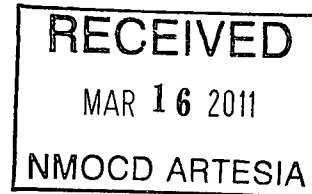


TETRA TECH

March 1, 2011



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

Re: Closure Report for the COG Operating LLC., Holder CB 6-7 Tank Battery, Section 17, Township 17 South, Range 30 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Holder CB 6-7 Tank Battery, Section 17, Township 17 South, Range 30 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32° 50.143, W 103° 59.972. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on December 22, 2009, and released approximately eighty (80) barrels of crude oil from a circulating pump discharge piping failure. To alleviate the problem, COG personnel repaired the pipe. Thirty (30) barrels of standing fluids were recovered. The spill originated at the pump and migrated off the pad, impacting an area approximately 135' x 105' of pasture area east of the location. A smaller area north of the pad was impacted measuring 15' x 35'. The initial and final C-141 forms are enclosed in Appendix C.

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559

Fax 432.682.3946

www.tetrattech.com



Southern New Mexico Archeological Services, Inc. (SNMAS) conducted a New Mexico Cultural Resources Inventory survey (NMCRIS). On April 14, 2010, Allen Rorex of SNMAS completed a field inspection and NMCRIS Investigation Abstract Form (NIAF) and cleared the site of any findings that would impede the remediation process. A copy of the NIAF is shown in Appendix D.

Groundwater

No water wells were listed within Section 17. According to the NMOCD groundwater map, the average depth to groundwater in this area is greater than 250' below surface. The water data is shown in Appendix B.

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 January 27, 2010, Tetra Tech personnel inspected and sampled the spill area. A total of fifteen (15) auger holes (AH-1 through AH-15) were installed using a stainless steel hand auger to assess the impacted soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix B. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3.



TETRA TECH

Referring to Table 1, submitted samples were below the RRAL for TPH and BTEX with the exception of AH-1, AH-3, AH-5, AH-7, AH-12, AH-13, and AH-15. Additionally, elevated chloride concentrations were detected for AH-5 of 8,120 mg/kg (1-1.5'). All remaining auger holes had chloride levels that dropped to <200 mg/kg at depth.

Corrective Action

On April 30, 2010, Tetra Tech personnel supervised the removal of impacted material near AH-1, AH-3, AH-5, AH-7, AH-9, AH-10, AH-12, AH-13, and AH-15 as illustrated on Figure 4. Confirmation samples (CS) were collected near auger holes that exceeded the RRAL for either TPH or BTEX and/or had elevated chloride concentrations. The excavated soils, approximately 500 cubic yards, were transported offsite for disposal at for disposal at Controlled Recovery, Inc. of Carlsbad, New Mexico

Referring to Table 1, all confirmation samples were below the RRAL for BTEX and TPH or showed chloride concentrations below <200 mg/kg.

Closure Request

Based on the results of the investigation and the work performed, COG requests closure of the site. The C-141 (Final) is included in Appendix C. 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, P.G.
Senior Project Manager

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

FIGURES

DELOME

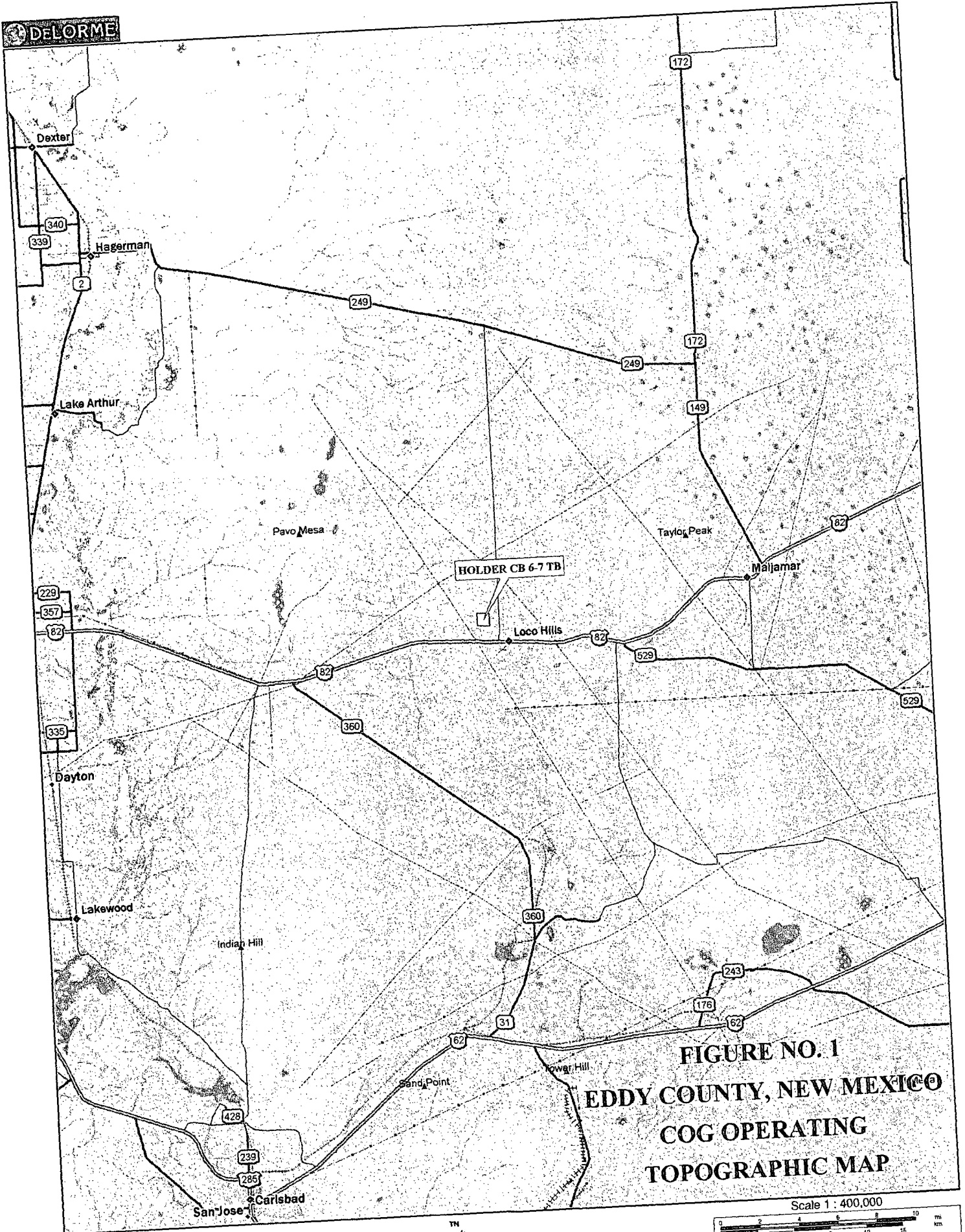
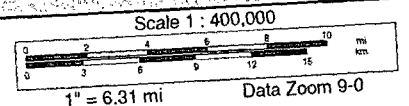


FIGURE NO. 1
EDDY COUNTY, NEW MEXICO
COG OPERATING
TOPOGRAPHIC MAP

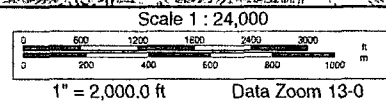
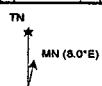




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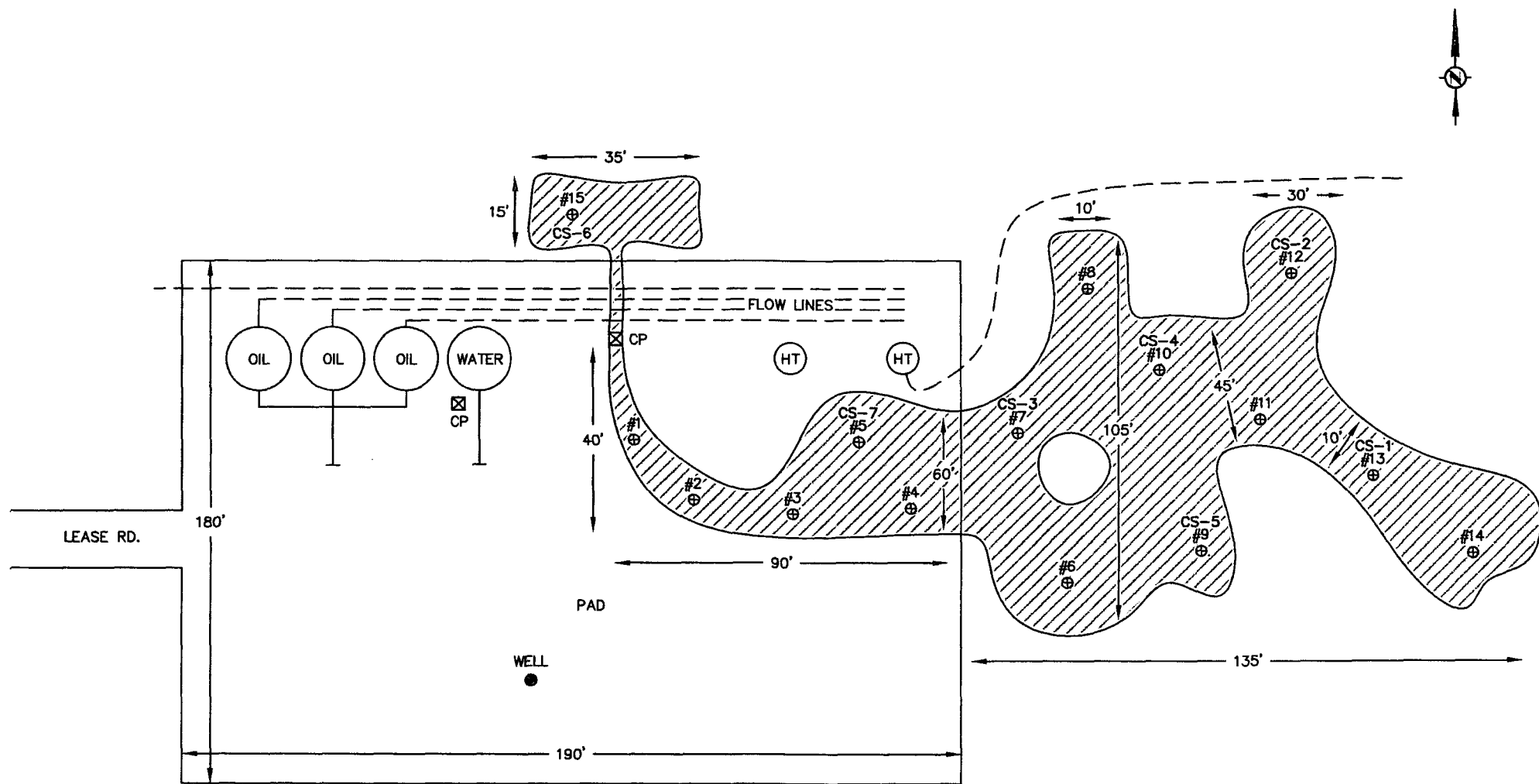


FIGURE NO. 3

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

HOLDER CB 6-7 TB

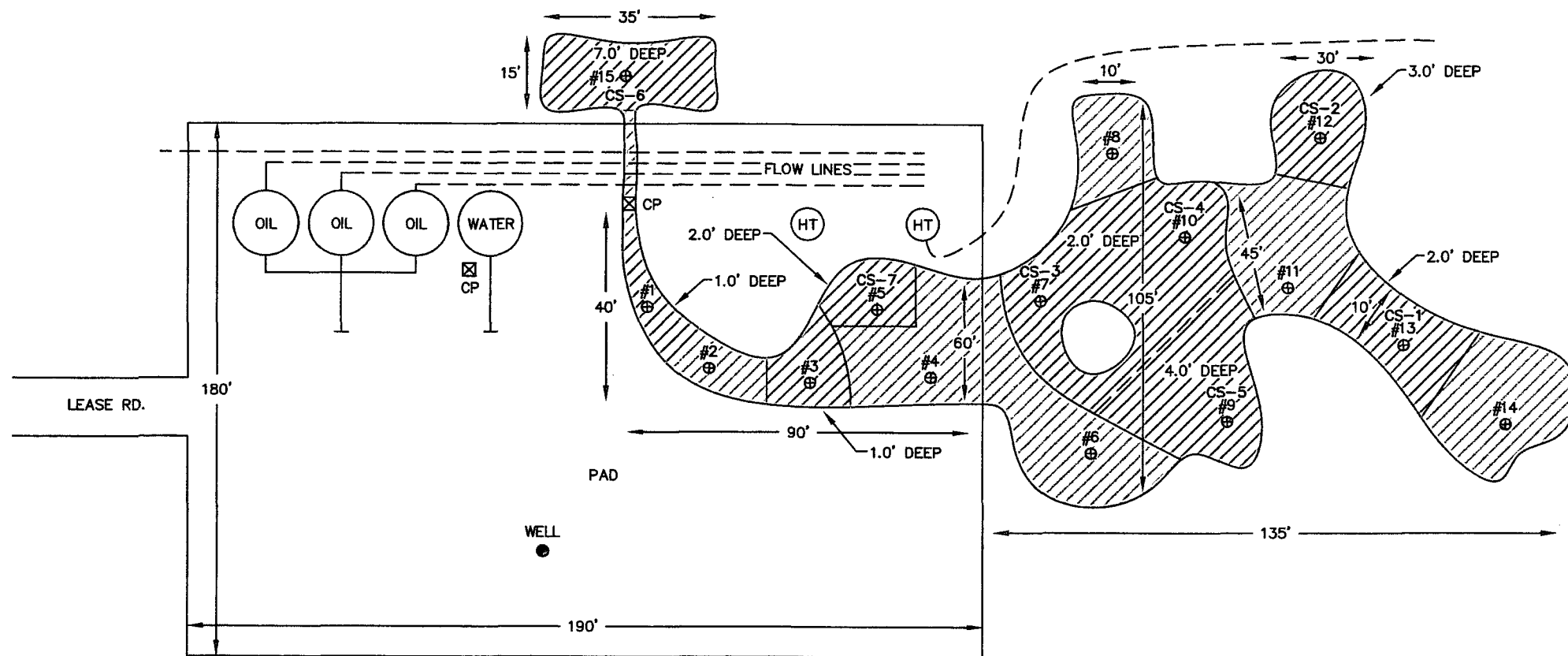
TETRA TECH, INC.
MIDLAND, TEXAS

DATE:
2/9/10

DWN. BY:
JJ

FILE:
HA\COG\0400400
HOLDER CB

NOT TO SCALE



- SPILL AREA
- EXCAVATED AREA
- SAMPLE LOCATIONS (AUGER HOLES)
- CONFIRMATION SAMPLES

NOT TO SCALE

DATE:
2/9/10
DWN. BY:
JJ
FILE:
H:\COO\8400409
HOLDER CB

FIGURE NO. 4

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

HOLDER CB 6-7 TB

TETRA TECH, INC.
MIDLAND, TEXAS

TABLE

Table 1
COG Operating LLC.
HOLDER 6-7 TANK BATTERY
EDDY COUNTY, NEW MEXICO

[illegible]

Table 1
COG Operating LLC.
HOLDER 6-7 TANK BATTERY
EDDY COUNTY, NEW MEXICO

Sample ID	Date Sampled	Sample Depth (ft)	Depth	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX	Chloride (mg/kg)
			(BEB)	In-Situ	Removed	DRO	GRO	Total						
AH-9	1/27/2010	0-1'	1'		X	2,240	4,130	6,370	33.9	143	75.3	106	358	<200
CS-5	4/30/2010	4'		X		<50.0	<1.00	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	-
AH-10	1/27/2010	0-1'	0.5'		X	3,340	4,830	8,170	53.2	174	66.4	132	426	<200
CS-4	4/30/2010	2'		X		230	21.9	251.9	<0.0100	<0.0100	<0.0100	0.226	0.226	-
AH-11	1/27/2010	0-1'	0.5'	X		<50.0	<1.00	<50.0	-	-	-	-	-	<200
	1/27/2010	1-1.5'	0.5'	X		-	-	-	-	-	-	-	-	<200
	1/27/2010	2-2.5'	0.5'	X		-	-	-	-	-	-	-	-	<200
	1/27/2010	3-3.5'	0.5'	X		-	-	-	-	-	-	-	-	<200
AH-12	1/27/2010	0-1'	1'		X	1,880	3,930	5,810	29.7	113	56.9	105	305	<200
CS-2	4/30/2010	3'		X		<50.0	<1.00	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	-
AH-13	1/27/2010	0-1'	0.05'	X	X	3,300	5,550	8,850	44.3	187	98.4	163	493	<200
CS-1	4/30/2010	2'		X		<50.0	7.14	7.14	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	-
AH-14	1/27/2010	0-1'	0.05'	X		531	852	1,383	-	-	-	-	-	<200
	1/27/2010	1-1.5'				-	-	-	-	-	-	-	-	<200
AH-15	1/27/2010	0-1'	0.05'		X	3,340	7,590	10,930	55.6	205	136	184	581	878
CS-6	4/30/2010	7'		X		<50.00	<1.00	<50.00	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<200

- = Not Sampled

 Soil excavated and hauled to disposal

APPENDIX A

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

State of New Mexico
Energy Minerals and Natural Resources

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

RECEIVED

MAR 16 2011

NMOCD ARTESIA

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company COG Operating LLC	Contact Pat Ellis
Address 550 W. Texas, Suite 1300 Midland, Texas 79701	Telephone No. (432) 685-4332
Facility Name Holder CB 6&7	Facility Type Tank Battery

Surface Owner: Federal	Mineral Owner	Lease No. NM LC056551A
-------------------------------	---------------	-------------------------------

LOCATION OF RELEASE

Unit Letter SW ¼-NW ¼	Section 17	Township 17S	Range 30E	Feet from the	North/South Line	Feet from the	East/West Line	County Eddy
--------------------------	---------------	-----------------	--------------	---------------	------------------	---------------	----------------	----------------

Latitude N 32° 50.143 Longitude W 103° 59.972

NATURE OF RELEASE

Type of Release: Oil	Volume of Release 80 bbls	Volume Recovered 30 bbls
Source of Release: Circulating Pump	Date and Hour of Occurrence 12/22/09	Date and Hour of Discovery 12/22/09
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher, Terry Gregston	
By Whom? Pat Ellis	Date and Hour 12/23/09 4:44 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

Circulating pump discharged piping failed. Piping was fixed.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected site and collected samples to define spills extent. Soil that exceeded RRAL was removed and hauled away for proper disposal. Site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD for review.

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

Signature:

Printed Name: **Ike Tavarez**

Title: **Project Manager**

E-mail Address: **Ike.Tavarez@TetraTech.com**

Date: **10-12-10** Phone: **(432) 682-4559**

OIL CONSERVATION DIVISION

Approved by District Supervisor:

Approval Date:

Expiration Date:

Conditions of Approval:

Attached ☐

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Kanicia Carrillo
Address	550 W. Texas, Suite 100 Midland, TX 79701	Telephone No.	432-685-4332
Facility Name - Holder	CB 6&7	Facility Type-	Battery

Surface Owner	Federal	Mineral Owner		Lease No.	NMLC056551A
---------------	---------	---------------	--	-----------	-------------

SW1/4-NW1/4

LOCATION OF RELEASE

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

Driving directions to battery: From Loco Hills go North on CR217 .9 m – turn West .6 m – turn North .3 m – turn East .1 m to location
Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release- Oil	Volume of Release-80 bbls	Volume Recovered- 30 bbls
Source of Release- Circulating Pump	Date and Hour of Occurrence- 12/22/09	Date and Hour of Discovery 12/22/09
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher, Terry Gregston	
By Whom? Pat Ellis	Date and Hour 12/23/09 4:44pm	
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.*
Circulating pump discharge piping failed. Piping was fixed.

Describe Area Affected and Cleanup Action Taken.*
Scraped battery pad(minimal contamination)-Top dressed pad w/clean material-picked 6" of contaminated top soil on edge of pad and hauled to environmental land fill.
Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD for your 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: 		<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Kanicia Carrillo		Approved by District Supervisor:	
Title: Regulatory Analyst		Approval Date:	Expiration Date:
E-mail Address: kcarrillo@conchoresources.com		Conditions of Approval:	
Date: 1/06/10 Phone: 432-685-4332		Attached ☐	

* Attach Additional Sheets If Necessary

APPENDIX B

Water Well Data
Average Depth to Groundwater (ft)
COG - Holder CB 6-7 Tank Battery
Eddy County, New Mexico

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

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

16 South			31 East		
6	5	4	3	2	1
7	8	9	10	11	12
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			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
30	29	210	28	27	26
31	32	33	34	35	36

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

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

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

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

18 South			31 East		
6	5	4	3	2	1
7	8	9	10	11	12
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

APPENDIX C

Summary Report

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

Report Date: February 8, 2010

Work Order: 10012913



Project Location: Eddy Co., NM
Project Name: COG/Holder 6-7 TB
Project Number: 114-6400409

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
221144	AH-1 0-1'	soil	2010-01-27	00:00	2010-01-28
221145	AH-1 1'-1.5'	soil	2010-01-27	00:00	2010-01-28
221146	AH-1 2-2.5'	soil	2010-01-27	00:00	2010-01-28
221147	AH-2 0-1'	soil	2010-01-27	00:00	2010-01-28
221148	AH-2 1'-1.5'	soil	2010-01-27	00:00	2010-01-28
221149	AH-3 0-1'	soil	2010-01-27	00:00	2010-01-28
221150	AH-3 1'-1.5'	soil	2010-01-27	00:00	2010-01-28
221151	AH-4 0-1'	soil	2010-01-27	00:00	2010-01-28
221152	AH-4 1'-1.5'	soil	2010-01-27	00:00	2010-01-28
221153	AH-4 1.5'-2'	soil	2010-01-27	00:00	2010-01-28
221154	AH-5 0-1'	soil	2010-01-27	00:00	2010-01-28
221155	AH-5 1'-1.5'	soil	2010-01-27	00:00	2010-01-28
221156	AH-6 0-1' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221157	AH-7 0-1' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221158	AH-8 0-1' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221159	AH-8 1-1.5' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221160	AH-8 2-2.5' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221161	AH-8 3-3.5' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221162	AH-9 0-1' 1' BEB	soil	2010-01-27	00:00	2010-01-28
221163	AH-10 0-1' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221164	AH-11 0-1' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221165	AH-11 1-1.5' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221166	AH-11 2-2.5' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221167	AH-11 3-3.5' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221168	AH-12 0-1' 1' BEB	soil	2010-01-27	00:00	2010-01-28
221169	AH-13 0-1' 0.05' BEB	soil	2010-01-27	00:00	2010-01-28
221170	AH-14 0-1' 0.05' BEB	soil	2010-01-27	00:00	2010-01-28
221171	AH-15 0-1' 0.05'	soil	2010-01-27	00:00	2010-01-28
221172	AH-14 1'-1.5'	soil	2010-01-27	00:00	2010-01-28

Sample - Field Code	BTEX				TPH DRO - NEW	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
221144 - AH-1 0-1'	1.08	23.3	17.7	23.6	1150	964
221145 - AH-1 1'-1.5'	<0.0100	<0.0100	<0.0100	<0.0100		
221147 - AH-2 0-1'					<50.0	2.15
221149 - AH-3 0-1'	2.51	25.3	14.7	21.4	1730	473
221150 - AH-3 1'-1.5'	<0.0100	<0.0100	<0.0100	<0.0100		
221151 - AH-4 0-1'					<50.0	<1.00
221154 - AH-5 0-1'					<50.0	14.9
221156 - AH-6 0-1' 0.5' BEB					<50.0	<1.00
221157 - AH-7 0-1' 0.5' BEB	23.0	132	97.0	137	5490	5210
221158 - AH-8 0-1' 0.5' BEB					187	4.16
221162 - AH-9 0-1' 1' BEB	33.9	143	75.3	106	2240	4130
221163 - AH-10 0-1' 0.5' BEB	53.2	174	66.4	132	3340	4830
221164 - AH-11 0-1' 0.5' BEB					<50.0	<1.00
221168 - AH-12 0-1' 1' BEB	29.7	113	56.9	105	1880	3930
221169 - AH-13 0-1' 0.05' BEB	44.3	187	98.4	163	3300	5550
221170 - AH-14 0-1' 0.05' BEB					531	852
221171 - AH-15 0-1' 0.05'	55.6	205	136	184	3340	7590

Sample: 221144 - AH-1 0-1'

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

Sample: 221145 - AH-1 1'-1.5'

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

Sample: 221146 - AH-1 2-2.5'

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

Sample: 221147 - AH-2 0-1'

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

Sample: 221148 - AH-2 1'-1.5'

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

Sample: 221149 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		1150	mg/Kg	4.00

Sample: 221150 - AH-3 1'-1.5'

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

Sample: 221151 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		457	mg/Kg	4.00

Sample: 221152 - AH-4 1'-1.5'

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

Sample: 221153 - AH-4 1.5'-2'

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

Sample: 221154 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		14200	mg/Kg	4.00

Sample: 221155 - AH-5 1'-1.5'

Param	Flag	Result	Units	RL
Chloride		8120	mg/Kg	4.00

Sample: 221156 - AH-6 0-1' 0.5' BEB

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

Sample: 221157 - AH-7 0-1' 0.5' BEB

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

Sample: 221158 - AH-8 0-1' 0.5' BEB

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

Sample: 221159 - AH-8 1-1.5' 0.5' BEB

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

Sample: 221160 - AH-8 2-2.5' 0.5' BEB

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

Sample: 221161 - AH-8 3-3.5' 0.5' BEB

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

Sample: 221162 - AH-9 0-1' 1' BEB

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

Sample: 221163 - AH-10 0-1' 0.5' BEB

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

Sample: 221164 - AH-11 0-1' 0.5' BEB

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

Sample: 221165 - AH-11 1-1.5' 0.5' BEB

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

Sample: 221166 - AH-11 2-2.5' 0.5' BEB

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

Sample: 221167 - AH-11 3-3.5' 0.5' BEB

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

Sample: 221168 - AH-12 0-1' 1' BEB

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

Sample: 221169 - AH-13 0-1' 0.05' BEB

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

Sample: 221170 - AH-14 0-1' 0.05' BEB

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

Sample: 221171 - AH-15 0-1' 0.05'

Param	Flag	Result	Units	RL
Chloride		878	mg/Kg	4.00

Sample: 221172 - AH-14 1'-1.5'

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



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6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

Certifications

WBENC: 237019

HUB: 1752439743100-86536
NCTRCA WFWB38444Y0909

DBE: VN 20657

NELAP Certifications

Lubbock: T104704219-08-TX
LELAP-02003
Kansas E-10317

El Paso: T104704221-08-TX
LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

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

Report Date: February 8, 2010

Work Order: 10012913



Project Location: Eddy Co., NM
Project Name: COG/Holder 6-7 TB
Project Number: 114-6400409

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
221144	AH-1 0-1'	soil	2010-01-27	00:00	2010-01-28
221145	AH-1 1'-1.5'	soil	2010-01-27	00:00	2010-01-28
221146	AH-1 2-2.5'	soil	2010-01-27	00:00	2010-01-28
221147	AH-2 0-1'	soil	2010-01-27	00:00	2010-01-28
221148	AH-2 1'-1.5'	soil	2010-01-27	00:00	2010-01-28
221149	AH-3 0-1'	soil	2010-01-27	00:00	2010-01-28
221150	AH-3 1'-1.5'	soil	2010-01-27	00:00	2010-01-28
221151	AH-4 0-1'	soil	2010-01-27	00:00	2010-01-28
221152	AH-4 1'-1.5'	soil	2010-01-27	00:00	2010-01-28
221153	AH-4 1.5'-2'	soil	2010-01-27	00:00	2010-01-28

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
221154	AH-5 0-1'	soil	2010-01-27	00:00	2010-01-28
221155	AH-5 1'-1.5'	soil	2010-01-27	00:00	2010-01-28
221156	AH-6 0-1' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221157	AH-7 0-1' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221158	AH-8 0-1' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221159	AH-8 1-1.5' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221160	AH-8 2-2.5' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221161	AH-8 3-3.5' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221162	AH-9 0-1' 1' BEB	soil	2010-01-27	00:00	2010-01-28
221163	AH-10 0-1' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221164	AH-11 0-1' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221165	AH-11 1-1.5' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221166	AH-11 2-2.5' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221167	AH-11 3-3.5' 0.5' BEB	soil	2010-01-27	00:00	2010-01-28
221168	AH-12 0-1' 1' BEB	soil	2010-01-27	00:00	2010-01-28
221169	AH-13 0-1' 0.05' BEB	soil	2010-01-27	00:00	2010-01-28
221170	AH-14 0-1' 0.05' BEB	soil	2010-01-27	00:00	2010-01-28
221171	AH-15 0-1' 0.05'	soil	2010-01-27	00:00	2010-01-28
221172	AH-14 1'-1.5'	soil	2010-01-27	00:00	2010-01-28

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 42 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.



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

Standard Flags

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

Case Narrative

Samples for project COG/Holder 6-7 TB were received by TraceAnalysis, Inc. on 2010-01-28 and assigned to work order 10012913. Samples for work order 10012913 were received intact at a temperature of 4.0 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	57592	2010-02-04 at 12:30	67340	2010-02-04 at 11:04
BTEX	S 8021B	57614	2010-02-05 at 12:30	67360	2010-02-05 at 17:50
Chloride (Titration)	SM 4500-Cl B	57469	2010-02-01 at 11:46	67226	2010-02-02 at 15:05
Chloride (Titration)	SM 4500-Cl B	57470	2010-02-01 at 11:46	67227	2010-02-02 at 15:06
Chloride (Titration)	SM 4500-Cl B	57471	2010-02-01 at 11:47	67228	2010-02-02 at 15:09
Chloride (Titration)	SM 4500-Cl B	57472	2010-02-01 at 11:47	67253	2010-02-03 at 13:10
TPH DRO - NEW	Mod. 8015B	57512	2010-02-02 at 10:51	67247	2010-02-02 at 10:51
TPH DRO - NEW	Mod. 8015B	57513	2010-02-02 at 10:51	67248	2010-02-02 at 10:51
TPH GRO	S 8015B	57592	2010-02-04 at 12:30	67341	2010-02-04 at 11:33

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 10012913 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.

Report Date: February 8, 2010
114-6400409

Work Order: 10012913
COG/Holder 6-7 TB

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Eddy Co., NM

Analytical Report

Sample: 221144 - AH-1 0-1'

Laboratory: Midland

Analysis: BTEX

QC Batch: 67340

Prep Batch: 57592

Analytical Method: S 8021B

Date Analyzed: 2010-02-04

Sample Preparation: 2010-02-04

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		1.08	mg/Kg	20	0.0100
Toluene		23.3	mg/Kg	20	0.0100
Ethylbenzene		17.7	mg/Kg	20	0.0100
Xylene		23.6	mg/Kg	20	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		16.9	mg/Kg	20	20.0	84	64.4 - 141.2
4-Bromofluorobenzene (4-BFB)		22.2	mg/Kg	20	20.0	111	43.1 - 158.4

Sample: 221144 - AH-1 0-1'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 67226

Prep Batch: 57469

Analytical Method: SM 4500-Cl B

Date Analyzed: 2010-02-02

Sample Preparation: 2010-02-01

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

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

Sample: 221144 - AH-1 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 67247

Prep Batch: 57512

Analytical Method: Mod. 8015B

Date Analyzed: 2010-02-02

Sample Preparation: 2010-02-02

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		1150	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	¹	187	mg/Kg	1	100	187	70 - 130

Sample: 221144 - AH-1 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 67341
Prep Batch: 57592

Analytical Method: S 8015B
Date Analyzed: 2010-02-04
Sample Preparation: 2010-02-04

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		964	mg/Kg	20	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		21.0	mg/Kg	20	20.0	105	65.3 - 145
4-Bromofluorobenzene (4-BFB)	²	29.7	mg/Kg	20	20.0	148	61.7 - 131.1

Sample: 221145 - AH-1 1'-1.5'

Laboratory: Midland
Analysis: BTEX
QC Batch: 67360
Prep Batch: 57614

Analytical Method: S 8021B
Date Analyzed: 2010-02-05
Sample Preparation: 2010-02-05

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.86	mg/Kg	1	2.00	93	64.4 - 141.2
4-Bromofluorobenzene (4-BFB)		1.85	mg/Kg	1	2.00	92	43.1 - 158.4

Sample: 221145 - AH-1 1'-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 67226
Prep Batch: 57469

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-02-02
Sample Preparation: 2010-02-01

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

¹High surrogate recovery due to peak interference.

²High surrogate recovery due to peak interference.

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COG/Holder 6-7 TB

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Eddy Co., NM

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

Sample: 221146 - AH-1 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 67226 Date Analyzed: 2010-02-02 Analyzed By: AR
Prep Batch: 57469 Sample Preparation: 2010-02-01 Prepared By: AR

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

Sample: 221147 - AH-2 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 67226 Date Analyzed: 2010-02-02 Analyzed By: AR
Prep Batch: 57469 Sample Preparation: 2010-02-01 Prepared By: AR

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

Sample: 221147 - AH-2 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: Mod. 8015B Prep Method: N/A
QC Batch: 67247 Date Analyzed: 2010-02-02 Analyzed By: kg
Prep Batch: 57512 Sample Preparation: 2010-02-02 Prepared By: kg

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

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

Report Date: February 8, 2010
114-6400409

Work Order: 10012913
COG/Holder 6-7 TB

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Eddy Co., NM

Sample: 221147 - AH-2 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 67341
Prep Batch: 57592

Analytical Method: S 8015B
Date Analyzed: 2010-02-04
Sample Preparation: 2010-02-04

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		2.15	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.41	mg/Kg	1	2.00	120	65.3 - 145
4-Bromofluorobenzene (4-BFB)		2.38	mg/Kg	1	2.00	119	61.7 - 131.1

Sample: 221148 - AH-2 1'-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 67226
Prep Batch: 57469

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-02-02
Sample Preparation: 2010-02-01

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

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

Sample: 221149 - AH-3 0-1'

Laboratory: Midland
Analysis: BTEX
QC Batch: 67340
Prep Batch: 57592

Analytical Method: S 8021B
Date Analyzed: 2010-02-04
Sample Preparation: 2010-02-04

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		2.51	mg/Kg	10	0.0100
Toluene		25.3	mg/Kg	10	0.0100
Ethylbenzene		14.7	mg/Kg	10	0.0100
Xylene		21.4	mg/Kg	10	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		8.24	mg/Kg	10	10.0	82	64.4 - 141.2
4-Bromofluorobenzene (4-BFB)		11.0	mg/Kg	10	10.0	110	43.1 - 158.4

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COG/Holder 6-7 TB

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Eddy Co., NM

Sample: 221149 - AH-3 0-1'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	67226	Date Analyzed:	2010-02-02
Prep Batch:	57469	Sample Preparation:	2010-02-01
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1150	mg/Kg	50	4.00

Sample: 221149 - AH-3 0-1'

Laboratory:	Midland		
Analysis:	TPH DRO - NEW	Analytical Method:	Mod. 8015B
QC Batch:	67248	Date Analyzed:	2010-02-02
Prep Batch:	57513	Sample Preparation:	2010-02-02
		Prep Method:	N/A
		Analyzed By:	kg
		Prepared By:	kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		1730	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	³	202	mg/Kg	1	100	202	70 - 130

Sample: 221149 - AH-3 0-1'

Laboratory:	Midland		
Analysis:	TPH GRO	Analytical Method:	S 8015B
QC Batch:	67341	Date Analyzed:	2010-02-04
Prep Batch:	57592	Sample Preparation:	2010-02-04
		Prep Method:	S 5035
		Analyzed By:	AG
		Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		473	mg/Kg	10	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		10.3	mg/Kg	10	10.0	103	65.3 - 145
4-Bromofluorobenzene (4-BFB)	⁴	19.2	mg/Kg	10	10.0	192	61.7 - 131.1

³High surrogate recovery due to peak interference.

⁴High surrogate recovery due to peak interference.

Report Date: February 8, 2010
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Work Order: 10012913
COG/Holder 6-7 TB

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Eddy Co., NM

Sample: 221150 - AH-3 1'-1.5'

Laboratory: Midland
Analysis: BTEX
QC Batch: 67360
Prep Batch: 57614

Analytical Method: S 8021B
Date Analyzed: 2010-02-05
Sample Preparation: 2010-02-05

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.89	mg/Kg	1	2.00	94	64.4 - 141.2
4-Bromofluorobenzene (4-BFB)		1.87	mg/Kg	1	2.00	94	43.1 - 158.4

Sample: 221150 - AH-3 1'-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 67226
Prep Batch: 57469

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-02-02
Sample Preparation: 2010-02-01

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

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

Sample: 221151 - AH-4 0-1'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 67226
Prep Batch: 57469

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-02-02
Sample Preparation: 2010-02-01

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		457	mg/Kg	50	4.00

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Eddy Co., NM

Sample: 221151 - AH-4 0-1'

Laboratory:	Midland	Analytical Method:	Mod. 8015B	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2010-02-02	Analyzed By:	kg
QC Batch:	67248	Sample Preparation:	2010-02-02	Prepared By:	kg
Prep Batch:	57513				

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

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

Sample: 221151 - AH-4 0-1'

Laboratory:	Midland	Analytical Method:	S 8015B	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2010-02-04	Analyzed By:	AG
QC Batch:	67341	Sample Preparation:	2010-02-04	Prepared By:	AG
Prep Batch:	57592				

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<1.00	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.18	mg/Kg	1	2.00	109	65.3 - 145
4-Bromofluorobenzene (4-BFB)		2.13	mg/Kg	1	2.00	106	61.7 - 131.1

Sample: 221152 - AH-4 1'-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-02-02	Analyzed By:	AR
QC Batch:	67227	Sample Preparation:	2010-02-01	Prepared By:	AR
Prep Batch:	57470				

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

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Eddy Co., NM

Sample: 221153 - AH-4 1.5'-2'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-02-02	Analyzed By:	AR
QC Batch:	67227	Sample Preparation:	2010-02-01	Prepared By:	AR
Prep Batch:	57470				

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

Sample: 221154 - AH-5 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-02-02	Analyzed By:	AR
QC Batch:	67227	Sample Preparation:	2010-02-01	Prepared By:	AR
Prep Batch:	57470				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		14200	mg/Kg	100	4.00

Sample: 221154 - AH-5 0-1'

Laboratory:	Midland	Analytical Method:	Mod. 8015B	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2010-02-02	Analyzed By:	kg
QC Batch:	67248	Sample Preparation:	2010-02-02	Prepared By:	kg
Prep Batch:	57513				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		115	mg/Kg	1	100	115	70 - 130

Sample: 221154 - AH-5 0-1'

Laboratory:	Midland	Analytical Method:	S 8015B	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2010-02-04	Analyzed By:	AG
QC Batch:	67341	Sample Preparation:	2010-02-04	Prepared By:	AG
Prep Batch:	57592				

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Parameter	Flag	RL Result	Units	Dilution	RL
GRO		14.9	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.43	mg/Kg	1	2.00	122	65.3 - 145
4-Bromofluorobenzene (4-BFB)		2.42	mg/Kg	1	2.00	121	61.7 - 131.1

Sample: 221155 - AH-5 1'-1.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 67227 Date Analyzed: 2010-02-02 Analyzed By: AR
Prep Batch: 57470 Sample Preparation: 2010-02-01 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		8120	mg/Kg	100	4.00

Sample: 221156 - AH-6 0-1' 0.5' BEB

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 67227 Date Analyzed: 2010-02-02 Analyzed By: AR
Prep Batch: 57470 Sample Preparation: 2010-02-01 Prepared By: AR

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

Sample: 221156 - AH-6 0-1' 0.5' BEB

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: Mod. 8015B Prep Method: N/A
QC Batch: 67248 Date Analyzed: 2010-02-02 Analyzed By: kg
Prep Batch: 57513 Sample Preparation: 2010-02-02 Prepared By: kg

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

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		112	mg/Kg	1	100	112	70 - 130

Sample: 221156 - AH-6 0-1' 0.5' BEB

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 67341
Prep Batch: 57592

Analytical Method: S 8015B
Date Analyzed: 2010-02-04
Sample Preparation: 2010-02-04

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<1.00	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.37	mg/Kg	1	2.00	118	65.3 - 145
4-Bromofluorobenzene (4-BFB)		2.33	mg/Kg	1	2.00	116	61.7 - 131.1

Sample: 221157 - AH-7 0-1' 0.5' BEB

Laboratory: Midland
Analysis: BTEX
QC Batch: 67340
Prep Batch: 57592

Analytical Method: S 8021B
Date Analyzed: 2010-02-04
Sample Preparation: 2010-02-04

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		23.0	mg/Kg	50	0.0100
Toluene		132	mg/Kg	50	0.0100
Ethylbenzene		97.0	mg/Kg	50	0.0100
Xylene		137	mg/Kg	50	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		42.1	mg/Kg	50	50.0	84	64.4 - 141.2
4-Bromofluorobenzene (4-BFB)		69.7	mg/Kg	50	50.0	139	43.1 - 158.4

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Sample: 221157 - AH-7 0-1' 0.5' BEB

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 67227 Date Analyzed: 2010-02-02 Analyzed By: AR
Prep Batch: 57470 Sample Preparation: 2010-02-01 Prepared By: AR

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

Sample: 221157 - AH-7 0-1' 0.5' BEB

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: Mod. 8015B Prep Method: N/A
QC Batch: 67248 Date Analyzed: 2010-02-02 Analyzed By: kg
Prep Batch: 57513 Sample Preparation: 2010-02-02 Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		5490	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	⁵	341	mg/Kg	1	100	341	70 - 130

Sample: 221157 - AH-7 0-1' 0.5' BEB

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035
QC Batch: 67341 Date Analyzed: 2010-02-04 Analyzed By: AG
Prep Batch: 57592 Sample Preparation: 2010-02-04 Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		5210	mg/Kg	50	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		52.0	mg/Kg	50	50.0	104	65.3 - 145
4-Bromofluorobenzene (4-BFB)	⁶	91.0	mg/Kg	50	50.0	182	61.7 - 131.1

⁵High surrogate recovery due to peak interference.

⁶High surrogate recovery due to peak interference.

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Sample: 221158 - AH-8 0-1' 0.5' BEB

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-02-02	Analyzed By:	AR
QC Batch:	67227	Sample Preparation:	2010-02-01	Prepared By:	AR
Prep Batch:	57470				

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

Sample: 221158 - AH-8 0-1' 0.5' BEB

Laboratory:	Midland	Analytical Method:	Mod. 8015B	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2010-02-02	Analyzed By:	kg
QC Batch:	67248	Sample Preparation:	2010-02-02	Prepared By:	kg
Prep Batch:	57513				

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		187	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	⁷	134	mg/Kg	1	100	134	70 - 130

Sample: 221158 - AH-8 0-1' 0.5' BEB

Laboratory:	Midland	Analytical Method:	S 8015B	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2010-02-04	Analyzed By:	AG
QC Batch:	67341	Sample Preparation:	2010-02-04	Prepared By:	AG
Prep Batch:	57592				

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		4.16	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.35	mg/Kg	1	2.00	118	65.3 - 145
4-Bromofluorobenzene (4-BFB)		2.34	mg/Kg	1	2.00	117	61.7 - 131.1

⁷High surrogate recovery due to peak interference.

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Sample: 221159 - AH-8 1-1.5' 0.5' BEB

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	67227	Date Analyzed:	2010-02-02
Prep Batch:	57470	Sample Preparation:	2010-02-01
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

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

Sample: 221160 - AH-8 2-2.5' 0.5' BEB

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	67227	Date Analyzed:	2010-02-02
Prep Batch:	57470	Sample Preparation:	2010-02-01
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

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

Sample: 221161 - AH-8 3-3.5' 0.5' BEB

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	67227	Date Analyzed:	2010-02-02
Prep Batch:	57470	Sample Preparation:	2010-02-01
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

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

Sample: 221162 - AH-9 0-1' 1' BEB

Laboratory:	Midland		
Analysis:	BTEX	Analytical Method:	S 8021B
QC Batch:	67340	Date Analyzed:	2010-02-04
Prep Batch:	57592	Sample Preparation:	2010-02-04
		Prep Method:	S 5035
		Analyzed By:	AG
		Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		33.9	mg/Kg	20	0.0100

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Parameter	Flag	RL Result	Units	Dilution	RL
Toluene	8	143	mg/Kg	20	0.0100
Ethylbenzene		75.3	mg/Kg	20	0.0100
Xylene		106	mg/Kg	20	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		20.0	mg/Kg	20	20.0	100	64.4 - 141.2
4-Bromofluorobenzene (4-BFB)	9	37.6	mg/Kg	20	20.0	188	43.1 - 158.4

Sample: 221162 - AH-9 0-1' 1' BEB

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 67228 Date Analyzed: 2010-02-02 Analyzed By: AR
Prep Batch: 57471 Sample Preparation: 2010-02-01 Prepared By: AR

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

Sample: 221162 - AH-9 0-1' 1' BEB

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: Mod. 8015B Prep Method: N/A
QC Batch: 67248 Date Analyzed: 2010-02-02 Analyzed By: kg
Prep Batch: 57513 Sample Preparation: 2010-02-02 Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		2240	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	10	184	mg/Kg	1	100	184	70 - 130

Sample: 221162 - AH-9 0-1' 1' BEB

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035
QC Batch: 67341 Date Analyzed: 2010-02-04 Analyzed By: AG
Prep Batch: 57592 Sample Preparation: 2010-02-04 Prepared By: AG

⁸Estimated concentration value greater than standard range.

⁹High surrogate recovery due to peak interference.

¹⁰High surrogate recovery due to peak interference.

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		4130	mg/Kg	20	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		24.0	mg/Kg	20	20.0	120	65.3 - 145
4-Bromofluorobenzene (4-BFB)	¹¹	42.9	mg/Kg	20	20.0	214	61.7 - 131.1

Sample: 221163 - AH-10 0-1' 0.5' BEB

Laboratory: Midland

Analysis: BTEX

QC Batch: 67340

Prep Batch: 57592

Analytical Method: S 8021B

Date Analyzed: 2010-02-04

Sample Preparation: 2010-02-04

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		53.2	mg/Kg	20	0.0100
Toluene	¹²	174	mg/Kg	20	0.0100
Ethylbenzene		66.4	mg/Kg	20	0.0100
Xylene		132	mg/Kg	20	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		18.4	mg/Kg	20	20.0	92	64.4 - 141.2
4-Bromofluorobenzene (4-BFB)	¹³	40.2	mg/Kg	20	20.0	201	43.1 - 158.4

Sample: 221163 - AH-10 0-1' 0.5' BEB

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 67228

Prep Batch: 57471

Analytical Method: SM 4500-Cl B

Date Analyzed: 2010-02-02

Sample Preparation: 2010-02-01

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

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

¹¹High surrogate recovery due to peak interference.

¹²Estimated concentration value greater than standard range.

¹³High surrogate recovery due to peak interference.

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Sample: 221163 - AH-10 0-1' 0.5' BEB

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: Mod. 8015B Prep Method: N/A
QC Batch: 67248 Date Analyzed: 2010-02-02 Analyzed By: kg
Prep Batch: 57513 Sample Preparation: 2010-02-02 Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		3340	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	¹⁴	220	mg/Kg	1	100	220	70 - 130

Sample: 221163 - AH-10 0-1' 0.5' BEB

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035
QC Batch: 67341 Date Analyzed: 2010-02-04 Analyzed By: AG
Prep Batch: 57592 Sample Preparation: 2010-02-04 Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		4830	mg/Kg	20	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		21.7	mg/Kg	20	20.0	108	65.3 - 145
4-Bromofluorobenzene (4-BFB)	¹⁵	41.8	mg/Kg	20	20.0	209	61.7 - 131.1

Sample: 221164 - AH-11 0-1' 0.5' BEB

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 67228 Date Analyzed: 2010-02-02 Analyzed By: AR
Prep Batch: 57471 Sample Preparation: 2010-02-01 Prepared By: AR

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

¹⁴High surrogate recovery due to peak interference.

¹⁵High surrogate recovery due to peak interference.

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Sample: 221164 - AH-11 0-1' 0.5' BEB

Laboratory:	Midland	Analytical Method:	Mod. 8015B	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2010-02-02	Analyzed By:	kg
QC Batch:	67248	Sample Preparation:	2010-02-02	Prepared By:	kg
Prep Batch:	57513				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		110	mg/Kg	1	100	110	70 - 130

Sample: 221164 - AH-11 0-1' 0.5' BEB

Laboratory:	Midland	Analytical Method:	S 8015B	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2010-02-04	Analyzed By:	AG
QC Batch:	67341	Sample Preparation:	2010-02-04	Prepared By:	AG
Prep Batch:	57592				

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<1.00	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.44	mg/Kg	1	2.00	122	65.3 - 145
4-Bromofluorobenzene (4-BFB)		2.39	mg/Kg	1	2.00	120	61.7 - 131.1

Sample: 221165 - AH-11 1-1.5' 0.5' BEB

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-02-02	Analyzed By:	AR
QC Batch:	67228	Sample Preparation:	2010-02-01	Prepared By:	AR
Prep Batch:	57471				

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

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Sample: 221166 - AH-11 2-2.5' 0.5' BEB

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 67228 Date Analyzed: 2010-02-02 Analyzed By: AR
Prep Batch: 57471 Sample Preparation: 2010-02-01 Prepared By: AR

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

Sample: 221167 - AH-11 3-3.5' 0.5' BEB

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 67228 Date Analyzed: 2010-02-02 Analyzed By: AR
Prep Batch: 57471 Sample Preparation: 2010-02-01 Prepared By: AR

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

Sample: 221168 - AH-12 0-1' 1' BEB

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 67340 Date Analyzed: 2010-02-04 Analyzed By: AG
Prep Batch: 57592 Sample Preparation: 2010-02-04 Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		29.7	mg/Kg	20	0.0100
Toluene	¹⁶	113	mg/Kg	20	0.0100
Ethylbenzene		56.9	mg/Kg	20	0.0100
Xylene		105	mg/Kg	20	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		17.7	mg/Kg	20	20.0	88	64.4 - 141.2
4-Bromofluorobenzene (4-BFB)	¹⁷	37.4	mg/Kg	20	20.0	187	43.1 - 158.4

¹⁶Estimated concentration value greater than standard range.

¹⁷High surrogate recovery due to peak interference.

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Sample: 221168 - AH-12 0-1' 1' BEB

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-02-02	Analyzed By:	AR
QC Batch:	67228	Sample Preparation:	2010-02-01	Prepared By:	AR
Prep Batch:	57471				

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

Sample: 221168 - AH-12 0-1' 1' BEB

Laboratory:	Midland	Analytical Method:	Mod. 8015B	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2010-02-02	Analyzed By:	kg
QC Batch:	67248	Sample Preparation:	2010-02-02	Prepared By:	kg
Prep Batch:	57513				

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		1880	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	¹⁸	170	mg/Kg	1	100	170	70 - 130

Sample: 221168 - AH-12 0-1' 1' BEB

Laboratory:	Midland	Analytical Method:	S 8015B	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2010-02-04	Analyzed By:	AG
QC Batch:	67341	Sample Preparation:	2010-02-04	Prepared By:	AG
Prep Batch:	57592				

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		3930	mg/Kg	20	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		21.6	mg/Kg	20	20.0	108	65.3 - 145
4-Bromofluorobenzene (4-BFB)	¹⁹	42.7	mg/Kg	20	20.0	214	61.7 - 131.1

¹⁸High surrogate recovery due to peak interference.

¹⁹High surrogate recovery due to peak interference.

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Sample: 221169 - AH-13 0-1' 0.05' BEB

Laboratory: Midland
Analysis: BTEX
QC Batch: 67340
Prep Batch: 57592

Analytical Method: S 8021B
Date Analyzed: 2010-02-04
Sample Preparation: 2010-02-04

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		44.3	mg/Kg	20	0.0100
Toluene	20	187	mg/Kg	20	0.0100
Ethylbenzene	21	98.4	mg/Kg	20	0.0100
Xylene		163	mg/Kg	20	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		18.2	mg/Kg	20	20.0	91	64.4 - 141.2
4-Bromofluorobenzene (4-BFB)	22	42.8	mg/Kg	20	20.0	214	43.1 - 158.4

Sample: 221169 - AH-13 0-1' 0.05' BEB

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 67228
Prep Batch: 57471

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-02-02
Sample Preparation: 2010-02-01

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

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

Sample: 221169 - AH-13 0-1' 0.05' BEB

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 67248
Prep Batch: 57513

Analytical Method: Mod. 8015B
Date Analyzed: 2010-02-02
Sample Preparation: 2010-02-02

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		3300	mg/Kg	1	50.0

²⁰ Estimated concentration value greater than standard range.

²¹ Estimated concentration value greater than standard range.

²² High surrogate recovery due to peak interference.

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	²³	219	mg/Kg	1	100	219	70 - 130

Sample: 221169 - AH-13 0-1' 0.05' BEB

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 67341
Prep Batch: 57592

Analytical Method: S 8015B
Date Analyzed: 2010-02-04
Sample Preparation: 2010-02-04

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		5550	mg/Kg	20	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		21.5	mg/Kg	20	20.0	108	65.3 - 145
4-Bromofluorobenzene (4-BFB)	²⁴	58.8	mg/Kg	20	20.0	294	61.7 - 131.1

Sample: 221170 - AH-14 0-1' 0.05' BEB

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 67228
Prep Batch: 57471

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-02-02
Sample Preparation: 2010-02-01

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

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

Sample: 221170 - AH-14 0-1' 0.05' BEB

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 67248
Prep Batch: 57513

Analytical Method: Mod. 8015B
Date Analyzed: 2010-02-02
Sample Preparation: 2010-02-02

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		531	mg/Kg	1	50.0

²³High surrogate recovery due to peak interference.

²⁴High surrogate recovery due to peak interference.

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		120	mg/Kg	1	100	120	70 - 130

Sample: 221170 - AH-14 0-1' 0.05' BEB

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 67341
Prep Batch: 57592

Analytical Method: S 8015B
Date Analyzed: 2010-02-04
Sample Preparation: 2010-02-04

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		852	mg/Kg	10	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		11.1	mg/Kg	10	10.0	111	65.3 - 145
4-Bromofluorobenzene (4-BFB)	²⁵	18.5	mg/Kg	10	10.0	185	61.7 - 131.1

Sample: 221171 - AH-15 0-1' 0.05'

Laboratory: Midland
Analysis: BTEX
QC Batch: 67340
Prep Batch: 57592

Analytical Method: S 8021B
Date Analyzed: 2010-02-04
Sample Preparation: 2010-02-04

Prep Method: S 5035
Analyzed By: AG
Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		55.6	mg/Kg	50	0.0100
Toluene		205	mg/Kg	50	0.0100
Ethylbenzene		136	mg/Kg	50	0.0100
Xylene		184	mg/Kg	50	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		44.2	mg/Kg	50	50.0	88	64.4 - 141.2
4-Bromofluorobenzene (4-BFB)		78.5	mg/Kg	50	50.0	157	43.1 - 158.4

Sample: 221171 - AH-15 0-1' 0.05'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 67228
Prep Batch: 57471

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-02-02
Sample Preparation: 2010-02-01

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

²⁵High surrogate recovery due to peak interference.

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

Sample: 221171 - AH-15 0-1' 0.05'

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: Mod. 8015B Prep Method: N/A
QC Batch: 67248 Date Analyzed: 2010-02-02 Analyzed By: kg
Prep Batch: 57513 Sample Preparation: 2010-02-02 Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		3340	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	²⁶	228	mg/Kg	1	100	228	70 - 130

Sample: 221171 - AH-15 0-1' 0.05'

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035
QC Batch: 67341 Date Analyzed: 2010-02-04 Analyzed By: AG
Prep Batch: 57592 Sample Preparation: 2010-02-04 Prepared By: AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		7590	mg/Kg	50	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		54.0	mg/Kg	50	50.0	108	65.3 - 145
4-Bromofluorobenzene (4-BFB)	²⁷	105	mg/Kg	50	50.0	210	61.7 - 131.1

Sample: 221172 - AH-14 1'-1.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 67253 Date Analyzed: 2010-02-03 Analyzed By: AR
Prep Batch: 57472 Sample Preparation: 2010-02-01 Prepared By: AR

²⁶High surrogate recovery due to peak interference.

²⁷High surrogate recovery due to peak interference.

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

Method Blank (1) QC Batch: 67226

QC Batch: 67226 Date Analyzed: 2010-02-02 Analyzed By: AR
Prep Batch: 57469 QC Preparation: 2010-02-01 Prepared By: AR

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

Method Blank (1) QC Batch: 67227

QC Batch: 67227 Date Analyzed: 2010-02-02 Analyzed By: AR
Prep Batch: 57470 QC Preparation: 2010-02-01 Prepared By: AR

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

Method Blank (1) QC Batch: 67228

QC Batch: 67228 Date Analyzed: 2010-02-02 Analyzed By: AR
Prep Batch: 57471 QC Preparation: 2010-02-01 Prepared By: AR

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

Method Blank (1) QC Batch: 67247

QC Batch: 67247 Date Analyzed: 2010-02-02 Analyzed By: kg
Prep Batch: 57512 QC Preparation: 2010-02-02 Prepared By: kg

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method blank continued ...

Parameter	Flag	MDL Result	Units	RL
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Parameter	Flag	MDL Result	Units	RL
DRO		<5.86	mg/Kg	50

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

Method Blank (1) QC Batch: 67248

QC Batch: 67248 Date Analyzed: 2010-02-02 Analyzed By: kg
Prep Batch: 57513 QC Preparation: 2010-02-02 Prepared By: kg

Parameter	Flag	MDL Result	Units	RL
DRO		<5.86	mg/Kg	50

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

Method Blank (1) QC Batch: 67253

QC Batch: 67253 Date Analyzed: 2010-02-03 Analyzed By: AR
Prep Batch: 57472 QC Preparation: 2010-02-01 Prepared By: AR

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

Method Blank (1) QC Batch: 67340

QC Batch: 67340 Date Analyzed: 2010-02-04 Analyzed By: AG
Prep Batch: 57592 QC Preparation: 2010-02-04 Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.00410	mg/Kg	0.01
Toluene		<0.00310	mg/Kg	0.01

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Parameter	Flag	MDL Result	Units	RL
Ethylbenzene		<0.00240	mg/Kg	0.01
Xylene		<0.00650	mg/Kg	0.01

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.78	mg/Kg	1	2.00	89	64.9 - 142.7
4-Bromofluorobenzene (4-BFB)		1.78	mg/Kg	1	2.00	89	43.9 - 141.9

Method Blank (1) QC Batch: 67341

QC Batch: 67341
Prep Batch: 57592

Date Analyzed: 2010-02-04
QC Preparation: 2010-02-04

Analyzed By: AG
Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
GRO		<0.396	mg/Kg	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.25	mg/Kg	1	2.00	112	66.2 - 145
4-Bromofluorobenzene (4-BFB)		2.14	mg/Kg	1	2.00	107	62 - 120.5

Method Blank (1) QC Batch: 67360

QC Batch: 67360
Prep Batch: 57614

Date Analyzed: 2010-02-05
QC Preparation: 2010-02-05

Analyzed By: AG
Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.00410	mg/Kg	0.01
Toluene		<0.00310	mg/Kg	0.01
Ethylbenzene		<0.00240	mg/Kg	0.01
Xylene		<0.00650	mg/Kg	0.01

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.77	mg/Kg	1	2.00	88	64.9 - 142.7
4-Bromofluorobenzene (4-BFB)		1.77	mg/Kg	1	2.00	88	43.9 - 141.9

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Laboratory Control Spike (LCS-1)

QC Batch: 67226
Prep Batch: 57469

Date Analyzed: 2010-02-02
QC Preparation: 2010-02-01

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	101	mg/Kg	1	100	<2.18	101	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	98.4	mg/Kg	1	100	<2.18	98	85 - 115	3	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: 67227
Prep Batch: 57470

Date Analyzed: 2010-02-02
QC Preparation: 2010-02-01

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.8	mg/Kg	1	100	<2.18	99	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	100	mg/Kg	1	100	<2.18	100	85 - 115	1	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: 67228
Prep Batch: 57471

Date Analyzed: 2010-02-02
QC Preparation: 2010-02-01

Analyzed By: AR
Prepared By: AR

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	97.9	mg/Kg	1	100	<2.18	98	85 - 115	2	20

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

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Laboratory Control Spike (LCS-1)

QC Batch: 67247
Prep Batch: 57512

Date Analyzed: 2010-02-02
QC Preparation: 2010-02-02

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	245	mg/Kg	1	250	<5.86	98	57.4 - 133.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	252	mg/Kg	1	250	<5.86	101	57.4 - 133.4	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	115	118	mg/Kg	1	100	115	118	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 67248
Prep Batch: 57513

Date Analyzed: 2010-02-02
QC Preparation: 2010-02-02

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	246	mg/Kg	1	250	<5.86	98	57.4 - 133.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	245	mg/Kg	1	250	<5.86	98	57.4 - 133.4	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	123	122	mg/Kg	1	100	123	122	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 67253
Prep Batch: 57472

Date Analyzed: 2010-02-03
QC Preparation: 2010-02-01

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	101	mg/Kg	1	100	<2.18	101	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	99.4	mg/Kg	1	100	<2.18	99	85 - 115	2	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: 67340
Prep Batch: 57592

Date Analyzed: 2010-02-04
QC Preparation: 2010-02-04

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.07	mg/Kg	1	2.00	<0.00410	104	75.4 - 115.7
Toluene	1.91	mg/Kg	1	2.00	<0.00310	96	78.4 - 113.6
Ethylbenzene	1.88	mg/Kg	1	2.00	<0.00240	94	76 - 114.2
Xylene	5.69	mg/Kg	1	6.00	<0.00650	95	76.9 - 113.6

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.10	mg/Kg	1	2.00	<0.00410	105	75.4 - 115.7	1	20
Toluene	1.93	mg/Kg	1	2.00	<0.00310	96	78.4 - 113.6	1	20
Ethylbenzene	1.90	mg/Kg	1	2.00	<0.00240	95	76 - 114.2	1	20
Xylene	5.75	mg/Kg	1	6.00	<0.00650	96	76.9 - 113.6	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)	1.89	1.60	mg/Kg	1	2.00	94	80	65 - 142.9
4-Bromofluorobenzene (4-BFB)	1.98	1.66	mg/Kg	1	2.00	99	83	43.8 - 144.9

Laboratory Control Spike (LCS-1)

QC Batch: 67341
Prep Batch: 57592

Date Analyzed: 2010-02-04
QC Preparation: 2010-02-04

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	17.6	mg/Kg	1	20.0	<0.396	88	52.5 - 114.3

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	18.7	mg/Kg	1	20.0	<0.396	94	52.5 - 114.3	6	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.22	2.30	mg/Kg	1	2.00	111	115	66.2 - 148.7
4-Bromofluorobenzene (4-BFB)	2.19	2.35	mg/Kg	1	2.00	110	118	64.1 - 127.4

Laboratory Control Spike (LCS-1)

QC Batch: 67360
Prep Batch: 57614

Date Analyzed: 2010-02-05
QC Preparation: 2010-02-05

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.12	mg/Kg	1	2.00	<0.00410	106	75.4 - 115.7
Toluene	1.95	mg/Kg	1	2.00	<0.00310	98	78.4 - 113.6
Ethylbenzene	1.89	mg/Kg	1	2.00	<0.00240	94	76 - 114.2
Xylene	5.74	mg/Kg	1	6.00	<0.00650	96	76.9 - 113.6

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.03	mg/Kg	1	2.00	<0.00410	102	75.4 - 115.7	4	20
Toluene	1.88	mg/Kg	1	2.00	<0.00310	94	78.4 - 113.6	4	20
Ethylbenzene	1.85	mg/Kg	1	2.00	<0.00240	92	76 - 114.2	2	20
Xylene	5.59	mg/Kg	1	6.00	<0.00650	93	76.9 - 113.6	3	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.76	1.71	mg/Kg	1	2.00	88	86	65 - 142.9
4-Bromofluorobenzene (4-BFB)	1.85	1.82	mg/Kg	1	2.00	92	91	43.8 - 144.9

Matrix Spike (MS-1) Spiked Sample: 221151

QC Batch: 67226
Prep Batch: 57469

Date Analyzed: 2010-02-02
QC Preparation: 2010-02-01

Analyzed By: AR
Prepared By: AR

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Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10600	mg/Kg	100	10000	457	101	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10700	mg/Kg	100	10000	457	107	85 - 115	1	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: 221161

QC Batch: 67227
Prep Batch: 57470

Date Analyzed: 2010-02-02
QC Preparation: 2010-02-01

Analyzed By: AR
Prepared By: AR

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

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10200	mg/Kg	100	10000	<218	102	85 - 115	2	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: 221171

QC Batch: 67228
Prep Batch: 57471

Date Analyzed: 2010-02-02
QC Preparation: 2010-02-01

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	11000	mg/Kg	100	10000	878	101	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	11200	mg/Kg	100	10000	878	103	85 - 115	2	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: 221147

QC Batch: 67247
Prep Batch: 57512

Date Analyzed: 2010-02-02
QC Preparation: 2010-02-02

Analyzed By: kg
Prepared By: kg

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Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	209	mg/Kg	1	250	<5.86	84	35.2 - 167.1

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	201	mg/Kg	1	250	<5.86	80	35.2 - 167.1	4	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	104	100	mg/Kg	1	100	104	100	70 - 130

Matrix Spike (MS-1) Spiked Sample: 221213

QC Batch: 67248
Prep Batch: 57513

Date Analyzed: 2010-02-02
QC Preparation: 2010-02-02

Analyzed By: kg
Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	203	mg/Kg	1	250	<5.86	81	35.2 - 167.1

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	211	mg/Kg	1	250	<5.86	84	35.2 - 167.1	4	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	104	107	mg/Kg	1	100	104	107	70 - 130

Matrix Spike (MS-1) Spiked Sample: 221198

QC Batch: 67253
Prep Batch: 57472

Date Analyzed: 2010-02-03
QC Preparation: 2010-02-01

Analyzed By: AR
Prepared By: AR

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

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

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Work Order: 10012913
COG/Holder 6-7 TB

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Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10200	mg/Kg	100	10000	<218	102	85 - 115	1	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: 221434

QC Batch: 67340
Prep Batch: 57592

Date Analyzed: 2010-02-04
QC Preparation: 2010-02-04

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.11	mg/Kg	1	2.00	<0.00410	106	57.7 - 140.7
Toluene	2.00	mg/Kg	1	2.00	<0.00310	100	53.4 - 146.6
Ethylbenzene	2.01	mg/Kg	1	2.00	0.0073	100	62.1 - 141.6
Xylene	6.19	mg/Kg	1	6.00	0.1025	101	61.2 - 142.7

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.05	mg/Kg	1	2.00	<0.00410	102	57.7 - 140.7	3	20
Toluene	1.94	mg/Kg	1	2.00	<0.00310	97	53.4 - 146.6	3	20
Ethylbenzene	1.94	mg/Kg	1	2.00	0.0073	97	62.1 - 141.6	4	20
Xylene	5.95	mg/Kg	1	6.00	0.1025	97	61.2 - 142.7	4	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)	²⁸ 1.56	1.19	mg/Kg	1	2	78	60	62.7 - 139.6
4-Bromofluorobenzene (4-BFB)	1.71	1.31	mg/Kg	1	2	86	66	49.6 - 146.7

Matrix Spike (MS-1) Spiked Sample: 221164

QC Batch: 67341
Prep Batch: 57592

Date Analyzed: 2010-02-04
QC Preparation: 2010-02-04

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	18.2	mg/Kg	1	20.0	<0.396	91	10 - 198.3

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

²⁸Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

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Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	19.1	mg/Kg	1	20.0	<0.396	96	10 - 198.3	5	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.68	2.30	mg/Kg	1	2	84	115	65.5 - 143
4-Bromofluorobenzene (4-BFB)	1.81	2.42	mg/Kg	1	2	90	121	58.6 - 140

Matrix Spike (MS-1) Spiked Sample: 221730

QC Batch: 67360
Prep Batch: 57614

Date Analyzed: 2010-02-05
QC Preparation: 2010-02-05

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.98	mg/Kg	1	2.00	<0.00410	99	57.7 - 140.7
Toluene	1.87	mg/Kg	1	2.00	<0.00310	94	53.4 - 146.6
Ethylbenzene	1.84	mg/Kg	1	2.00	<0.00240	92	62.1 - 141.6
Xylene	5.60	mg/Kg	1	6.00	<0.00650	93	61.2 - 142.7

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.89	mg/Kg	1	2.00	<0.00410	94	57.7 - 140.7	5	20
Toluene	1.77	mg/Kg	1	2.00	<0.00310	88	53.4 - 146.6	6	20
Ethylbenzene	1.78	mg/Kg	1	2.00	<0.00240	89	62.1 - 141.6	3	20
Xylene	5.37	mg/Kg	1	6.00	<0.00650	90	61.2 - 142.7	4	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)	1.71	1.48	mg/Kg	1	2	86	74	62.7 - 139.6
4-Bromofluorobenzene (4-BFB)	1.75	1.53	mg/Kg	1	2	88	76	49.6 - 146.7

Standard (ICV-1)

QC Batch: 67226

Date Analyzed: 2010-02-02

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.7	100	85 - 115	2010-02-02

Standard (CCV-1)

QC Batch: 67226 Date Analyzed: 2010-02-02 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-02-02

Standard (ICV-1)

QC Batch: 67227 Date Analyzed: 2010-02-02 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.1	99	85 - 115	2010-02-02

Standard (CCV-1)

QC Batch: 67227 Date Analyzed: 2010-02-02 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-02-02

Standard (ICV-1)

QC Batch: 67228 Date Analyzed: 2010-02-02 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-02-02

Standard (CCV-1)

QC Batch: 67228 Date Analyzed: 2010-02-02 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.2	99	85 - 115	2010-02-02

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Standard (CCV-3)

QC Batch: 67247 Date Analyzed: 2010-02-02 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	241	96	80 - 120	2010-02-02

Standard (CCV-4)

QC Batch: 67247 Date Analyzed: 2010-02-02 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	248	99	80 - 120	2010-02-02

Standard (CCV-1)

QC Batch: 67248 Date Analyzed: 2010-02-02 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	251	100	80 - 120	2010-02-02

Standard (CCV-2)

QC Batch: 67248 Date Analyzed: 2010-02-02 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	251	100	80 - 120	2010-02-02

Standard (CCV-3)

QC Batch: 67248 Date Analyzed: 2010-02-02 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	247	99	80 - 120	2010-02-02

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Eddy Co., NM

Standard (CCV-4)

QC Batch: 67248

Date Analyzed: 2010-02-02

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	254	102	80 - 120	2010-02-02

Standard (ICV-1)

QC Batch: 67253

Date Analyzed: 2010-02-03

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-02-03

Standard (CCV-1)

QC Batch: 67253

Date Analyzed: 2010-02-03

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.1	99	85 - 115	2010-02-03

Standard (CCV-2)

QC Batch: 67340

Date Analyzed: 2010-02-04

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.109	109	80 - 120	2010-02-04
Toluene		mg/Kg	0.100	0.101	101	80 - 120	2010-02-04
Ethylbenzene		mg/Kg	0.100	0.0996	100	80 - 120	2010-02-04
Xylene		mg/Kg	0.300	0.300	100	80 - 120	2010-02-04

Standard (CCV-3)

QC Batch: 67340

Date Analyzed: 2010-02-04

Analyzed By: AG

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.103	103	80 - 120	2010-02-04
Toluene		mg/Kg	0.100	0.0966	97	80 - 120	2010-02-04
Ethylbenzene		mg/Kg	0.100	0.0938	94	80 - 120	2010-02-04
Xylene		mg/Kg	0.300	0.284	95	80 - 120	2010-02-04

Standard (CCV-1)

QC Batch: 67341

Date Analyzed: 2010-02-04

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.19	119	80 - 120	2010-02-04

Standard (CCV-2)

QC Batch: 67341

Date Analyzed: 2010-02-04

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.03	103	80 - 120	2010-02-04

Standard (CCV-3)

QC Batch: 67341

Date Analyzed: 2010-02-04

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.20	120	80 - 120	2010-02-04

Standard (CCV-2)

QC Batch: 67360

Date Analyzed: 2010-02-05

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.102	102	80 - 120	2010-02-05
Toluene		mg/Kg	0.100	0.0949	95	80 - 120	2010-02-05
Ethylbenzene		mg/Kg	0.100	0.0922	92	80 - 120	2010-02-05

continued ...

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standard continued ...

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Xylene		mg/Kg	0.300	0.279	93	80 - 120	2010-02-05

Standard (CCV-3)

QC Batch: 67360

Date Analyzed: 2010-02-05

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.102	102	80 - 120	2010-02-05
Toluene		mg/Kg	0.100	0.0926	93	80 - 120	2010-02-05
Ethylbenzene		mg/Kg	0.100	0.0893	89	80 - 120	2010-02-05
Xylene		mg/Kg	0.300	0.269	90	80 - 120	2010-02-05

Order #: 10012913

Analysis Request of Chain of Custody Record

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**TETRA TECH**1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946ANALYSIS REQUEST
(Circle or Specify Method No.)CLIENT NAME: COGSITE MANAGER: Ike TavarazPROJECT NO.: 114-6400409PROJECT NAME: COG / Holder 6-7 TB
Eddy Co, NMLAB I.D.
NUMBERDATE
2010

TIME

MATRIX

COMP

GRAB

SAMPLE IDENTIFICATION

NUMBER OF CONTAINERS

FILTERED (Y/N)

HCL

HNO3

ICE

NONE

PRESERVATIVE
METHOD

EXT. TO C35	TX1005	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
☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒

RELINQUISHED BY: (Signature) [Signature]Date: 1/28/10
Time: 16:10RECEIVED BY: (Signature) [Signature]Date: 1/28/10
Time: 16:10SAMPLED BY: (Print & Initial) ST/KGDate: 1/27/10
Time: 16:10RELINQUISHED BY: (Signature) [Signature]Date: 1/28/10
Time: 16:10RECEIVED BY: (Signature) [Signature]Date: 1/28/10
Time: 16:10

SAMPLE SHIPPED BY: (Circle)

FEDEX

BUS

AIRBILL #:

HAND DELIVERED

UPS

OTHER:

RELINQUISHED BY: (Signature) [Signature]Date: 1/28/10
Time: 16:10RECEIVED BY: (Signature) [Signature]Date: 1/28/10
Time: 16:10

TETRA TECH CONTACT PERSON:

Results by:

RECEIVING LABORATORY: TraceRECEIVED BY: (Signature) [Signature]

ADDRESS:

CITY: MidlandSTATE: TX

ZIP:

CONTACT:

PHONE:

DATE:

TIME:

Ike TavarazRUSH Charges
Authorized:

Yes No

SAMPLE CONDITION WHEN RECEIVED:

REMARKS:

4.0c intactIf total TPH exceeds 5,000 mg/kg, run deeper samples. Run BTEX w/ highest TPH
If total BTEX exceeds 50 mg/kg, or total Benzene exceeds 10 mg/kg

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

Run Deeper Samples

Order #: 10012913

Analysis Request of Chain of Custody Record

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**TETRA TECH**

1910 N. Big Spring St.

Midland, Texas 79705

(432) 682-4559 • Fax (432) 682-3946

ANALYSIS REQUEST
(Circle or Specify Method No.)CLIENT NAME: COGSITE MANAGER:
Ike TavarazPROJECT NO.:
114-6400409PROJECT NAME:
COG / Holder 6-7 TBEddy CO, NM

SAMPLE IDENTIFICATION

LAB I.D.
NUMBER

DATE

TIME

MATRIX

COMP

GRAB

NUMBER OF CONTAINERS

FILTERED (Y/N)

PRESERVATIVE
METHOD

HCL

HNO3

ICE

NONE

☒ BTEX 8021B
☒ TPH 8015 MOD. (Ext. to C35)
☐ PAH 8270

☐ RCRA Metals Ag As Ba Cd Cr Pb Hg Se
☐ TCLP Metals Ag As Ba Cd Vr Pd Hg Se

☐ TCLP Volatiles
☐ TCLP Semi Volatiles

☐ RCI
☐ GC/MS Vol. 8240/8260/624

☐ GC/MS Semi. Vol. 8270/625
☐ PCB's 8080/608

☐ Pest. 808/608
☒ Chloride

☐ Gamma Spec.
☐ Alpha Beta (Air)

☐ PLM (Asbestos)
☐ Major Anions/Cations, pH, TDS

221154

1/27

S

X

155

156

157

158

159

160

161

Order #: 10012913

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: 3 OF:

ANALYSIS REQUEST
(Circle or Specify Method No.)CLIENT NAME: COGSITE MANAGER: Ike TavarazPROJECT NO.: 114-6400409PROJECT NAME: COG / Holder 6-7 TBLAB I.D. NUMBER: 221164 DATE: 2010 TIME: 1/27 MATRIX: S COMP: X GRAB: X SAMPLE IDENTIFICATION: Eddy CO, NM

NUMBER	2010		MAT	CON	GRA		NUM	FILT	HCL	HNO	ICE	NON	BTE	TPH	PAH	RCRR	TCL	TCL	TCL	RCI	GC	GC	PCB	Pest	Chlor	Gamma	Alpha	PLM	Major
22164	1/27		S		X	AH-11 0-1' 0.5' BEB	1				X		X											X					
165						AH-11 1'-1.5' 0.5' BEB																							
166						AH-11 2'-2.5' 0.5' BEB																							
167						AH-11 3'-3.5' 0.5' BEB																							
168						AH-12 0-1' 1' BEB								X															
169						AH-13 0-1' 0.05' BEB								X															
170						AH-14 0-1' 0.05' BEB								X															
171						AH-15 0-1' 0.05' BEB								X															
172						AH-14 1' - 1.5'																			X				

RELINQUISHED BY: (Signature) [Signature]Date: 1/28/10Time: 1610RECEIVED BY: (Signature) [Signature]Date: 1/28/10Time: 1610SAMPLED BY: (Print & Initial) ST/RTGDate: 1/27/10Time: 1610RELINQUISHED BY: (Signature) [Signature]Date: 1/28/10Time: 1610RECEIVED BY: (Signature) [Signature]Date: 1/28/10Time: 1610

SAMPLE SHIPPED BY: (Circle)

FEDEX

BUS

AIRBILL #:

HAND DELIVERED

UPS

OTHER: RELINQUISHED BY: (Signature) [Signature]Date: 1/28/10Time: 1610RECEIVED BY: (Signature) [Signature]Date: 1/28/10Time: 1610

TETRA TECH CONTACT PERSON:

Results by:

RECEIVING LABORATORY: TraceRECEIVED BY: (Signature) [Signature]ADDRESS: MidlandCITY: Midland STATE: TX ZIP: CONTACT: PHONE: DATE: TIME: Ike TavarazRUSH Charges Authorized:

Yes No

SAMPLE CONDITION WHEN RECEIVED: U.O.C. intact

REMARKS:

If total TPH exceeds 5,000 mg/kg, run deeper samples. If total BTEX exceeds 50 mg/kg, or total Benzene exceeds 10 mg/kg, run BTEX w/ highest TPH

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

Run Deeper Samples

APPENDIX D

NMCRI INVESTIGATION ABSTRACT FORM (NIAF)

1. NMCRI Activity No.: 117342	2a. Lead (Sponsoring) Agency: BLM-CFO	2b. Other Permitting Agency(ies):	3. Lead Agency Report No.:																		
4. Title of Report: A Class III Cultural Resource Inventory Report for the Holder CB 6-7 Tank Battery Oil Spill, Section 17, T.17S, R.30E, Eddy County, New Mexico Author(s) Allen Rorex and Doralene Sanders			5. Type of Report ☒ Negative ☐ Positive																		
6. Investigation Type ☐ Research Design ☒ Survey/Inventory ☐ Test Excavation ☐ Excavation ☐ Collections/Non-Field Study ☐ Overview/Lit Review ☐ Monitoring ☐ Ethnographic study ☐ Site specific visit ☐ Other																					
7. Description of Undertaking (what does the project entail?): Tetra Tech, on behalf of COG Operating, requested a class III cultural resource inventory for an oil spill area, resulting from a pipeline/header leak, located in Section 17, T.17S, R.30E, Eddy County, New Mexico. An area 350 ft N/S by 650 ft E/W was inventoried for the reclamation area. The impact area is unknown, as it is dependent upon the necessary cleanup operations. The spill area consisted of an area 250 ft wide by 400 ft long. A 100 ft buffer area was inventoried outside of the oil spill perimeter.			8. Dates of Investigation: April 14, 2010																		
10. Performing Agency/Consultant: SNMAS, Inc. Principal Investigator: Joe Ben Sanders Field Supervisor: Allen Rorex Field Personnel Names: Allen Rorex			9. Report Date: May 6, 2010																		
13. Client/Customer (project proponent): COG Operating, LLC Contact: Ike Tavaréz Address: 550 West Texas Ave, Suite 1300 Midland, Texas 79701 Phone: (432) 682-4559			11. Performing Agency/Consultant Report No.: SNMAS-10NM-3638 12. Applicable Cultural Resource Permit No(s): 145-2920-10-R																		
15. Land Ownership Status (<u>Must</u> be indicated on project map): <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Land Owner</th> <th style="width: 25%;">Acres Surveyed</th> <th style="width: 25%;">Acres in APE</th> </tr> </thead> <tbody> <tr> <td>BLM-CFO</td> <td>5.22</td> <td></td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td style="text-align: right;">TOTALS</td> <td>5.22</td> <td> </td> </tr> </tbody> </table>			Land Owner	Acres Surveyed	Acres in APE	BLM-CFO	5.22											TOTALS	5.22		14. Client/Customer Project No.:
Land Owner	Acres Surveyed	Acres in APE																			
BLM-CFO	5.22																				
TOTALS	5.22																				
16. Records Search(es): The records search revealed two previously recorded sites (LA 133,426 and LA 68,995) located within a quarter mile radius of the project area. There are nine sites within a mile. There are two previous inventories, listed under BLM report numbers 01-NM-080-804 and 88-067-341.																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Date(s) of ARMS File Review 04/13/10</td> <td style="width: 30%;">Name of Reviewer(s) Doralene Sanders</td> <td style="width: 30%;"></td> </tr> <tr> <td>Date(s) of NR/SR File Review N/A</td> <td>Name of Reviewer(s) N/A</td> <td></td> </tr> <tr> <td>Date(s) of Other Agency File Review 03/08/10</td> <td>Name of Reviewer(s) Allen Rorex</td> <td>Agency BLM-CFO</td> </tr> </table>				Date(s) of ARMS File Review 04/13/10	Name of Reviewer(s) Doralene Sanders		Date(s) of NR/SR File Review N/A	Name of Reviewer(s) N/A		Date(s) of Other Agency File Review 03/08/10	Name of Reviewer(s) Allen Rorex	Agency BLM-CFO									
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17. Survey Data: a. Source Graphics ☒ NAD 27 ☐ NAD 83 ☒ USGS 7.5' (1:24,000) topo map ☐ Other topo map, Scale: ☒ GPS Unit Accuracy ☐ <1.0m ☒ 1-10m ☐ 10-100m ☐ >100m b. USGS 7.5' Topographic Map Name USGS Quad Code Loco Hills, NM (Prov. Ed. 1985) 32103-G8 c. County(ies): Eddy																					

17. Survey Data (continued):

d. Nearest City or Town: Loco Hills, NM

e. Legal Description:

Township (N/S)	Range (E/W)	Section	1/4	1/4	1/4
17S	30E	17	NE, SW, NW; SE, SW, NW		

Projected legal description? Yes ☐ , No ☐ Unplatted ☐

f. Other Description (e.g. well pad footages, mile markers, plats, land grant name, etc.): An oil spill area measuring approximately 250 ft x 400 ft in size.

18. Survey Field Methods:

Intensity: ☒ 100% coverage ☐ <100% coverage

Configuration: ☒ block survey units 350 ft N/S x 650 ft E/W ☐ linear survey units (l x w):

Scope: ☒ non-selective (all sites recorded) ☐ selective/thematic (selected sites recorded)

Coverage Method: ☒ systematic pedestrian coverage ☐ other method (describe)

Survey Interval (m): 15 Crew Size: 1 Fieldwork Dates: April 14, 2010

Survey Person Hours: 2 Recording Person Hours: 0 Total Hours: 2

19. Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.): The project is located on open rolling slopes covered with low coppice dune field formations, up to 1.5 meters height. Exposure is open and drainage is internal. Soils are tan/red loamy silty sands, mixed with an occasional small lag gravel. Area vegetation is dominated by grasses, shin oak, mesquite, yucca, snakeweed and spectacle pod. The elevation is 3,644 ft above msl.

20.a. Percent Ground Visibility: 76-99 b. Condition of Survey Area (grazed, bladed, undisturbed, etc.): The survey area is covered with oil spray contamination, well location, access road and pipeline related refuse.

21. CULTURAL RESOURCE FINDINGS ☐ Yes, See Page 3 ☒ No, Discuss Why: The site density in the area is low. The area is unfavorable for exploiting resources.

22. Required Attachments (check all appropriate boxes):

- ☒ USGS 7.5 Topographic Map with sites, isolates, and survey area clearly drawn
- ☒ Copy of NMCRIS Mapserver Map Check
- ☐ LA Site Forms - new sites (*with sketch map & topographic map*)
- ☐ LA Site Forms (update) - previously recorded & un-relocated sites (*first 2 pages minimum*)
- ☐ Historic Cultural Property Inventory Forms
- ☐ List and Description of isolates, if applicable
- ☐ List and Description of Collections, if applicable

23. Other Attachments:

- ☐ Photographs and Log
- ☐ Other Attachments

(Describe):

24. I certify the information provided above is correct and accurate and meets all applicable agency standards.

Principal Investigator/Responsible Archaeologist: Allen Rorex Title (if not PI): Field Supervisor

Signature for Allen Rorex: [Signature]

Date May 6, 2010

25. Reviewing Agency:

Reviewer's Name/Date

Accepted () Rejected ()

Tribal Consultation (if applicable): ☐ Yes ☐ No

26. SHPO

Reviewer's Name/Date:

HPD Log #:

SHPO File Location:

Date sent to ARMS:

CULTURAL RESOURCE FINDINGS

[fill in appropriate section(s)]

1. NMCRIS Activity No.: 117342	2. Lead (Sponsoring) Agency: BLM-CFO	3. Lead Agency Report No.:
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SURVEY RESULTS:

Sites discovered and registered: 0
 Sites discovered and NOT registered: 0
 Previously recorded sites revisited (site update form required): 0
 Previously recorded sites not relocated (site update form required): 0
 TOTAL SITES VISITED: 0
 Total isolates recorded: 0 Non-selective isolate recording? ☒
 Total structures recorded (new and previously recorded, including acequias): 0

MANAGEMENT SUMMARY: During the current inventory, no cultural resources were encountered. Therefore, it is recommended that the proposed undertaking proceed as planned for the oil spill reclamation.

IF REPORT IS NEGATIVE YOU ARE DONE AT THIS POINT.

SURVEY LA NUMBER LOG

Sites Discovered:

LA No.	Field/Agency No.	Eligible? (Y/N, applicable criteria)

Previously recorded revisited sites:

LA No.	Field/Agency No.	Eligible? (Y/N, applicable criteria)

MONITORING LA NUMBER LOG (site form required)

Sites Discovered (site form required) : Previously recorded sites (Site update form required):

LA No.	Field/Agency No.	LA No.	Field/Agency No.

Areas outside known nearby site boundaries monitored? Yes ☒, No ☐ If no explain why:

TESTING & EXCAVATION LA NUMBER LOG (site form required)

Tested LA number(s)	Excavated LA number(s)

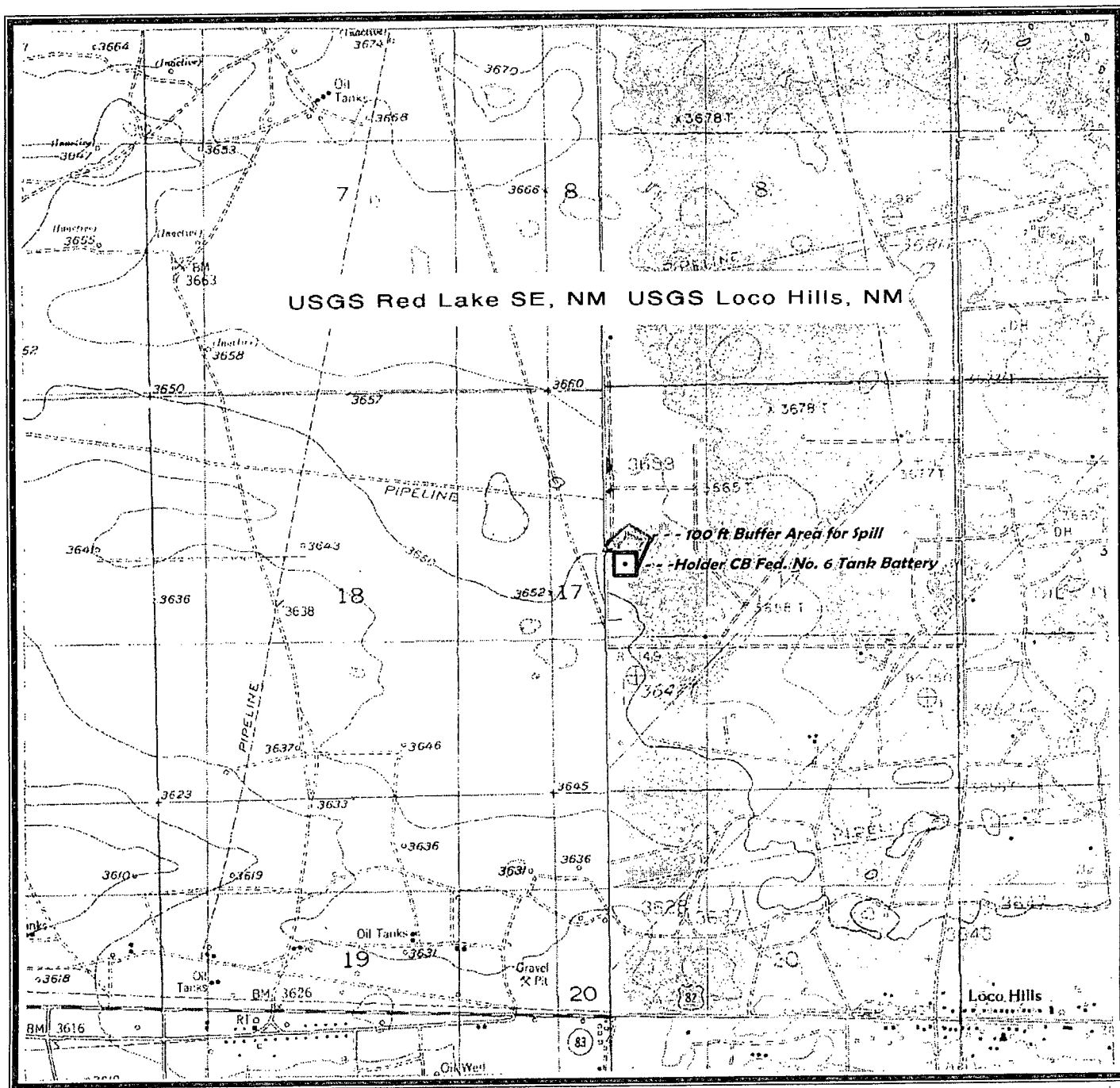


Figure 1: Survey Area **COG Operating, LLC**

The Holder CB 6-7 Tank Battery Oil Spill

Section 17, T.17S, R.30E

USGS Loco Hills, NM (1953) and Red Lake SE, NM (1955) 7.5' topo maps

Eddy County, New Mexico

Scale 1:24,000

NT

Southern New Mexico Archaeological Services, Inc.