
Prep Batch: 85039 | QC Preparation: 2013-04-10 | Prepared By: AH

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	17.0	mg/Kg	1	20.0	<2.32	85	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	18.7	mg/Kg	1	20.0	<2.32	94	70 - 130	10	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.70	1.77	mg/Kg	1	2.00	85	88	70 - 130
4-Bromofluorobenzene (4-BFB)	1.70	1.75	mg/Kg	1	2.00	85	88	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 100384 | Date Analyzed: 2013-04-11 | Analyzed By: AH
Prep Batch: 85072 | QC Preparation: 2013-04-11 | Prepared By: AH

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.97	mg/Kg	1	2.00	<0.00810	98	70 - 130
Toluene		1	1.98	mg/Kg	1	2.00	<0.00750	99	70 - 130
Ethylbenzene		1	2.06	mg/Kg	1	2.00	<0.00730	103	70 - 130
Xylene		1	6.15	mg/Kg	1	6.00	<0.00700	102	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.85	mg/Kg	1	2.00	<0.00810	93	70 - 130	6	20

continued ...

control spikes continued ...

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Toluene		1	1.87	mg/Kg	1	2.00	<0.00750	93	70 - 130	6	20
Ethylbenzene		1	1.96	mg/Kg	1	2.00	<0.00730	98	70 - 130	5	20
Xylene		1	5.82	mg/Kg	1	6.00	<0.00700	97	70 - 130	5	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.85	1.85	mg/Kg	1	2.00	92	92	70 - 130
4-Bromofluorobenzene (4-BFB)	1.62	1.57	mg/Kg	1	2.00	81	78	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 100386 | Date Analyzed: 2013-04-11 | Analyzed By: AH
Prep Batch: 85074 | QC Preparation: 2013-04-11 | Prepared By: AH

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	15.0	mg/Kg	1	20.0	2.34	75	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	15.1	mg/Kg	1	20.0	2.34	76	70 - 130	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.65	1.64	mg/Kg	1	2.00	82	82	70 - 130
4-Bromofluorobenzene (4-BFB)	1.67	1.61	mg/Kg	1	2.00	84	80	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 100387 | Date Analyzed: 2013-04-11 | Analyzed By: CW
Prep Batch: 85075 | QC Preparation: 2013-04-10 | Prepared By: CW

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	245	mg/Kg	1	250	19.9	90	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO			241	mg/Kg	1	250	19.9	88	70 - 130	2	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	116	111	mg/Kg	1	100	116	111	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 100411 | Date Analyzed: 2013-04-11 | Analyzed By: AR
Prep Batch: 85093 | QC Preparation: 2013-04-10 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2340	mg/Kg	1	2500	<3.85	94	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			2500	mg/Kg	1	2500	<3.85	100	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: 100412 | Date Analyzed: 2013-04-11 | Analyzed By: AR
Prep Batch: 85093 | QC Preparation: 2013-04-10 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2690	mg/Kg	1	2500	<3.85	108	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			2570	mg/Kg	1	2500	<3.85	103	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: 100413 | Date Analyzed: 2013-04-11 | Analyzed By: AR
Prep Batch: 85093 | QC Preparation: 2013-04-10 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2480	mg/Kg	1	2500	<3.85	99	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			2650	mg/Kg	1	2500	<3.85	106	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: 100426 | Date Analyzed: 2013-04-12 | Analyzed By: AH
Prep Batch: 85101 | QC Preparation: 2013-04-12 | Prepared By: AH

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	18.4	mg/Kg	1	20.0	2.94	92	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	18.9	mg/Kg	1	20.0	2.94	94	70 - 130	3	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.68	1.69	mg/Kg	1	2.00	84	84	70 - 130
4-Bromofluorobenzene (4-BFB)	1.72	1.73	mg/Kg	1	2.00	86	86	70 - 130

Matrix Spike (MS-1) Spiked Sample: 325446

QC Batch: 100353 | Date Analyzed: 2013-04-10 | Analyzed By: CW
Prep Batch: 85031 | QC Preparation: 2013-04-09 | Prepared By: CW

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	408	mg/Kg	1	250	89	128	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	403	mg/Kg	1	250	89	126	70 - 130	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	129	129	mg/Kg	1	100	129	129	70 - 130

Matrix Spike (MS-1) Spiked Sample: 325527

QC Batch: 100355 | Date Analyzed: 2013-04-10 | Analyzed By: AH
Prep Batch: 85036 | QC Preparation: 2013-04-10 | Prepared By: AH

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.83	mg/Kg	1	2.00	<0.00810	92	70 - 130
Toluene		1	1.85	mg/Kg	1	2.00	<0.00750	92	70 - 130
Ethylbenzene		1	1.92	mg/Kg	1	2.00	<0.00730	96	70 - 130
Xylene		1	5.73	mg/Kg	1	6.00	<0.00700	96	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.74	mg/Kg	1	2.00	<0.00810	87	70 - 130	5	20
Toluene		1	1.76	mg/Kg	1	2.00	<0.00750	88	70 - 130	5	20
Ethylbenzene		1	1.83	mg/Kg	1	2.00	<0.00730	92	70 - 130	5	20
Xylene		1	5.45	mg/Kg	1	6.00	<0.00700	91	70 - 130	5	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.86	1.85	mg/Kg	1	2	93	92	70 - 130
4-Bromofluorobenzene (4-BFB)	1.59	1.57	mg/Kg	1	2	80	78	70 - 130

Matrix Spike (MS-1) Spiked Sample: 325527

QC Batch: 100358 | Date Analyzed: 2013-04-10 | Analyzed By: AH
Prep Batch: 85039 | QC Preparation: 2013-04-10 | Prepared By: AH

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	Qs	Qs	1	13.0	mg/Kg	1	20.0	2.51	52	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	Qs	Qs	1	13.3	mg/Kg	1	20.0	2.51	54	70 - 130	2	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.64	1.62	mg/Kg	1	2	82	81	70 - 130
4-Bromofluorobenzene (4-BFB)	1.71	1.70	mg/Kg	1	2	86	85	70 - 130

Matrix Spike (xMS-1) Spiked Sample: 325447

QC Batch: 100384 | Date Analyzed: 2013-04-11 | Analyzed By: AH
Prep Batch: 85072 | QC Preparation: 2013-04-11 | Prepared By: AH

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.92	mg/Kg	1	2.00	<0.00810	96	70 - 130
Toluene		1	1.94	mg/Kg	1	2.00	<0.00750	97	70 - 130
Ethylbenzene		1	2.00	mg/Kg	1	2.00	<0.00730	100	70 - 130
Xylene		1	5.93	mg/Kg	1	6.00	<0.00700	99	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.84	mg/Kg	1	2.00	<0.00810	92	70 - 130	4	20
Toluene		1	1.87	mg/Kg	1	2.00	<0.00750	94	70 - 130	4	20
Ethylbenzene		1	1.94	mg/Kg	1	2.00	<0.00730	97	70 - 130	3	20
Xylene		1	5.80	mg/Kg	1	6.00	<0.00700	97	70 - 130	2	20

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

continued ...

matrix spikes continued ...

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.82	1.82	mg/Kg	1	2	91	91	70 - 130
4-Bromofluorobenzene (4-BFB)	1.65	1.57	mg/Kg	1	2	82	78	70 - 130

Matrix Spike (MS-1) Spiked Sample: 325447

QC Batch: 100386 | Date Analyzed: 2013-04-11 | Analyzed By: AH
Prep Batch: 85074 | QC Preparation: 2013-04-11 | Prepared By: AH

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	17.5	mg/Kg	1	20.0	12.7	24	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	Qr,Qs	Qr,Qs	1	23.0	mg/Kg	1	20.0	12.7	52	70 - 130	27	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)	1.63	1.65	mg/Kg	1	2	82	82	70 - 130
4-Bromofluorobenzene (4-BFB)	1.83	1.95	mg/Kg	1	2	92	98	70 - 130

Matrix Spike (MS-1) Spiked Sample: 325442

QC Batch: 100387 | Date Analyzed: 2013-04-11 | Analyzed By: CW
Prep Batch: 85075 | QC Preparation: 2013-04-10 | Prepared By: CW

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	383	mg/Kg	1	250	160	89	70 - 130

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
Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	386	mg/Kg	1	250	160	90	70 - 130	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	Qsr	Qsr	132	141	mg/Kg	1	100	132	141	70 - 130

Matrix Spike (MS-1) Spiked Sample: 325451

QC Batch: 100411 | Date Analyzed: 2013-04-11 | Analyzed By: AR
Prep Batch: 85093 | QC Preparation: 2013-04-10 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2920	mg/Kg	5	2500	445	99	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			3050	mg/Kg	5	2500	445	104	78.9 - 121	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: 325475

QC Batch: 100412 | Date Analyzed: 2013-04-11 | Analyzed By: AR
Prep Batch: 85093 | QC Preparation: 2013-04-10 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2710	mg/Kg	5	2500	166	102	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			2830	mg/Kg	5	2500	166	106	78.9 - 121	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: 325487

QC Batch: 100413 | Date Analyzed: 2013-04-11 | Analyzed By: AR
Prep Batch: 85093 | QC Preparation: 2013-04-10 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2480	mg/Kg	5	2500	<19.2	99	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			2340	mg/Kg	5	2500	<19.2	94	78.9 - 121	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: 325467

QC Batch: 100426 | Date Analyzed: 2013-04-12 | Analyzed By: AH
Prep Batch: 85101 | QC Preparation: 2013-04-12 | Prepared By: AH

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	Qs	Qs	1	12.6	mg/Kg	1	20.0	3.95	43	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	Qs	Qs	1	13.4	mg/Kg	1	20.0	3.95	47	70 - 130	6	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.65	1.64	mg/Kg	1	2	82	82	70 - 130
4-Bromofluorobenzene (4-BFB)	1.69	1.70	mg/Kg	1	2	84	85	70 - 130

Calibration Standards

Standard (CCV-1)

QC Batch: 100353 | Date Analyzed: 2013-04-10 | Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	250	100	80 - 120	2013-04-10

Standard (CCV-2)

QC Batch: 100353 | Date Analyzed: 2013-04-10 | Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	257	103	80 - 120	2013-04-10

Standard (CCV-3)

QC Batch: 100353 | Date Analyzed: 2013-04-10 | Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	284	114	80 - 120	2013-04-10

Standard (CCV-4)

QC Batch: 100353 | Date Analyzed: 2013-04-10 | Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	266	106	80 - 120	2013-04-10

Standard (CCV-1)

QC Batch: 100355 | Date Analyzed: 2013-04-10 | Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0986	99	80 - 120	2013-04-10
Toluene		1	mg/kg	0.100	0.0964	96	80 - 120	2013-04-10
Ethylbenzene		1	mg/kg	0.100	0.0974	97	80 - 120	2013-04-10
Xylene		1	mg/kg	0.300	0.291	97	80 - 120	2013-04-10

Standard (CCV-2)

QC Batch: 100355 | Date Analyzed: 2013-04-10 | Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0984	98	80 - 120	2013-04-10
Toluene		1	mg/kg	0.100	0.0965	96	80 - 120	2013-04-10
Ethylbenzene		1	mg/kg	0.100	0.0962	96	80 - 120	2013-04-10
Xylene		1	mg/kg	0.300	0.287	96	80 - 120	2013-04-10

Standard (CCV-3)

QC Batch: 100355 | Date Analyzed: 2013-04-10 | Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0972	97	80 - 120	2013-04-10
Toluene		1	mg/kg	0.100	0.0950	95	80 - 120	2013-04-10
Ethylbenzene		1	mg/kg	0.100	0.0940	94	80 - 120	2013-04-10
Xylene		1	mg/kg	0.300	0.279	93	80 - 120	2013-04-10

Standard (CCV-1)

QC Batch: 100358 | Date Analyzed: 2013-04-10 | Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.834	83	80 - 120	2013-04-10

Standard (CCV-2)

QC Batch: 100358 Date Analyzed: 2013-04-10 Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.04	104	80 - 120	2013-04-10

Standard (CCV-3)

QC Batch: 100358 Date Analyzed: 2013-04-10 Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.828	83	80 - 120	2013-04-10

Standard (CCV-1)

QC Batch: 100384 Date Analyzed: 2013-04-11 Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0994	99	80 - 120	2013-04-11
Toluene		1	mg/kg	0.100	0.0971	97	80 - 120	2013-04-11
Ethylbenzene		1	mg/kg	0.100	0.0978	98	80 - 120	2013-04-11
Xylene		1	mg/kg	0.300	0.290	97	80 - 120	2013-04-11

Standard (CCV-2)

QC Batch: 100384 Date Analyzed: 2013-04-11 Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0967	97	80 - 120	2013-04-11
Toluene		1	mg/kg	0.100	0.0952	95	80 - 120	2013-04-11
Ethylbenzene		1	mg/kg	0.100	0.0948	95	80 - 120	2013-04-11
Xylene		1	mg/kg	0.300	0.283	94	80 - 120	2013-04-11

Standard (CCV-3)

QC Batch: 100384 Date Analyzed: 2013-04-11 Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0983	98	80 - 120	2013-04-11
Toluene		1	mg/kg	0.100	0.0958	96	80 - 120	2013-04-11
Ethylbenzene		1	mg/kg	0.100	0.0950	95	80 - 120	2013-04-11
Xylene		1	mg/kg	0.300	0.283	94	80 - 120	2013-04-11

Standard (CCV-1)

QC Batch: 100386 Date Analyzed: 2013-04-11 Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.922	92	80 - 120	2013-04-11

Standard (CCV-2)

QC Batch: 100386 Date Analyzed: 2013-04-11 Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.969	97	80 - 120	2013-04-11

Standard (CCV-3)

QC Batch: 100386 Date Analyzed: 2013-04-11 Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.931	93	80 - 120	2013-04-11

Standard (CCV-1)

QC Batch: 100387 Date Analyzed: 2013-04-11 Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	232	93	80 - 120	2013-04-11

Standard (CCV-2)

QC Batch: 100387 Date Analyzed: 2013-04-11 Analyzed By: CW

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	2013-04-11

Standard (CCV-1)

QC Batch: 100411 Date Analyzed: 2013-04-11 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	100	100	85 - 115	2013-04-11

Standard (CCV-2)

QC Batch: 100411 Date Analyzed: 2013-04-11 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	99.9	100	85 - 115	2013-04-11

Standard (CCV-1)

QC Batch: 100412 Date Analyzed: 2013-04-11 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	2013-04-11

Standard (CCV-2)

QC Batch: 100412 Date Analyzed: 2013-04-11 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	99.0	99	85 - 115	2013-04-11

Standard (CCV-1)

QC Batch: 100413 Date Analyzed: 2013-04-11 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	98.9	99	85 - 115	2013-04-11

Standard (CCV-2)

QC Batch: 100413 Date Analyzed: 2013-04-11 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	2013-04-11

Standard (CCV-1)

QC Batch: 100426 Date Analyzed: 2013-04-12 Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.00	100	80 - 120	2013-04-12

Standard (CCV-2)

QC Batch: 100426 Date Analyzed: 2013-04-12 Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.873	87	80 - 120	2013-04-12

Standard (CCV-3)

QC Batch: 100426 Date Analyzed: 2013-04-12 Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.900	90	80 - 120	2013-04-12

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

Result Comments

1 Dilution due to hydrocarbons.
2 Dilution due to hydrocarbons.

Attachments

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

13040903

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 4

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.: 112MC05206

PROJECT NAME: White Star Federal #1

LAB I.D. NUMBER	DATE 2013	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
325450	4/5		S		X	AH 1 (0-1) 0.5' EB	1				X		X	X											X				
451						(1-1.5)																			X				
452						(2-2.5)																			X				
453						(3-3.5)																							
454						(4-4.5)																							
455						(5-5.5)																							
456						AH 2 (0-1) 0.5' EB							X	X											X				
457						(1-1.5)																			X				
458						(2-2.5)																			X				
459						(3-3.5)																			X				

RELINQUISHED BY: (Signature) — Date: 4-8-13 Time: 1620 — RECEIVED BY: (Signature) — Date: 4/8/13 Time: 1620

SAMPLED BY: (Print & Initial) TF / RB — Date: 4-5-13 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 — RECEIVED BY: (Signature)

ADDRESS: CITY: Midland STATE: TX ZIP:

CONTACT: PHONE: DATE: TIME:

TETRA TECH CONTACT PERSON: Ike — Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 580

REMARKS: Run deeper sample if TPH exceeds 5,000 mg/kg. Run deeper sample if Benzene exceeds 10 mg/kg or Total BTEX exceeds 50 mg/kg. Midland all AH

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

13040903

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: 4

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 112MC05206

PROJECT NAME: White Star Federal #1
Eddy Co NM

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE 2013	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
460	4/5		S		X	AH 2 (4-4.5') 0.5' EB	1				X																	
461						(5-5.5')																						
462						(6-6.5')																						
463						(7-7.5')																						
464						(8-8.5')																						
465						(9-9.5')																						
466						AH 3 (0-1') 0.5' EB							X	X										X					
467						(1-1.5')																		X				
468						(2-2.5')																						
469						(3-3.5')																						

RELINQUISHED BY: (Signature) — Date: 4-8-13 Time: 1620 — RECEIVED BY: (Signature) — Date: 4/8/13 Time: 16:20

SAMPLED BY: (Print & Initial) TF / RR — Date: 4-5-13 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 — RECEIVED BY: (Signature)
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE: DATE: TIME:

TETRA TECH CONTACT PERSON: Ike

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 5.8

REMARKS:

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

13040903

Analysis Request of Chain of Custody Record

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 112MC05206

PROJECT NAME: White Star Federal #1 Eddy Co NM

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE 2013	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	Chlorides	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
470	4/5		S		X	AH 3 (4-4.5') 0.5' EB	1				X													X				
471						(5-5.5')																						
472						(6-6.5')																						
473						AH 4 (0-1') 0.5' EB							X	X										X					
474						(1-1.5')																		X				
475						(2-2.5')																		X				
476						(3-3.5')																						
477						AH 5 (0-1')							X	X										X				
478						(1-1.5')																		X				
479						(2-2.5')																		X				

RELINQUISHED BY: (Signature) B.R. Date: 4-8-13 Time: 1620

RECEIVED BY: (Signature) Date: 4/10/13 Time: 10:20

SAMPLED BY: (Print & Initial) TE / RR Date: 4-5-13 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

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: 5C

REMARKS:

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

1304090 3

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 4

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 112W05206

PROJECT NAME: White Star Federal #1

Eddy Co NM

LAB I.D. NUMBER	DATE 2013	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
480	4/5		S		X	AH 5 (3-3.5')	1				X																	
481						AH 6 (0-1')							X	X										X				
482						(1-1.5')																						
483						(2-2.5')																						
484						AH 7 (0-1')							X	X														
485						(1-1.5')																						
486	↓		↓		↓	(2-2.5')	↓				↓													↓				

RELINQUISHED BY: (Signature) — Date: 4-8-13 Time: 1620

RECEIVED BY: (Signature) — Date: 4/8/13 Time: 16:20

SAMPLED BY: (Print & Initial) TF / RR — Date: 4-5-13 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

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:

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: July 22, 2013

Work Order: 13071052

Project Location: Eddy Co., NM
Project Name: COG/White Star Federal #1
Project Number: 112MC05206

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
334573	CS 1 (AH 3) 1'	soil	2013-07-09	00:00	2013-07-10
334574	CS 2 (AH 4) 1'	soil	2013-07-09	00:00	2013-07-10

	BTEX				TPH DRO - NEW	TPH GRO
Sample - Field Code	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
334573 - CS 1 (AH 3) 1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00
334574 - CS 2 (AH 4) 1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<4.00

TRACEANALYSIS, INC.

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

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: July 22, 2013

Work Order: 13071052

Project Location: Eddy Co., NM
Project Name: COG/White Star Federal #1
Project Number: 112MC05206

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
334573	CS 1 (AH 3) 1'	soil	2013-07-09	00:00	2013-07-10
334574	CS 2 (AH 4) 1'	soil	2013-07-09	00:00	2013-07-10

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 17 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/White Star Federal #1 were received by TraceAnalysis, Inc. on 2013-07-10 and assigned to work order 13071052. Samples for work order 13071052 were received intact at a temperature of 4.7 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	87470	2013-07-22 at 09:12	103229	2013-07-21 at 12:00
TPH DRO - NEW	S 8015 D	87361	2013-07-16 at 14:00	103120	2013-07-17 at 10:56
TPH GRO	S 8015 D	87486	2013-07-19 at 15:00	103250	2013-07-21 at 12:00

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 13071052 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: 334573 - CS 1 (AH 3) 1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	103229	Date Analyzed:	2013-07-21	Analyzed By:	KC
Prep Batch:	87470	Sample Preparation:	2013-07-19	Prepared By:	KC

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.84	mg/Kg	1	2.00	92	70 - 130
4-Bromofluorobenzene (4-BFB)			1.87	mg/Kg	1	2.00	94	70 - 130

Sample: 334573 - CS 1 (AH 3) 1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	103120	Date Analyzed:	2013-07-17	Analyzed By:	CW
Prep Batch:	87361	Sample Preparation:	2013-07-16	Prepared By:	CW

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane QSR	QSR		154	mg/Kg	1	100	154	55.1 - 135.7

Sample: 334573 - CS 1 (AH 3) 1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	103250	Date Analyzed:	2013-07-21	Analyzed By:	KC
Prep Batch:	87486	Sample Preparation:	2013-07-19	Prepared By:	KC

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.79	mg/Kg	1	2.00	90	70 - 130
4-Bromofluorobenzene (4-BFB)			1.88	mg/Kg	1	2.00	94	70 - 130

Sample: 334574 - CS 2 (AH 4) 1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	103229	Date Analyzed:	2013-07-21	Analyzed By:	KC
Prep Batch:	87470	Sample Preparation:	2013-07-19	Prepared By:	KC

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.88	mg/Kg	1	2.00	94	70 - 130
4-Bromofluorobenzene (4-BFB)			1.93	mg/Kg	1	2.00	96	70 - 130

Sample: 334574 - CS 2 (AH 4) 1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	103120	Date Analyzed:	2013-07-17	Analyzed By:	CW
Prep Batch:	87361	Sample Preparation:	2013-07-16	Prepared By:	CW

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	QSR	QSR	151	mg/Kg	1	100	151	55.1 - 135.7

Sample: 334574 - CS 2 (AH 4) 1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	103250	Date Analyzed:	2013-07-21	Analyzed By:	KC
Prep Batch:	87486	Sample Preparation:	2013-07-19	Prepared By:	KC

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.84	mg/Kg	1	2.00	92	70 - 130
4-Bromofluorobenzene (4-BFB)			1.90	mg/Kg	1	2.00	95	70 - 130

Method Blanks

Method Blank (1) QC Batch: 103120

QC Batch: 103120 | Date Analyzed: 2013-07-17 | Analyzed By: CW
Prep Batch: 87361 | QC Preparation: 2013-07-16 | Prepared By: CW

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	20.1	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	143	mg/Kg	1	100	143	55.1 - 135.7

Method Blank (1) QC Batch: 103229

QC Batch: 103229 | Date Analyzed: 2013-07-21 | Analyzed By: KC
Prep Batch: 87470 | QC Preparation: 2013-07-22 | Prepared By: KC

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00810	mg/Kg	0.02
Toluene		1	<0.00750	mg/Kg	0.02
Ethylbenzene		1	<0.00730	mg/Kg	0.02
Xylene		1	<0.00700	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.82	mg/Kg	1	2.00	91	70 - 130
4-Bromofluorobenzene (4-BFB)			1.99	mg/Kg	1	2.00	100	70 - 130

Method Blank (1) QC Batch: 103250

QC Batch: 103250 | Date Analyzed: 2013-07-21 | Analyzed By: KC
Prep Batch: 87486 | QC Preparation: 2013-07-19 | Prepared By: KC

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	3.80	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.78	mg/Kg	1	2.00	89	70 - 130
4-Bromofluorobenzene (4-BFB)			2.00	mg/Kg	1	2.00	100	70 - 130

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 103120 | Date Analyzed: 2013-07-17 | Analyzed By: CW
Prep Batch: 87361 | QC Preparation: 2013-07-16 | Prepared By: CW

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	263	mg/Kg	1	250	20.1	97	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	263	mg/Kg	1	250	20.1	97	66.9 - 119.9	0	20

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

Surrogate			LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	Qsr	Qsr	166	161	mg/Kg	1	100	166	161	76.8 - 140.2

Laboratory Control Spike (LCS-1)

QC Batch: 103229 | Date Analyzed: 2013-07-21 | Analyzed By: KC
Prep Batch: 87470 | QC Preparation: 2013-07-22 | Prepared By: KC

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.73	mg/Kg	1	2.00	<0.00810	86	70 - 130
Toluene		1	1.75	mg/Kg	1	2.00	<0.00750	88	70 - 130
Ethylbenzene		1	1.75	mg/Kg	1	2.00	<0.00730	88	70 - 130
Xylene		1	5.39	mg/Kg	1	6.00	<0.00700	90	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.75	mg/Kg	1	2.00	<0.00810	88	70 - 130	1	20
Toluene		1	1.75	mg/Kg	1	2.00	<0.00750	88	70 - 130	0	20
Ethylbenzene		1	1.74	mg/Kg	1	2.00	<0.00730	87	70 - 130	1	20
Xylene		1	5.38	mg/Kg	1	6.00	<0.00700	90	70 - 130	0	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.80	1.80	mg/Kg	1	2.00	90	90	70 - 130
4-Bromofluorobenzene (4-BFB)	1.94	1.84	mg/Kg	1	2.00	97	92	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 103250 | Date Analyzed: 2013-07-21 | Analyzed By: KC
Prep Batch: 87486 | QC Preparation: 2013-07-19 | Prepared By: KC

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	17.8	mg/Kg	1	20.0	<2.32	89	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	17.9	mg/Kg	1	20.0	<2.32	90	70 - 130	0	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.72	1.71	mg/Kg	1	2.00	86	86	70 - 130
4-Bromofluorobenzene (4-BFB)	2.00	2.02	mg/Kg	1	2.00	100	101	70 - 130

Matrix Spike (MS-1) Spiked Sample: 334573

QC Batch: 103120 | Date Analyzed: 2013-07-17 | Analyzed By: CW
Prep Batch: 87361 | QC Preparation: 2013-07-16 | Prepared By: CW

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	268	mg/Kg	1	250	19.3	99	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	267	mg/Kg	1	250	19.3	99	36.1 - 147.2	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
n-Tricosane	Qsr	Qsr	155	157	mg/Kg	1	100	155	157	78.3 - 131.6

Matrix Spike (MS-1) Spiked Sample: 334574

QC Batch: 103229 | Date Analyzed: 2013-07-21 | Analyzed By: KC
Prep Batch: 87470 | QC Preparation: 2013-07-22 | Prepared By: KC

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.73	mg/Kg	1	2.00	<0.00810	86	70 - 130
Toluene		1	1.74	mg/Kg	1	2.00	<0.00750	87	70 - 130
Ethylbenzene		1	1.80	mg/Kg	1	2.00	<0.00730	90	70 - 130
Xylene		1	5.46	mg/Kg	1	6.00	<0.00700	91	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.74	mg/Kg	1	2.00	<0.00810	87	70 - 130	1	20
Toluene		1	1.77	mg/Kg	1	2.00	<0.00750	88	70 - 130	2	20
Ethylbenzene		1	1.82	mg/Kg	1	2.00	<0.00730	91	70 - 130	1	20
Xylene		1	5.50	mg/Kg	1	6.00	<0.00700	92	70 - 130	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.85	1.88	mg/Kg	1	2	92	94	70 - 130
4-Bromofluorobenzene (4-BFB)	1.96	1.99	mg/Kg	1	2	98	100	70 - 130

Matrix Spike (MS-1) Spiked Sample: 334574

QC Batch: 103250 | Date Analyzed: 2013-07-21 | Analyzed By: KC
Prep Batch: 87486 | QC Preparation: 2013-07-19 | Prepared By: KC

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	17.7	mg/Kg	1	20.0	<2.32	88	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO			17.7	mg/Kg	1	20.0	<2.32	88	70 - 130	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)	1.73	1.61	mg/Kg	1	2	86	80	70 - 130
4-Bromofluorobenzene (4-BFB)	2.22	1.86	mg/Kg	1	2	111	93	70 - 130

Calibration Standards

Standard (CCV-1)

QC Batch: 103120 | Date Analyzed: 2013-07-17 | Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	261	104	80 - 120	2013-07-17

Standard (CCV-2)

QC Batch: 103120 | Date Analyzed: 2013-07-17 | Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	275	110	80 - 120	2013-07-17

Standard (CCV-1)

QC Batch: 103229 | Date Analyzed: 2013-07-21 | Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0899	90	80 - 120	2013-07-21
Toluene		1	mg/kg	0.100	0.0877	88	80 - 120	2013-07-21
Ethylbenzene		1	mg/kg	0.100	0.0832	83	80 - 120	2013-07-21
Xylene		1	mg/kg	0.300	0.254	85	80 - 120	2013-07-21

Standard (CCV-2)

QC Batch: 103229 | Date Analyzed: 2013-07-21 | Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0911	91	80 - 120	2013-07-21
Toluene		1	mg/kg	0.100	0.0901	90	80 - 120	2013-07-21
Ethylbenzene		1	mg/kg	0.100	0.0871	87	80 - 120	2013-07-21
Xylene		1	mg/kg	0.300	0.263	88	80 - 120	2013-07-21

Standard (CCV-3)

QC Batch: 103229 Date Analyzed: 2013-07-21 Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0892	89	80 - 120	2013-07-21
Toluene		1	mg/kg	0.100	0.0886	89	80 - 120	2013-07-21
Ethylbenzene		1	mg/kg	0.100	0.0867	87	80 - 120	2013-07-21
Xylene		1	mg/kg	0.300	0.262	87	80 - 120	2013-07-21

Standard (CCV-1)

QC Batch: 103250 Date Analyzed: 2013-07-21 Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.999	100	80 - 120	2013-07-21

Standard (CCV-2)

QC Batch: 103250 Date Analyzed: 2013-07-21 Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.963	96	80 - 120	2013-07-21

Standard (CCV-3)

QC Batch: 103250 | Date Analyzed: 2013-07-21 | Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.972	97	80 - 120	2013-07-21

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.

1311052

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: Ike Tavarez

PROJECT NO.: 112 MC05206

PROJECT NAME: COG - White Star Fed #1 TB Eddy Co, NM

LAB I.D. NUMBER	DATE 2013	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH TX1005 (Ext. to C35)	TPH 8015 MOD.	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
334573	7/9		S		X	CS1 (AH3) 1'	1				X		X	X															
574	"		S		X	CS2 (AH4) 1'	1				X		X	X																

RELINQUISHED BY: (Signature)	Date: 7/10/13 Time: 10:10	RECEIVED BY: (Signature)	Date: 7/10/13 Time: 16:16
SAMPLED BY: (Print & Initial) PR	Date: 7/9/13 Time: 10:10		
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: RUSH Charges Authorized: Yes No		

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

SAMPLE CONDITION WHEN RECEIVED: 4C°

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.