TETRA TECH

RECEIVED
JUN 23 2010
NMOCD ARTESIA

May 12, 2010

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

Re: Work Plan for the COG Operating LLC., SWD 8" Mainline (Skelly Area), Unit H, Section 22, Township 17 South, Range 31 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 SWD 8" Mainline (Skelly Area) located in Unit H, Section 22, Township 17 South, Range 31 East, Eddy County, New Mexico. The spill site coordinates are N 32.82162°, W 103.85110°. 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 August 7, 2009, and released approximately sixty (60) barrels of produced water from a mainline. To alleviate the problem, COG personnel repaired the line. Twenty (20) barrels of standing fluids were recovered. The spill originated from the mainline and migrated southeast towards the lease road less than 15' from source. Once on the lease road, the spill impacted an area measuring 100' x 15'. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 22. According to the *Geology and Groundwater Resources of Eddy County, New Mexico* (Report 3), one well is located in Section 34, with reported depth to water of 271' below surface. According to the NMOCD groundwater map, the average depth to groundwater in this area is greater than 300' below surface. The Geology and Groundwater Resources of Eddy County, New Mexico (Report 3) well report data is shown in Appendix B.

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

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 5,000 mg/kg.

Soil Assessment and Analytical Results

On August 13, 2009, Tetra Tech personnel inspected and sampled the spill area. A total of seven (7) auger holes (AH-1 through AH-7) were installed using a stainless steel hand auger to assess the impacted soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all of the submitted samples were below the RRAL for TPH and BTEX. Elevated chloride concentrations were detected for AH-2 of 16,000 mg/kg (8'), AH-3 of 8,750 mg/kg (9-9.5), and AH-4 of 17,100 mg/kg (9-9.5') and the chloride impact was not vertically defined.

Due to the buried flow lines and a Chevron high pressure line located 10' to 15' west of the COG line, only one soil boring was installed to evaluate the deeper soils. On January 21, 2010, Tetra Tech personnel were onsite to install one (1) borehole (SB-1) to a depth of 61' feet bgs utilizing the air rotary rig. Due to safety concerns and congested pipelines, the borehole was installed between the previous auger holes AH-2, AH-3, and AH-4. Samples were collected at selected depth intervals for analysis. The samples were submitted to the laboratory for analysis of chlorides. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The borehole locations are shown on Figure 3.

Referring to Table 2, the chloride impact at SB-1 decreased with depth below 5,000 mg/kg at 40.0' below surface and declined to 346 mg/kg at 60-61'. According to the site lithology, a dense red clay with some silty/sand was encountered from 20' to 60' below surface. The borehole log is enclosed in Appendix C.

Remediation and Conclusion

In order to remove the chloride impacted soils, COG proposes to excavate the spill area. Based on the buried lines, limited impacted area and safety concerns, the excavation depths will range from 5.0' to 20.0' below surface, if the proposed excavation depths are accessible. Once completed, the excavated areas will be capped with a 40 mil liner at 4.0' below surface. In addition, the previous excavation performed during the repairs will also be excavated and capped with a 40 mil liner. The proposed excavation and depths are shown on Figure 4. The excavations will then be backfilled with clean soil to grade. All of the excavated soil and stockpiled material will be transported to proper disposal.

If you have any questions or comments concerning the assessment or the proposed work plan at the site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Ike Tavarez
Senior Geologist

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

FIGURES

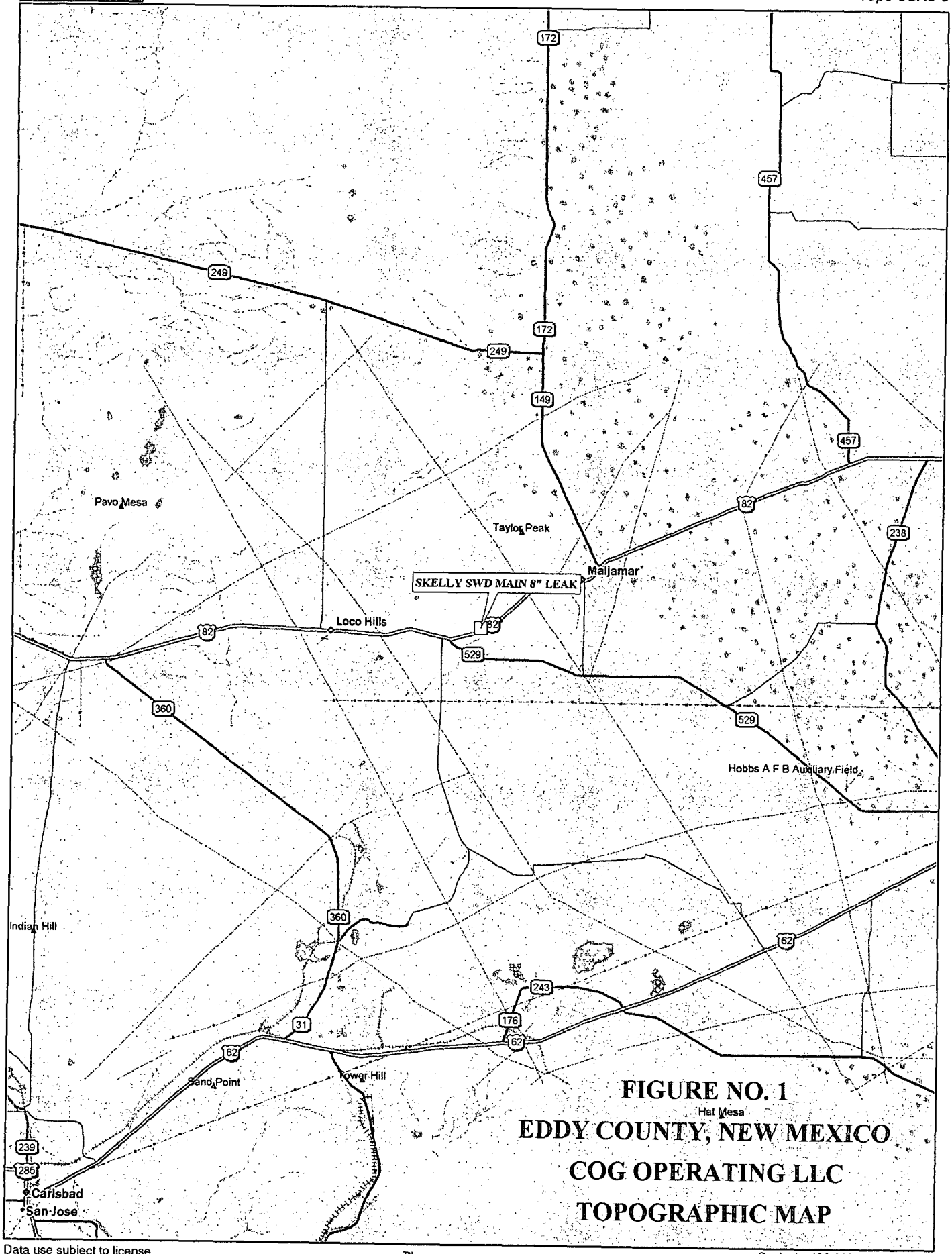

FIGURE NO. 1

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

TOPOGRAPHIC MAP

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www.delorme.com

TN

MN (7.9°E)

Scale 1 : 400,000

1" = 6.31 mi

Data Zoom 9-0

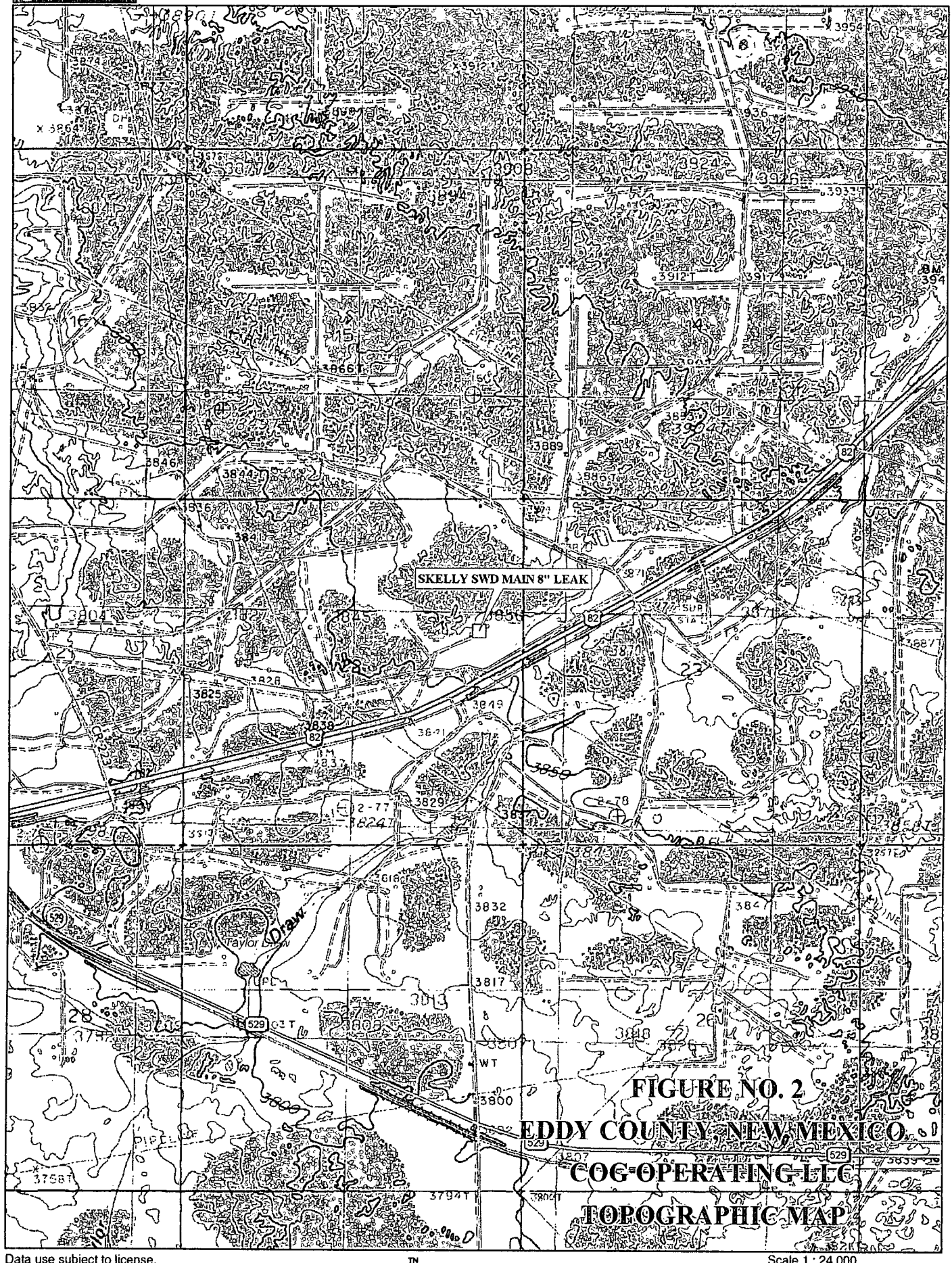

FIGURE NO. 2

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

TOPOGRAPHIC MAP

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www.delorme.com

TN
MN (7.9°E)

Scale 1 : 24,000
1" = 2,000.0 ft
Data Zoom 13-0

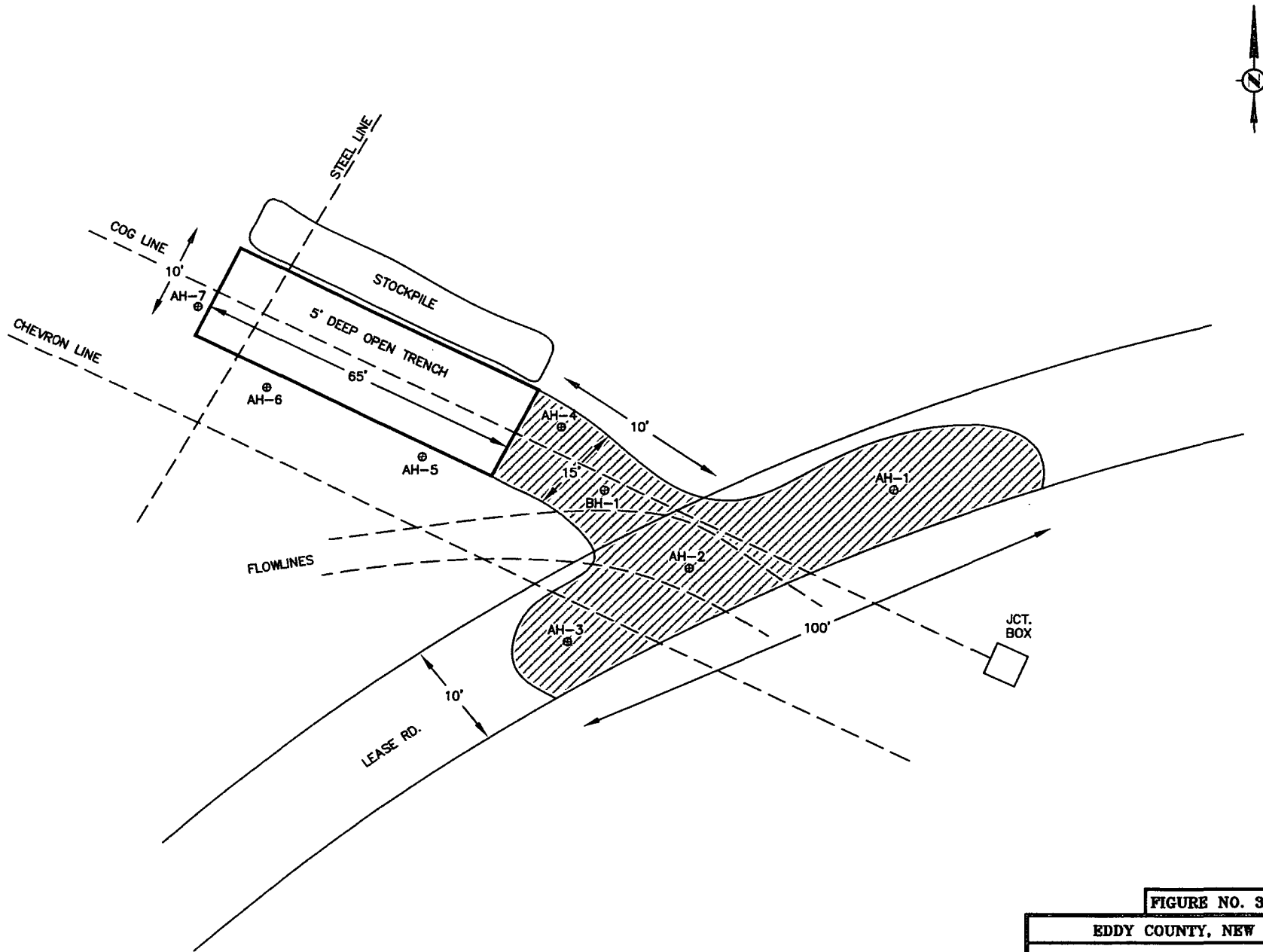


FIGURE NO. 3

EDDY COUNTY, NEW MEXICO

COG OPERATING

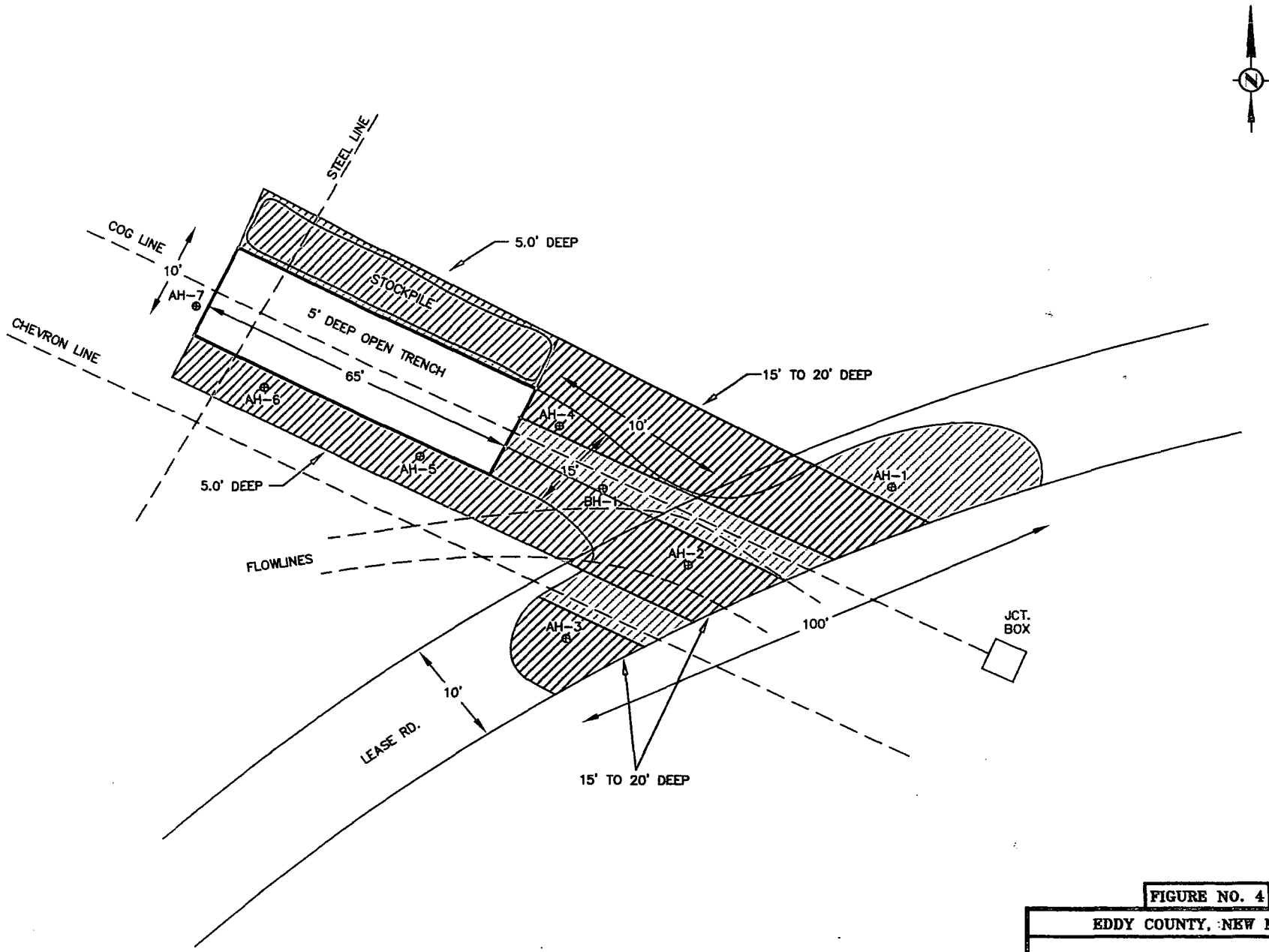
SKELLY SWD MAIN 8" LEAK

DATE: 3/5/10

DWN. BY: JJ

FILE: H:\COG\8400457

TETRA TECH, INC.
MIDLAND, TEXAS



- SPILL AREA
- PROPOSED EXCAVATION (5.0') & LINER
- PROPOSED EXCAVATION (15' TO 20') & LINER
- ⊕ SAMPLE LOCATIONS
- ⊕ BORE HOLE LOCATION

NOT TO SCALE

FIGURE NO. 4

EDDY COUNTY, NEW MEXICO

COG OPERATING

SKELLY SWD MAIN 8" LEAK

TETRA TECH, INC.
MIDLAND, TEXAS

DATE:	3/5/10
DWN. BY:	JJ
FILE:	H:\COG\6400278

TABLES

Table 1
COG Operating LLC.
New Mexico 8" Main SWD (Skelly)
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	BEB	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride
				In-Situ	Removed	GRO	DRO	Total					
AH-1	8/13/09	0-1'	N/A	X		5.70	<50.0	5.70	<0.0100	<0.0100	<0.0100	<0.0100	3,350
		1-1.5'	N/A	X		-	-	-	-	-	-	-	<200
		2-2.5'	N/A	X		-	-	-	-	-	-	-	<200
		3-3.5'	N/A	X		-	-	-	-	-	-	-	<200
AH-2	8/13/09	0-1'	N/A	X		<1.00	<50.0	<50.0	-	-	-	-	7,400
		1-1.5'	N/A	X		-	-	-	-	-	-	-	9,820
		2-2.5'	N/A	X		-	-	-	-	-	-	-	9,650
		3-3.5'	N/A	X		-	-	-	-	-	-	-	10,300
		4-4.5'	N/A	X		-	-	-	-	-	-	-	14,800
		5-5.5'	N/A	X		-	-	-	-	-	-	-	15,100
		6-6.5'	N/A	X		-	-	-	-	-	-	-	12,000
		7-7.5'	N/A	X		-	-	-	-	-	-	-	14,000
		8'	N/A	X		-	-	-	-	-	-	-	16,000
AH-3	8/13/09	0-1'	N/A	X		7.44	472	479.44	<0.0100	<0.0100	<0.0100	<0.0100	5,070
		1-1.5'	N/A	X		-	-	-	-	-	-	-	5,480
		2-2.5'	N/A	X		-	-	-	-	-	-	-	10,100
		3-3.5'	N/A	X		-	-	-	-	-	-	-	8,480
		4-4.5'	N/A	X		-	-	-	-	-	-	-	11,600
		5-5.5'	N/A	X		-	-	-	-	-	-	-	14,300
		6-6.5'	N/A	X		-	-	-	-	-	-	-	10,700
		7-7.5'	N/A	X		-	-	-	-	-	-	-	10,300
		8-8.5'	N/A	X		-	-	-	-	-	-	-	11,000
		9-9.5'	N/A	X		-	-	-	-	-	-	-	8,750

Table 1
COG Operating LLC.
New Mexico 8" Main SWD (Skelly)
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	BEB	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride
				In-Situ	Removed	GRO	DRO	Total					
AH-4	8/13/09	0-1'	N/A	X		8.85	94.5	103.35	<0.0100	<0.0100	<0.0100	<0.0100	4,680
		1-1.5'	N/A	X		-	-	-	-	-	-	-	4,300
		2-2.5'	N/A	X		-	-	-	-	-	-	-	5,400
		3-3.5'	N/A	X		-	-	-	-	-	-	-	6,260
		4-4.5'	N/A	X		-	-	-	-	-	-	-	10,200
		5-5.5'	N/A	X		-	-	-	-	-	-	-	12,600
		6-6.5'	N/A	X		-	-	-	-	-	-	-	13,300
		7-7.5'	N/A	X		-	-	-	-	-	-	-	8,650
		8-8.5'	N/A	X		-	-	-	-	-	-	-	12,800
		9-9.5'	N/A	X		-	-	-	-	-	-	-	17,100
AH-5	8/13/09	0-1'	N/A	X		8.02	<50.0	8.02	<0.0100	<0.0100	<0.0100	<0.0100	<200
		1-1.5'	N/A	X		-	-	-	-	-	-	-	<200
AH-6	8/13/09	0-1'	N/A	X		4.61	<50.0	4.61	-	-	-	-	<200
		1-1.5'	N/A	X		-	-	-	-	-	-	-	<200
AH-7	8/13/09	0-1'	N/A	X		5.28	<50.0	5.28	-	-	-	-	<200

(-) Not Analyzed

BEB Below Excavated Bottom

Proposed Excavation Depths

Table 2
COG Operating LLC.
New Mexico 8" Main SWD (Skelly)
Eddy County, New Mexico

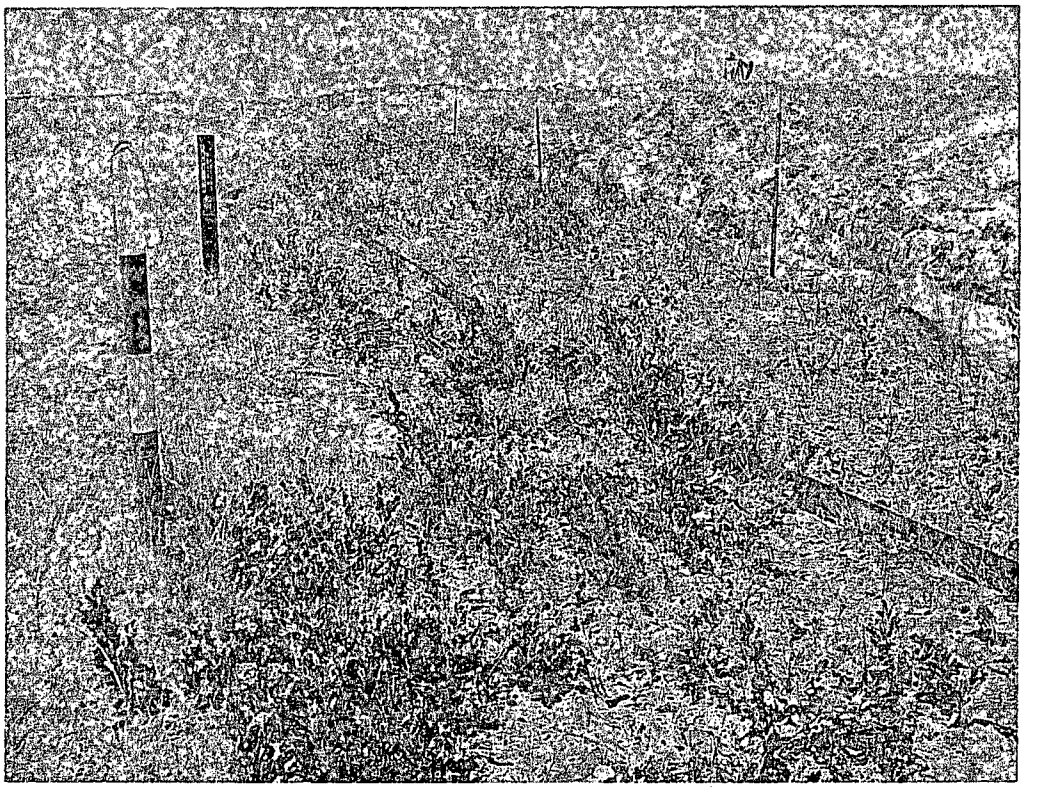
Sample ID	Date Sampled	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total					
SB-1	1/21/2010	6-7	X		-	-	-	-	-	-	-	6,420
		8-9	X		-	-	-	-	-	-	-	6,260
		10-11	X		-	-	-	-	-	-	-	4,730
		15-16	X		-	-	-	-	-	-	-	6,710
		20-21	X		-	-	-	-	-	-	-	7,460
		25-26	X		-	-	-	-	-	-	-	9,040
		30-31	X		-	-	-	-	-	-	-	7,310
		35-36	X		-	-	-	-	-	-	-	10,600
		40-41	X		-	-	-	-	-	-	-	3,330
		50-51	X		-	-	-	-	-	-	-	477
		60-61	X		-	-	-	-	-	-	-	346

(-) Not Analyzed
BEB Below Excavated Bottom
Proposed Excavation Depths

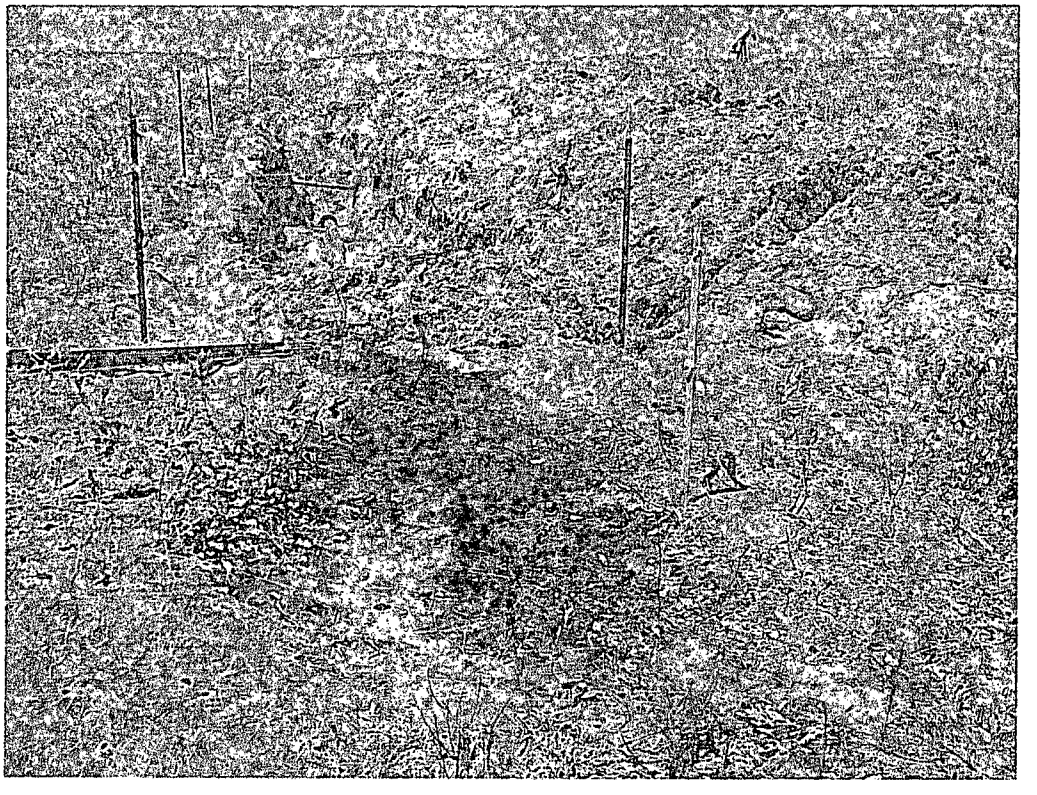
PHOTOGRAPHS

COG Operating LLC
SWD 8" Mainline (Skelly Area)
Eddy County, New Mexico

TETRA TECH



View west along AH-5 through AH-7 (8/13/09)

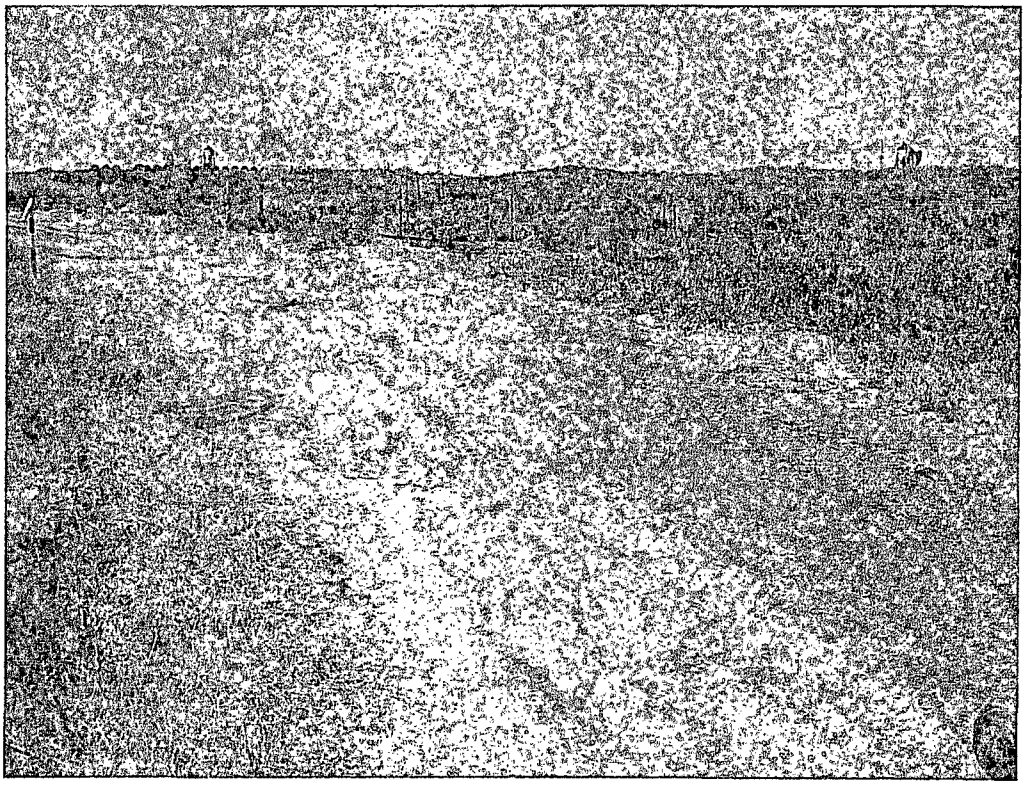


South of source -near AH-4 and BH-1 (8/13/09)

COG Operating LLC
SWD 8" Mainline (Skelly Area)
Eddy County, New Mexico

TETRA TECH

View east – mainline source (8/13/09)



View west across AH-1 through AH-4 (8/13/09)

APPENDIX A

0278

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 Repor

Name of Company COG OPERATING LLC	Contact Kanicia Carrillo
Address 550 W. Texas, Suite 1300 Midland, TX 79701	Telephone No. 432-685-4332
Facility Name SWD 8" mainline (Skelly Area)	Facility Type SWD Main waterline

Surface Owner Federal	Mineral Owner	Lease No.

LOCATION OF RELEASE

***70 yards SW of Skelly Unit #46, Operator – Forrest Oil

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	22	17S	31E					Eddy

Latitude N 32° 49.296 Longitude W 103° 51.076

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 60bbls	Volume Recovered 20bbls
Source of Release SWD mainline	Date and Hour of Occurrence 08/07/09	Date and Hour of Discovery 08/07/09
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher – OCD, Terry Gregston - BLM	
By Whom? Kanicia Carrillo, Pat Ellis	Date and Hour 08/10/09 4:25pm	
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.*

Leak in the SWD mainline. Vacuumed up the water and repaired leak.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD/BLM for 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:	OIL CONSERVATION DIVISION	
Printed Name: Kanicia Castillo	Approved by District Supervisor:	
Title: Regulatory Analyst	Approval Date:	Expiration Date:
E-mail Address: kcarrillo@conchoresources.com	Conditions of Approval:	Attached ☐
Date: 08/11/09 Phone: 432-685-4332		

* Attach Additional Sheets If Necessary

Water Well Data
Average Depth to Groundwater (ft)
COG - SWD 8" Mainline (Skelly Area)
Eddy County, New Mexico

16 South 30 East

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

16 South 31 East

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

16 South 32 East

6	5	4	3 65	2 275	1 265
7	8	9 248	10	11	12 215
18	17	16 221	15	14	13 215
19 220	20	21 210	22	23 210	24
30	29	28	27	26 205	25
31	32	33	34	35	36 260

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 **SITE**	23	24
30	29	28	27	26	25
31	32	33	34 **271**	35	36

17 South 32 East

6	5	4 **82**	3 **175**	2 **60**	1 225
7	8	9	10	11 **70** **88**	12
18	17	16	15	14	13
19	20	21	22	23	24
30 180 dry	29	28	27	26	25
31	32	33	34	35	36

18 South 30 East

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

18 South 31 East

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

18 South 32 East

6	5	4 65	3 TMW	2	1
7 460 **82**	8	9	10	11	12
18	17	16 **84**	15	14	13
19	20 **164**	21	22 **429**	23	24
30	29	28	27	26	25
31	32	33	34 **117**	35	36

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

18.25.23.111 G. [illegible]ps – Blac[illegible] Terrace

See explanation at beginning of table.

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

See explanation at beginning of table.

1 Measured Dec. 3, 1948.

New Mexico Office of the State Engineer

Wells with Well Log Information

No wells found.

PLSS Search:

Section(s): 1-36 **Township:** 17S **Range:** 31E

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

4/7/10 8:05 AM

SOIL SAMPLE LOG

Boring/Well: SB-1
Project Number: 114-6400278
Client: COG Operating LLC
Site Location: SWD 8" Mainline (Skelly Area)
Location: Eddy County, New Mexico
Total Depth: 61 feet
Installation Method: Air Rotary Drilling
Date Installed: 01/21/10

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
0-5'	N/A	Brown sand
6-7'	N/A	Red sandy clay
8-9'	N/A	Red sandy clay
10-11'	N/A	Caliche
15-16'	N/A	Sandy clay with some caliche
20-21'	N/A	Red clay with some sand
25-26'	N/A	Red clay with some sand
30-31'	N/A	Red clay with some sand
35-36'	N/A	Red clay with some sand
40-41'	N/A	Red clay with some sand
50-51'	N/A	Red clay with some sand
60-61'	N/A	Red clay with some sand

Total Depth is 61 feet No Groundwater encountered during drilling

APPENDIX C

Summary Report

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

Report Date: August 20, 2009

Work Order: 9081439

Project Location: Eddy Co., NM
Project Name: COG/NM 8 in. Main SWD (Skelly)
Project Number: 114-6400278

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
206135	AH-1 0-1'	soil	2009-08-13	00:00	2009-08-14
206136	AH-1 1-1.5'	soil	2009-08-13	00:00	2009-08-14
206137	AH-1 2-2.5'	soil	2009-08-13	00:00	2009-08-14
206138	AH-1 3-3.5'	soil	2009-08-13	00:00	2009-08-14
206139	AH-2 0-1'	soil	2009-08-13	00:00	2009-08-14
206140	AH-2 1-1.5'	soil	2009-08-13	00:00	2009-08-14
206141	AH-2 2-2.5'	soil	2009-08-13	00:00	2009-08-14
206142	AH-2 3-3.5'	soil	2009-08-13	00:00	2009-08-14
206143	AH-2 4-4.5'	soil	2009-08-13	00:00	2009-08-14
206144	AH-2 5-5.5'	soil	2009-08-13	00:00	2009-08-14
206145	AH-2 6-6.5'	soil	2009-08-13	00:00	2009-08-14
206146	AH-2 7-7.5'	soil	2009-08-13	00:00	2009-08-14
206147	AH-2 8'	soil	2009-08-13	00:00	2009-08-14
206148	AH-3 0-1'	soil	2009-08-13	00:00	2009-08-14
206149	AH-3 1-1.5'	soil	2009-08-13	00:00	2009-08-14
206150	AH-3 2-2.5'	soil	2009-08-13	00:00	2009-08-14
206151	AH-3 3-3.5'	soil	2009-08-13	00:00	2009-08-14
206152	AH-3 4-4.5'	soil	2009-08-13	00:00	2009-08-14
206153	AH-3 5-5.5'	soil	2009-08-13	00:00	2009-08-14
206154	AH-3 6-6.5'	soil	2009-08-13	00:00	2009-08-14
206155	AH-3 7-7.5'	soil	2009-08-13	00:00	2009-08-14
206156	AH-3 8-8.5'	soil	2009-08-13	00:00	2009-08-14
206157	AH-4 0-1'	soil	2009-08-13	00:00	2009-08-14
206158	AH-4 1-1.5'	soil	2009-08-13	00:00	2009-08-14
206159	AH-4 2-2.5'	soil	2009-08-13	00:00	2009-08-14
206160	AH-4 3-3.5'	soil	2009-08-13	00:00	2009-08-14
206161	AH-4 4-4.5'	soil	2009-08-13	00:00	2009-08-14
206162	AH-4 5-5.5'	soil	2009-08-13	00:00	2009-08-14
206163	AH-4 6-6.5'	soil	2009-08-13	00:00	2009-08-14
206164	AH-4 7-7.5'	soil	2009-08-13	00:00	2009-08-14

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
206165	AH-4 8-8.5'	soil	2009-08-13	00:00	2009-08-14
206166	AH-4 9-9.5'	soil	2009-08-13	00:00	2009-08-14
206167	AH-5 0-1'	soil	2009-08-13	00:00	2009-08-14
206168	AH-5 1-1.5'	soil	2009-08-13	00:00	2009-08-14
206169	AH-6 0-1'	soil	2009-08-13	00:00	2009-08-14
206170	AH-6 1-1.5'	soil	2009-08-13	00:00	2009-08-14
206171	AH-7 0-1'	soil	2009-08-13	00:00	2009-08-14
206173	AH-3 9-9.5'	soil	2009-08-13	00:00	2009-08-14

Sample - Field Code		TPH DRO DRO (mg/Kg)		TPH GRO GRO (mg/Kg)
206135 - AH-1 0-1'		<50.0		**5.70**
206139 - AH-2 0-1'		<50.0		<1.00
206148 - AH-3 0-1'		**472**		**7.44**
206157 - AH-4 0-1'		**94.5**		**8.85**
206167 - AH-5 0-1'		<50.0		**8.02**
206169 - AH-6 0-1'		<50.0		**4.61**
206171 - AH-7 0-1'		<50.0		**5.28**

Sample: 206135 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**3350**	mg/Kg	4.00

Sample: 206136 - AH-1 1-1.5'

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

Sample: 206137 - AH-1 2-2.5'

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

Sample: 206138 - AH-1 3-3.5'

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

Sample: 206139 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**7400**	mg/Kg	4.00

Sample: 206140 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**9820**	mg/Kg	4.00

Sample: 206141 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**9650**	mg/Kg	4.00

Sample: 206142 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**10300**	mg/Kg	4.00

Sample: 206143 - AH-2 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**14800**	mg/Kg	4.00

Sample: 206144 - AH-2 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**15100**	mg/Kg	4.00

Sample: 206145 - AH-2 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**12000**	mg/Kg	4.00

Sample: 206146 - AH-2 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**14000**	mg/Kg	4.00

Sample: 206147 - AH-2 8'

Param	Flag	Result	Units	RL
Chloride		**16000**	mg/Kg	4.00

Sample: 206148 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**5070**	mg/Kg	4.00

Sample: 206149 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**5480**	mg/Kg	4.00

Sample: 206150 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**10100**	mg/Kg	4.00

Sample: 206151 - AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**8480**	mg/Kg	4.00

Sample: 206152 - AH-3 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**11600**	mg/Kg	4.00

Sample: 206153 - AH-3 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**14300**	mg/Kg	4.00

Sample: 206154 - AH-3 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**10700**	mg/Kg	4.00

Sample: 206155 - AH-3 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**10300**	mg/Kg	4.00

Sample: 206156 - AH-3 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**11000**	mg/Kg	4.00

Sample: 206157 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**4680**	mg/Kg	4.00

Sample: 206158 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**4300**	mg/Kg	4.00

Sample: 206159 - AH-4 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**5400**	mg/Kg	4.00

Sample: 206160 - AH-4 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**6260**	mg/Kg	4.00

Sample: 206161 - AH-4 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**10200**	mg/Kg	4.00

Sample: 206162 - AH-4 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**12600**	mg/Kg	4.00

Sample: 206163 - AH-4 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**13300**	mg/Kg	4.00

Sample: 206164 - AH-4 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**8650**	mg/Kg	4.00

Sample: 206165 - AH-4 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**12800**	mg/Kg	4.00

Sample: 206166 - AH-4 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**17100**	mg/Kg	4.00

Sample: 206167 - AH-5 0-1'

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

Sample: 206168 - AH-5 1-1.5'

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

Sample: 206169 - AH-6 0-1'

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

Sample: 206170 - AH-6 1-1.5'

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

Sample: 206171 - AH-7 0-1'

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

Sample: 206173 - AH-3 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**8750**	mg/Kg	4.00

TRACEANALYSIS, INC.

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Certifications

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

NELAP Certifications

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

Analytical and Quality Control Report

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

Report Date: August 20, 2009

Work Order: 9081439

Project Location: Eddy Co., NM
Project Name: COG/NM 8 in. Main SWD (Skelly)
Project Number: 114-6400278

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
206135	AH-1 0-1'	soil	2009-08-13	00:00	2009-08-14
206136	AH-1 1-1.5'	soil	2009-08-13	00:00	2009-08-14
206137	AH-1 2-2.5'	soil	2009-08-13	00:00	2009-08-14
206138	AH-1 3-3.5'	soil	2009-08-13	00:00	2009-08-14
206139	AH-2 0-1'	soil	2009-08-13	00:00	2009-08-14
206140	AH-2 1-1.5'	soil	2009-08-13	00:00	2009-08-14
206141	AH-2 2-2.5'	soil	2009-08-13	00:00	2009-08-14
206142	AH-2 3-3.5'	soil	2009-08-13	00:00	2009-08-14
206143	AH-2 4-4.5'	soil	2009-08-13	00:00	2009-08-14
206144	AH-2 5-5.5'	soil	2009-08-13	00:00	2009-08-14

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
206145	AH-2 6-6.5'	soil	2009-08-13	00:00	2009-08-14
206146	AH-2 7-7.5'	soil	2009-08-13	00:00	2009-08-14
206147	AH-2 8'	soil	2009-08-13	00:00	2009-08-14
206148	AH-3 0-1'	soil	2009-08-13	00:00	2009-08-14
206149	AH-3 1-1.5'	soil	2009-08-13	00:00	2009-08-14
206150	AH-3 2-2.5'	soil	2009-08-13	00:00	2009-08-14
206151	AH-3 3-3.5'	soil	2009-08-13	00:00	2009-08-14
206152	AH-3 4-4.5'	soil	2009-08-13	00:00	2009-08-14
206153	AH-3 5-5.5'	soil	2009-08-13	00:00	2009-08-14
206154	AH-3 6-6.5'	soil	2009-08-13	00:00	2009-08-14
206155	AH-3 7-7.5'	soil	2009-08-13	00:00	2009-08-14
206156	AH-3 8-8.5'	soil	2009-08-13	00:00	2009-08-14
206157	AH-4 0-1'	soil	2009-08-13	00:00	2009-08-14
206158	AH-4 1-1.5'	soil	2009-08-13	00:00	2009-08-14
206159	AH-4 2-2.5'	soil	2009-08-13	00:00	2009-08-14
206160	AH-4 3-3.5'	soil	2009-08-13	00:00	2009-08-14
206161	AH-4 4-4.5'	soil	2009-08-13	00:00	2009-08-14
206162	AH-4 5-5.5'	soil	2009-08-13	00:00	2009-08-14
206163	AH-4 6-6.5'	soil	2009-08-13	00:00	2009-08-14
206164	AH-4 7-7.5'	soil	2009-08-13	00:00	2009-08-14
206165	AH-4 8-8.5'	soil	2009-08-13	00:00	2009-08-14
206166	AH-4 9-9.5'	soil	2009-08-13	00:00	2009-08-14
206167	AH-5 0-1'	soil	2009-08-13	00:00	2009-08-14
206168	AH-5 1-1.5'	soil	2009-08-13	00:00	2009-08-14
206169	AH-6 0-1'	soil	2009-08-13	00:00	2009-08-14
206170	AH-6 1-1.5'	soil	2009-08-13	00:00	2009-08-14
206171	AH-7 0-1'	soil	2009-08-13	00:00	2009-08-14
206173	AH-3 9-9.5'	soil	2009-08-13	00:00	2009-08-14

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

This report consists of a total of 27 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

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

Standard Flags

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

Case Narrative

Samples for project COG/NM 8 in. Main SWD (Skelly) were received by TraceAnalysis, Inc. on 2009-08-14 and assigned to work order 9081439. Samples for work order 9081439 were received intact at a temperature of 12.3 deg. C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	53433	2009-08-18 at 08:58	62624	2009-08-18 at 15:08
Chloride (Titration)	SM 4500-Cl B	53434	2009-08-18 at 08:59	62625	2009-08-18 at 15:09
Chloride (Titration)	SM 4500-Cl B	53435	2009-08-18 at 08:59	62626	2009-08-18 at 15:10
Chloride (Titration)	SM 4500-Cl B	53436	2009-08-18 at 09:00	62628	2009-08-18 at 15:11
TPH DRO	Mod. 8015B	53376	2009-08-14 at 09:44	62548	2009-08-14 at 09:44
TPH GRO	S 8015B	53415	2009-08-17 at 14:20	62597	2009-08-17 at 14:20

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 9081439 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 206135 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62624	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53433	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**3350**	mg/Kg	100	4.00

Sample: 206135 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	62548	Date Analyzed:	2009-08-14	Analyzed By:	kg
Prep Batch:	53376	Sample Preparation:	2009-08-14	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-Triacontane		107	mg/Kg	1	100	107	13.2 - 219.3

Sample: 206135 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	62597	Date Analyzed:	2009-08-17	Analyzed By:	ME
Prep Batch:	53415	Sample Preparation:	2009-08-17	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**5.70**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.93	mg/Kg	1	2.00	96	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)		1.97	mg/Kg	1	2.00	98	31 - 135

Sample: 206136 - AH-1 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62624	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53433	Sample Preparation:	2009-08-18	Prepared By:	AR

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

Sample: 206137 - AH-1 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62624	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53433	Sample Preparation:	2009-08-18	Prepared By:	AR

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

Sample: 206138 - AH-1 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62624	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53433	Sample Preparation:	2009-08-18	Prepared By:	AR

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

Sample: 206139 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62624	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53433	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**7400**	mg/Kg	100	4.00

Sample: 206139 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	62548	Date Analyzed:	2009-08-14	Analyzed By:	kg
Prep Batch:	53376	Sample Preparation:	2009-08-14	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		108	mg/Kg	1	100	108	13.2 - 219.3

Sample: 206139 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	62597	Date Analyzed:	2009-08-17	Analyzed By:	ME
Prep Batch:	53415	Sample Preparation:	2009-08-17	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.94	mg/Kg	1	2.00	97	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)		1.80	mg/Kg	1	2.00	90	31 - 135

Sample: 206140 - AH-2 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62624	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53433	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**9820**		mg/Kg	100	4.00

Sample: 206141 - AH-2 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62624	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53433	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**9650**		mg/Kg	100	4.00

Sample: 206142 - AH-2 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62624	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53433	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**10300**		mg/Kg	100	4.00

Sample: 206143 - AH-2 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62624	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53433	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**14800**		mg/Kg	100	4.00

Sample: 206144 - AH-2 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62624	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53433	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**15100**		mg/Kg	100	4.00

Sample: 206145 - AH-2 6-6.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62625	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53434	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**12000**	mg/Kg	100	4.00

Sample: 206146 - AH-2 7-7.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62625	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53434	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**14000**	mg/Kg	100	4.00

Sample: 206147 - AH-2 8'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62625	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53434	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**16000**	mg/Kg	100	4.00

Sample: 206148 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62625	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53434	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**5070**	mg/Kg	100	4.00

Sample: 206148 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	62548	Date Analyzed:	2009-08-14	Analyzed By:	kg
Prep Batch:	53376	Sample Preparation:	2009-08-14	Prepared By:	kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**472**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		139	mg/Kg	1	100	139	13.2 - 219.3

Sample: 206148 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	62597	Date Analyzed:	2009-08-17	Analyzed By:	ME
Prep Batch:	53415	Sample Preparation:	2009-08-17	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**7.44**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.95	mg/Kg	1	2.00	98	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)		1.84	mg/Kg	1	2.00	92	31 - 135

Sample: 206149 - AH-3 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62625	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53434	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**5480**	mg/Kg	100	4.00

Sample: 206150 - AH-3 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62625	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53434	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**10100**	mg/Kg	100	4.00

Sample: 206151 - AH-3 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62625	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53434	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**8480**	mg/Kg	100	4.00

Sample: 206152 - AH-3 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62625	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53434	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**11600**	mg/Kg	100	4.00

Sample: 206153 - AH-3 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62625	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53434	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**14300**	mg/Kg	100	4.00

Sample: 206154 - AH-3 6-6.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62625	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53434	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**10700**	mg/Kg	100	4.00

Sample: 206155 - AH-3 7-7.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62626	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53435	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**10300**	mg/Kg	100	4.00

Sample: 206156 - AH-3 8-8.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62626	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53435	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**11000**	mg/Kg	100	4.00

Sample: 206157 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62626	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53435	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**4680**	mg/Kg	100	4.00

Sample: 206157 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	62548	Date Analyzed:	2009-08-14	Analyzed By:	kg
Prep Batch:	53376	Sample Preparation:	2009-08-14	Prepared By:	kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**94.5**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		109	mg/Kg	1	100	109	13.2 - 219.3

Sample: 206157 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	62597	Date Analyzed:	2009-08-17	Analyzed By:	ME
Prep Batch:	53415	Sample Preparation:	2009-08-17	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**8.85**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.96	mg/Kg	1	2.00	98	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)		1.69	mg/Kg	1	2.00	84	31 - 135

Sample: 206158 - AH-4 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62626	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53435	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**4300**	mg/Kg	100	4.00

Sample: 206159 - AH-4 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62626	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53435	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**5400**	mg/Kg	100	4.00

Sample: 206160 - AH-4 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62626	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53435	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**6260**	mg/Kg	100	4.00

Sample: 206161 - AH-4 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62626	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53435	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**10200**	mg/Kg	100	4.00

Sample: 206162 - AH-4 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62626	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53435	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**12600**	mg/Kg	100	4.00

Sample: 206163 - AH-4 6-6.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62626	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53435	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**13300**	mg/Kg	100	4.00

Sample: 206164 - AH-4 7-7.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62626	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53435	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**8650**	mg/Kg	100	4.00

Sample: 206165 - AH-4 8-8.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62628	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53436	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**12800**	mg/Kg	100	4.00

Sample: 206166 - AH-4 9-9.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62628	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53436	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**17100**	mg/Kg	100	4.00

Sample: 206167 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62628	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53436	Sample Preparation:	2009-08-18	Prepared By:	AR

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

Sample: 206167 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	62548	Date Analyzed:	2009-08-14	Analyzed By:	kg
Prep Batch:	53376	Sample Preparation:	2009-08-14	Prepared By:	kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		113	mg/Kg	1	100	113	13.2 - 219.3

Sample: 206167 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	62597	Date Analyzed:	2009-08-17	Analyzed By:	ME
Prep Batch:	53415	Sample Preparation:	2009-08-17	Prepared By:	ME

Parameter	Flag	Result	RL Units	Dilution	RL
GRO		**8.02**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.95	mg/Kg	1	2.00	98	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)		1.69	mg/Kg	1	2.00	84	31 - 135

Sample: 206168 - AH-5 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62628	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53436	Sample Preparation:	2009-08-18	Prepared By:	AR

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

Sample: 206169 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62628	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53436	Sample Preparation:	2009-08-18	Prepared By:	AR

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

Sample: 206169 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	62548	Date Analyzed:	2009-08-14	Analyzed By:	kg
Prep Batch:	53376	Sample Preparation:	2009-08-14	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-Triacontane		111	mg/Kg	1	100	111	13.2 - 219.3

Sample: 206169 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	62597	Date Analyzed:	2009-08-17	Analyzed By:	ME
Prep Batch:	53415	Sample Preparation:	2009-08-17	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**4.61**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.91	mg/Kg	1	2.00	96	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)		1.79	mg/Kg	1	2.00	90	31 - 135

Sample: 206170 - AH-6 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62628	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53436	Sample Preparation:	2009-08-18	Prepared By:	AR

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

Sample: 206171 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62628	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53436	Sample Preparation:	2009-08-18	Prepared By:	AR

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

Sample: 206171 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	62548	Date Analyzed:	2009-08-14	Analyzed By:	kg
Prep Batch:	53376	Sample Preparation:	2009-08-14	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-Triacontane		108	mg/Kg	1	100	108	13.2 - 219.3

Sample: 206171 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	62597	Date Analyzed:	2009-08-17	Analyzed By:	ME
Prep Batch:	53415	Sample Preparation:	2009-08-17	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**5.28**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.95	mg/Kg	1	2.00	98	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)		1.74	mg/Kg	1	2.00	87	31 - 135

Sample: 206173 - AH-3 9-9.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	62628	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53436	Sample Preparation:	2009-08-18	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**8750**	mg/Kg	100	4.00

Method Blank (1) QC Batch: 62548

QC Batch:	62548	Date Analyzed:	2009-08-14	Analyzed By:	kg
Prep Batch:	53376	QC Preparation:	2009-08-14	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-Triacontane		104	mg/Kg	1	100	104	13 - 178.5

Method Blank (1) QC Batch: 62597

QC Batch:	62597	Date Analyzed:	2009-08-17	Analyzed By:	ME
Prep Batch:	53415	QC Preparation:	2009-08-17	Prepared By:	ME

Parameter	Flag	MDL Result	Units	RL
GRO		<0.482	mg/Kg	1

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.96	mg/Kg	1	2.00	98	71.9 - 115
4-Bromofluorobenzene (4-BFB)		2.38	mg/Kg	1	2.00	119	38.1 - 146.2

Method Blank (1) QC Batch: 62624

QC Batch:	62624	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53433	QC Preparation:	2009-08-18	Prepared By:	AR

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

Method Blank (1) QC Batch: 62625

QC Batch:	62625	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53434	QC Preparation:	2009-08-18	Prepared By:	AR

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

Method Blank (1) QC Batch: 62626

QC Batch:	62626	Date Analyzed:	2009-08-18	Analyzed By:	AR
Prep Batch:	53435	QC Preparation:	2009-08-18	Prepared By:	AR

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

Method Blank (1) QC Batch: 62628

QC Batch: 62628 | Date Analyzed: 2009-08-18 | Analyzed By: AR
Prep Batch: 53436 | QC Preparation: 2009-08-18 | Prepared By: AR

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

Laboratory Control Spike (LCS-1)

QC Batch: 62548 | Date Analyzed: 2009-08-14 | Analyzed By: kg
Prep Batch: 53376 | QC Preparation: 2009-08-14 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	214	mg/Kg	1	250	<5.86	86	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	215	mg/Kg	1	250	<5.86	86	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-Triacontane	102	99.0	mg/Kg	1	100	102	99	48.5 - 146.7

Laboratory Control Spike (LCS-1)

QC Batch: 62597 | Date Analyzed: 2009-08-17 | Analyzed By: ME
Prep Batch: 53415 | QC Preparation: 2009-08-17 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	16.4	mg/Kg	1	20.0	<0.482	82	60.5 - 120.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	16.6	mg/Kg	1	20.0	<0.482	83	60.5 - 120.1	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.00	2.03	mg/Kg	1	2.00	100	102	78.8 - 124.7
4-Bromofluorobenzene (4-BFB)	2.48	2.56	mg/Kg	1	2.00	124	128	66.1 - 128.3

Laboratory Control Spike (LCS-1)

QC Batch: 62624 | Date Analyzed: 2009-08-18 | Analyzed By: AR
Prep Batch: 53433 | QC Preparation: 2009-08-18 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	99.5	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	101	mg/Kg	1	100	<2.18	101	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: 62625 | Date Analyzed: 2009-08-18 | Analyzed By: AR
Prep Batch: 53434 | QC Preparation: 2009-08-18 | 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: 62626 | Date Analyzed: 2009-08-18 | Analyzed By: AR
Prep Batch: 53435 | QC Preparation: 2009-08-18 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	99.5	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	101	mg/Kg	1	100	<2.18	101	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: 62628 | Date Analyzed: 2009-08-18 | Analyzed By: AR
Prep Batch: 53436 | QC Preparation: 2009-08-18 | 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	99.6	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.

Matrix Spike (MS-1) Spiked Sample: 206169

QC Batch: 62548 | Date Analyzed: 2009-08-14 | Analyzed By: kg
Prep Batch: 53376 | QC Preparation: 2009-08-14 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	223	mg/Kg	1	250	<5.86	89	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	234	mg/Kg	1	250	<5.86	94	35.2 - 167.1	5	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	103	106	mg/Kg	1	100	103	106	34.5 - 178.4

Matrix Spike (MS-1) Spiked Sample: 206167

QC Batch: 62597 | Date Analyzed: 2009-08-17 | Analyzed By: ME
Prep Batch: 53415 | QC Preparation: 2009-08-17 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	28.6	mg/Kg	1	20.0	8.0172	103	12.8 - 175.2

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	29.4	mg/Kg	1	20.0	8.0172	107	12.8 - 175.2	3	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.07	2.08	mg/Kg	1	2	104	104	60.8 - 132.1
4-Bromofluorobenzene (4-BFB)	1.87	1.87	mg/Kg	1	2	94	94	31.3 - 161.7

Matrix Spike (MS-1) Spiked Sample: 206144

QC Batch: 62624 | Date Analyzed: 2009-08-18 | Analyzed By: AR
Prep Batch: 53433 | QC Preparation: 2009-08-18 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride [1]	23300	mg/Kg	100	10000	15100	82	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 [2]	23500	mg/Kg	100	10000	15100	84	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: 206154

QC Batch: 62625 | Date Analyzed: 2009-08-18 | Analyzed By: AR
Prep Batch: 53434 | QC Preparation: 2009-08-18 | Prepared By: AR

[1] Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[2] MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	20500	mg/Kg	100	10000	10700	98	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	20800	mg/Kg	100	10000	10700	101	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: 206164

QC Batch: 62626 | Date Analyzed: 2009-08-18 | Analyzed By: AR
Prep Batch: 53435 | QC Preparation: 2009-08-18 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	18700	mg/Kg	100	10000	8650	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	19100	mg/Kg	100	10000	8650	104	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: 206173

QC Batch: 62628 | Date Analyzed: 2009-08-18 | Analyzed By: AR
Prep Batch: 53436 | QC Preparation: 2009-08-18 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	18700	mg/Kg	100	10000	8750	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	19800	mg/Kg	100	10000	8750	110	85 - 115	6	20

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

Standard (CCV-1)

QC Batch: 62548 | Date Analyzed: 2009-08-14 | Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	264	106	80 - 120	2009-08-14

Standard (CCV-2)

QC Batch: 62548 Date Analyzed: 2009-08-14 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	272	109	80 - 120	2009-08-14

Standard (CCV-3)

QC Batch: 62548 Date Analyzed: 2009-08-14 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	259	104	80 - 120	2009-08-14

Standard (CCV-1)

QC Batch: 62597 Date Analyzed: 2009-08-17 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.979	98	80 - 120	2009-08-17

Standard (CCV-2)

QC Batch: 62597 Date Analyzed: 2009-08-17 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.976	98	80 - 120	2009-08-17

Standard (CCV-3)

QC Batch: 62597 Date Analyzed: 2009-08-17 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.04	104	80 - 120	2009-08-17

Standard (ICV-1)

QC Batch: 62624 Date Analyzed: 2009-08-18 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	2009-08-18

Standard (CCV-1)

QC Batch: 62624 Date Analyzed: 2009-08-18 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.6	99	85 - 115	2009-08-18

Standard (ICV-1)

QC Batch: 62625 Date Analyzed: 2009-08-18 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.7	98	85 - 115	2009-08-18

Standard (CCV-1)

QC Batch: 62625 Date Analyzed: 2009-08-18 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	102	102	85 - 115	2009-08-18

Standard (ICV-1)

QC Batch: 62626 Date Analyzed: 2009-08-18 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	2009-08-18

Standard (CCV-1)

QC Batch: 62626 Date Analyzed: 2009-08-18 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.7	99	85 - 115	2009-08-18

Standard (ICV-1)

QC Batch: 62628 Date Analyzed: 2009-08-18 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.8	99	85 - 115	2009-08-18

Standard (CCV-1)

QC Batch: 62628 Date Analyzed: 2009-08-18 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	2009-08-18

Analysis Request of Chain of Custody Record

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-640 0278

PROJECT NAME: COG/NM 8" Main SWD (Skelly) Eddy Co NM

LAB I.D. NUMBER	DATE 2009	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD (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
206135	8/13		S		X	AH-1 0-1'	1				X			X											X				
136	8/13		S		X	AH-1 1-1.5'	1				X														X				
137	8/13		S		X	AH-1 2-2.5'	1				X														X				
138	8/13		S		X	AH-1 3-3.5'	1				X														X				
139	8/13		S		X	AH-2 0-1'	1				X			X											X				
140	8/13		S		X	AH-2 1-1.5'	1				X														X				
141	8/13		S		X	AH-2 2-2.5'	1				X														X				
142	8/13		S		X	AH-2 3-3.5'	1				X														X				
143	8/13		S		X	AH-2 4-4.5'	1				X														X				
144	8/13		S		X	AH-2 5-5.5'	1				X														X				

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature) Date: 8/14/09 Time: 1435

RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Initial) Kim & Jeremy Date: 8/13/09 Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

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

AIRBILL #:

OTHER:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RECEIVING LABORATORY:

ADDRESS:

CITY: STATE: ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: 8/14/09 TIME: 14:35

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 12.3°C Intact

REMARKS: If TPH >5000 mg/kg Run deeper samples - Run 4 highest TPH for BTEX

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

Work order: 9001439

Analysis Request of Chain of Custody Record

PAGE: 2 OF: 4

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400278

PROJECT NAME: COG / NM 8" Main SWD (Shelly) Eddy Co. NM

LAB I.D. NUMBER	DATE 2009	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
2001145	8/13		S		X	AH-2 6-6.5'	1				X													X				
146	8/13		S		X	AH-2 7-7.5'	1				X													X				
147	8/13		S		X	AH-2 8'	1				X													X				
148	8/13		S		X	AH-3 0-1'	1				X			X										X				
149	8/13		S		X	AH-3 1-1.5'	1				X													X				
150	8/13		S		X	AH-3 2-2.5'	1				X													X				
151	8/13		S		X	AH-3 3-3.5'	1				X													X				
152	8/13		S		X	AH-3 4-4.5'	1				X													X				
153	8/13		S		X	AH-3 5-5.5'	1				X													X				
1534	8/13		S		X	AH-3 6-6.5'	1				X													X				

RELINQUISHED BY: (Signature) Date: 8/14/09 Time: 1435

RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Initial) Kim & Jeremy Date: 8/13/09 Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

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

AIRBILL #:

OTHER:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RECEIVING LABORATORY:

ADDRESS:

CITY: STATE: ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: 8/14/09 TIME: 14:45

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 12.3°c Intact

REMARKS: If TPH > 5000 mg/kg Run deeper samples - Run 4 highest TPH for BTEX

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

Work Order 9001439

Analysis Request of Chain of Custody Record

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400278

PROJECT NAME: COG/NM 8" Main SWD (Skelly) Eddy Co. NM

LAB I.D. NUMBER	DATE 2009	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH TX1005 (Ext. to C35)	TPH 8015 MOD	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chlorides	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
206155	8/13		S		X	AH-3 7-7.5'	1				X															X				
156	8/13		S		X	AH-3 8-8.5'	1				X															X				
157	8/13		S		X	AH-4 0-1'	1				X			X												X				
158	8/13		S		X	AH-4 1-1.5'	1				X															X				
159	8/13		S		X	AH-4 2-2.5'	1				X															X				
160	8/13		S		X	AH-4 3-3.5'	1				X															X				
161	8/13		S		X	AH-4 4-4.5'	1				X															X				
162	8/13		S		X	AH-4 5-5.5'	1				X															X				
163	8/13		S		X	AH-4 6-6.5'	1				X															X				
164	8/13		S		X	AH-4 7-7.5'	1				X															X				

RELINQUISHED BY: (Signature) Date: 8/14/09 Time: 1435

RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Initial) Kim & Jeremy Date: 8/13/09 Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

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

AIRBILL #:

OTHER:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RECEIVING LABORATORY:

ADDRESS:

CITY: STATE: ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: 8/14/09 TIME: 14:45

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 12.3°c intact

REMARKS: If TPH > 5,000 mg/kg Run deeper samples - Run 4 highest TPH for BTEX

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

Work order 4001437

Analysis Request of Chain of Custody Record

PAGE: 4 OF: 4

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400278

PROJECT NAME: COG/NM 8" Main SWD (Skelly) Eddy Co, NM

LAB I.D. NUMBER	DATE 2009	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
2041685	8/13		S		X	AH-4 8-8.5'	1				X													X				
1686	8/13		S		X	AH-4 9-9.5'	1				X													X				
1687	8/13		S		X	AH-5 0-1'	1				X			X										X				
1688	8/13		S		X	AH-5 1-1.5'	1				X													X				
1689	8/13		S		X	AH-6 0-1'	1				X			X										X				
1690	8/13		S		X	AH-6 1-1.5'	1				X													X				
1691	8/13		S		X	AH-7 0-1'	1				X			X										X				

RELINQUISHED BY: (Signature) Date: 8/14/09 Time: 1435

RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Initial) Kim & Jeremy Date: 8/13/09 Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

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

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: ADDRESS: CITY: STATE: ZIP: CONTACT: PHONE:

RECEIVED BY: (Signature) DATE: 8/14/09 TIME: 14:35

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 12.3°C Intact

REMARKS: If TPH > 5,000 mg/kg Run deeper samples - Run 4 highest TPH for BTEX

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

Summary Report

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

Report Date: January 22, 2010

Work Order: 9081439

Project Location: Eddy Co., NM
Project Name: COG/NM 8 in. Main SWD (Skelly)
Project Number: 114-6400278

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
206135	AH-1 0-1'	soil	2009-08-13	00:00	2009-08-14
206148	AH-3 0-1'	soil	2009-08-13	00:00	2009-08-14
206157	AH-4 0-1'	soil	2009-08-13	00:00	2009-08-14
206167	AH-5 0-1'	soil	2009-08-13	00:00	2009-08-14

	BTEX			
Sample - Field Code	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)
206135 - AH-1 0-1'	<0.0100	<0.0100	<0.0100	<0.0100
206148 - AH-3 0-1'	<0.0100	<0.0100	<0.0100	<0.0100
206157 - AH-4 0-1'	<0.0100	<0.0100	<0.0100	<0.0100
206167 - AH-5 0-1'	<0.0100	<0.0100	<0.0100	<0.0100

TRACEANALYSIS, INC.

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

Certifications

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

NELAP Certifications

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

Analytical and Quality Control Report

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

Report Date: January 22, 2010

Work Order: 9081439

Project Location: Eddy Co., NM
Project Name: COG/NM 8 in. Main SWD (Skelly)
Project Number: 114-6400278

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
206135	AH-1 0-1'	soil	2009-08-13	00:00	2009-08-14
206148	AH-3 0-1'	soil	2009-08-13	00:00	2009-08-14
206157	AH-4 0-1'	soil	2009-08-13	00:00	2009-08-14
206167	AH-5 0-1'	soil	2009-08-13	00:00	2009-08-14

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 8 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/NM 8 in. Main SWD (Skelly) were received by TraceAnalysis, Inc. on 2009-08-14 and assigned to work order 9081439. Samples for work order 9081439 were received intact at a temperature of 12.3 deg. 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	53415	2009-08-17 at 14:20	62596	2009-08-17 at 14:20

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 9081439 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 206135 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	62596	Date Analyzed:	2009-08-17	Analyzed By:	ME
Prep Batch:	53415	Sample Preparation:	2009-08-17	Prepared By:	ME

Parameter	Flag	Result	RL	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)		1.99	mg/Kg	1	2.00	100	49 - 129.7
4-Bromofluorobenzene (4-BFB)		1.72	mg/Kg	1	2.00	86	45.2 - 144.3

Sample: 206148 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	62596	Date Analyzed:	2009-08-17	Analyzed By:	ME
Prep Batch:	53415	Sample Preparation:	2009-08-17	Prepared By:	ME

Parameter	Flag	Result	RL	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)		1.98	mg/Kg	1	2.00	99	49 - 129.7
4-Bromofluorobenzene (4-BFB)		1.61	mg/Kg	1	2.00	80	45.2 - 144.3

Sample: 206157 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	62596	Date Analyzed:	2009-08-17	Analyzed By:	ME
Prep Batch:	53415	Sample Preparation:	2009-08-17	Prepared By:	ME

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)		2.00	mg/Kg	1	2.00	100	49 - 129.7
4-Bromofluorobenzene (4-BFB)		1.55	mg/Kg	1	2.00	78	45.2 - 144.3

Sample: 206167 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	62596	Date Analyzed:	2009-08-17	Analyzed By:	ME
Prep Batch:	53415	Sample Preparation:	2009-08-17	Prepared By:	ME

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)		2.00	mg/Kg	1	2.00	100	49 - 129.7
4-Bromofluorobenzene (4-BFB)		1.52	mg/Kg	1	2.00	76	45.2 - 144.3

Method Blank (1) QC Batch: 62596

QC Batch:	62596	Date Analyzed:	2009-08-17	Analyzed By:	ME
Prep Batch:	53415	QC Preparation:	2009-08-17	Prepared By:	ME

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.00100	mg/Kg	0.01
Toluene		<0.00100	mg/Kg	0.01
Ethylbenzene		<0.00110	mg/Kg	0.01
Xylene		<0.00360	mg/Kg	0.01

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.00	mg/Kg	1	2.00	100	65.6 - 130.6
4-Bromofluorobenzene (4-BFB)		2.18	mg/Kg	1	2.00	109	51.9 - 128.1

Laboratory Control Spike (LCS-1)

QC Batch: 62596 | Date Analyzed: 2009-08-17 | Analyzed By: ME
Prep Batch: 53415 | QC Preparation: 2009-08-17 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.18	mg/Kg	1	2.00	<0.00100	109	72.7 - 129.8
Toluene	2.20	mg/Kg	1	2.00	<0.00100	110	71.6 - 129.6
Ethylbenzene	2.17	mg/Kg	1	2.00	<0.00110	108	70.8 - 129.7
Xylene	6.61	mg/Kg	1	6.00	<0.00360	110	70.9 - 129.4

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
Benzene	2.25	mg/Kg	1	2.00	<0.00100	112	72.7 - 129.8	3	20
Toluene	2.27	mg/Kg	1	2.00	<0.00100	114	71.6 - 129.6	3	20
Ethylbenzene	2.30	mg/Kg	1	2.00	<0.00110	115	70.8 - 129.7	6	20
Xylene	7.06	mg/Kg	1	6.00	<0.00360	118	70.9 - 129.4	7	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.04	1.98	mg/Kg	1	2.00	102	99	65.9 - 132
4-Bromofluorobenzene (4-BFB)	2.30	2.27	mg/Kg	1	2.00	115	114	55.2 - 158.9

Matrix Spike (MS-1) Spiked Sample: 205889

QC Batch: 62596 | Date Analyzed: 2009-08-17 | Analyzed By: ME
Prep Batch: 53415 | QC Preparation: 2009-08-17 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.99	mg/Kg	1	2.00	<0.00100	100	58.6 - 165.2
Toluene	1.94	mg/Kg	1	2.00	<0.00100	97	64.2 - 153.8
Ethylbenzene	1.89	mg/Kg	1	2.00	<0.00110	94	61.6 - 159.4
Xylene	5.52	mg/Kg	1	6.00	<0.00360	92	64.4 - 155.3

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.01	mg/Kg	1	2.00	<0.00100	100	58.6 - 165.2	1	20
Toluene	1.98	mg/Kg	1	2.00	<0.00100	99	64.2 - 153.8	2	20
Ethylbenzene	1.98	mg/Kg	1	2.00	<0.00110	99	61.6 - 159.4	5	20
Xylene	5.84	mg/Kg	1	6.00	<0.00360	97	64.4 - 155.3	6	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.97	2.01	mg/Kg	1	2	98	100	76 - 127.9
4-Bromofluorobenzene (4-BFB)	1.64	1.69	mg/Kg	1	2	82	84	52 - 127.8

Standard (CCV-1)

QC Batch: 62596 | Date Analyzed: 2009-08-17 | Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.109	109	80 - 120	2009-08-17
Toluene		mg/Kg	0.100	0.107	107	80 - 120	2009-08-17
Ethylbenzene		mg/Kg	0.100	0.105	105	80 - 120	2009-08-17
Xylene		mg/Kg	0.300	0.318	106	80 - 120	2009-08-17

Standard (CCV-2)

QC Batch: 62596 | Date Analyzed: 2009-08-17 | Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.106	106	80 - 120	2009-08-17
Toluene		mg/Kg	0.100	0.105	105	80 - 120	2009-08-17
Ethylbenzene		mg/Kg	0.100	0.102	102	80 - 120	2009-08-17
Xylene		mg/Kg	0.300	0.306	102	80 - 120	2009-08-17

Standard (CCV-3)

QC Batch: 62596 | Date Analyzed: 2009-08-17 | Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.103	103	80 - 120	2009-08-17

continued ...

standard continued ...

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Toluene		mg/Kg	0.100	0.100	100	80 - 120	2009-08-17
Ethylbenzene		mg/Kg	0.100	0.0944	94	80 - 120	2009-08-17
Xylene		mg/Kg	0.300	0.278	93	80 - 120	2009-08-17

work order, TD01459

Analysis Request of Chain of Custody Record

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

PAGE: 1 OF: 4

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-640 0278

PROJECT NAME: COG/NM 8" Main SWD (Skelly)

Eddy Co NM

LAB I.D. NUMBER	DATE 2009	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. (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
206135	8/13		S		X	AH-1 0-1'	1				X			X										X				
136	8/13		S		X	AH-1 1-1.5'	1				X													X				
137	8/13		S		X	AH-1 2-2.5'	1				X													X				
138	8/13		S		X	AH-1 3-3.5'	1				X													X				
139	8/13		S		X	AH-2 0-1'	1				X			X										X				
140	8/13		S		X	AH-2 1-1.5'	1				X													X				
141	8/13		S		X	AH-2 2-2.5'	1				X													X				
142	8/13		S		X	AH-2 3-3.5'	1				X													X				
143	8/13		S		X	AH-2 4-4.5'	1				X													X				
144	8/13		S		X	AH-2 5-5.5'	1				X													X				

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature) Date: 8/14/09 Time: 0935

RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Initial) Kim & Jeremy Date: 8/13/09 Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

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

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RECEIVING LABORATORY:
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature)
DATE: 8/14/09 TIME: 14:35

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 12.3°C Intact

REMARKS: If TPH >5000 mg/kg Run deeper samples - Run 4 highest TPH for BTEX

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

work order: 10U1-39

Analysis Request of Chain of Custody Record

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400278

PROJECT NAME: COG / NM 8" Main SWD (Kelly) Eddy Co. NM

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE 2009	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD (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
20v145	8/13		S		X	AH-2 6-6.5'	1				X													X				
146	8/13		S		X	AH-2 7-7.5'	1				X													X				
147	8/13		S		X	AH-2 8'	1				X													X				
148	8/13		S		X	AH-3 0-1'	1				X			X										X				
149	8/13		S		X	AH-3 1-1.5'	1				X													X				
150	8/13		S		X	AH-3 2-2.5'	1				X													X				
151	8/13		S		X	AH-3 3-3.5'	1				X													X				
152	8/13		S		X	AH-3 4-4.5'	1				X													X				
153	8/13		S		X	AH-3 5-5.5'	1				X													X				
154	8/13		S		X	AH-3 6-6.5'	1				X													X				

RELINQUISHED BY: (Signature) Date: 8/14/09 Time: 1435 — RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Initial) Kim & Jeremy Date: 8/13/09 Time:

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

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

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

TETRA TECH CONTACT PERSON: Ike Tavarez — Results by:

RECEIVING LABORATORY: — RECEIVED BY: (Signature)

ADDRESS: CITY: STATE: ZIP: CONTACT: PHONE: DATE: 8/14/09 TIME: 14:45

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 12.3°c Intact

REMARKS: If TPH > 5,000 mg/kg Run deeper samples - Run 4 highest TPH for BTEX

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

Work Order 90014351

Analysis Request of Chain of Custody Record

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400278

PROJECT NAME: COG/NM 8" Main SWD (Skelly) Eddy Co. NM

LAB I.D. NUMBER	DATE 2009	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD (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
20615 5	8/13		S		X	AH-3 7-7.5'	1				X													X				
156	8/13		S		X	AH-3 8-8.5'	1				X													X				
157	8/13		S		X	AH-4 0-1'	1				X			X										X				
158	8/13		S		X	AH-4 1-1.5'	1				X													X				
159	8/13		S		X	AH-4 2-2.5'	1				X													X				
160	8/13		S		X	AH-4 3-3.5'	1				X													X				
161	8/13		S		X	AH-4 4-4.5'	1				X													X				
162	8/13		S		X	AH-4 5-5.5'	1				X													X				
163	8/13		S		X	AH-4 6-6.5'	1				X													X				
164	8/13		S		X	AH-4 7-7.5'	1				X													X				

RELINQUISHED BY: (Signature) Date: 8/14/09 Time: 1435 — RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Initial) Kim & Jeremy Date: 8/13/09 Time:

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

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

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

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RECEIVING LABORATORY: ADDRESS: CITY: STATE: ZIP: CONTACT: PHONE:

RECEIVED BY: (Signature) DATE: 8/14/09 TIME: 14:45

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 12.3°c intact

REMARKS: If TPH > 5,000 mg/kg Run deeper samples - Run 4 highest TPH for BTEX

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

Work order 4,000,131

Analysis Request of Chain of Custody Record

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400278

PROJECT NAME: COG/NM 8" Main SWD (Skelly) Eddy Co, NM

LAB I.D. NUMBER	DATE 2009	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
20616 5	8/13		S		X	AH-4 8-8.5'	1				X													X				
16 6	8/13		S		X	AH-4 9-9.5'	1				X													X				
167	8/13		S		X	AH-5 0-1'	1				X			X										X				
168	8/13		S		X	AH-5 1-1.5'	1				X													X				
169 9	8/13		S		X	AH-6 0-1'	1				X			X										X				
1710	8/13		S		X	AH-6 1-1.5'	1				X													X				
171	8/13		S		X	AH-7 0-1'	1				X			X										X				

RELINQUISHED BY: (Signature) Date: 8/14/09 Time: 1435

RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Initial) Kim & Jeremy Date: 8/13/09 Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

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

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

RECEIVING LABORATORY:
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature)
DATE: 8/14/09 TIME: 14:35

SAMPLE CONDITION WHEN RECEIVED: 12.3°C Intact

REMARKS: If TPH > 5,000 mg/kg Run deeper samples - Run 4 highest TPH for BTEX

Summary Report

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

Report Date: January 27, 2010

Work Order: 10012221

Project Location: Eddy Co., NM
Project Name: COG/NM 8 in. Main SWD (Skelly)
Project Number: 114-6400278

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
220452	SB-1 6-7'	soil	2010-01-21	00:00	2010-01-22
220453	SB-1 8-9'	soil	2010-01-21	00:00	2010-01-22
220454	SB-1 10-11'	soil	2010-01-21	00:00	2010-01-22
220455	SB-1 15-16'	soil	2010-01-21	00:00	2010-01-22
220456	SB-1 20-21'	soil	2010-01-21	00:00	2010-01-22
220457	SB-1 25-26'	soil	2010-01-21	00:00	2010-01-22
220458	SB-1 30-31'	soil	2010-01-21	00:00	2010-01-22
220459	SB-1 35-36'	soil	2010-01-21	00:00	2010-01-22
220460	SB-1 40-41'	soil	2010-01-21	00:00	2010-01-22
220461	SB-1 50-51'	soil	2010-01-21	00:00	2010-01-22
220462	SB-1 60-61'	soil	2010-01-21	00:00	2010-01-22

Sample: 220452 - SB-1 6-7'

Param	Flag	Result	Units	RL
Chloride		**6420**	mg/Kg	4.00

Sample: 220453 - SB-1 8-9'

Param	Flag	Result	Units	RL
Chloride		**6260**	mg/Kg	4.00

Sample: 220454 - SB-1 10-11'

Param	Flag	Result	Units	RL
Chloride		**4730**	mg/Kg	4.00

Sample: 220455 - SB-1 15-16'

Param	Flag	Result	Units	RL
Chloride		**6710**	mg/Kg	4.00

Sample: 220456 - SB-1 20-21'

Param	Flag	Result	Units	RL
Chloride		**7460**	mg/Kg	4.00

Sample: 220457 - SB-1 25-26'

Param	Flag	Result	Units	RL
Chloride		**9040**	mg/Kg	4.00

Sample: 220458 - SB-1 30-31'

Param	Flag	Result	Units	RL
Chloride		**7310**	mg/Kg	4.00

Sample: 220459 - SB-1 35-36'

Param	Flag	Result	Units	RL
Chloride		**10600**	mg/Kg	4.00

Sample: 220460 - SB-1 40-41'

Param	Flag	Result	Units	RL
Chloride		**3330**	mg/Kg	4.00

Sample: 220461 - SB-1 50-51'

Param	Flag	Result	Units	RL
Chloride		**477**	mg/Kg	4.00

Sample: 220462 - SB-1 60-61'

Param	Flag	Result	Units	RL
Chloride		**346**	mg/Kg	4.00

TRACEANALYSIS, INC.

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

Certifications

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

NELAP Certifications

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

Analytical and Quality Control Report

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

Report Date: January 27, 2010

Work Order: 10012221

Project Location: Eddy Co., NM
Project Name: COG/NM 8 in. Main SWD (Skelly)
Project Number: 114-6400278

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
220452	SB-1 6-7'	soil	2010-01-21	00:00	2010-01-22
220453	SB-1 8-9'	soil	2010-01-21	00:00	2010-01-22
220454	SB-1 10-11'	soil	2010-01-21	00:00	2010-01-22
220455	SB-1 15-16'	soil	2010-01-21	00:00	2010-01-22
220456	SB-1 20-21'	soil	2010-01-21	00:00	2010-01-22
220457	SB-1 25-26'	soil	2010-01-21	00:00	2010-01-22
220458	SB-1 30-31'	soil	2010-01-21	00:00	2010-01-22
220459	SB-1 35-36'	soil	2010-01-21	00:00	2010-01-22
220460	SB-1 40-41'	soil	2010-01-21	00:00	2010-01-22
220461	SB-1 50-51'	soil	2010-01-21	00:00	2010-01-22
220462	SB-1 60-61'	soil	2010-01-21	00:00	2010-01-22

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

This report consists of a total of 9 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/NM 8 in. Main SWD (Skelly) were received by TraceAnalysis, Inc. on 2010-01-22 and assigned to work order 10012221. Samples for work order 10012221 were received intact at a temperature of 18.0 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	57281	2010-01-25 at 09:09	67042	2010-01-26 at 15:37
Chloride (Titration)	SM 4500-Cl B	57282	2010-01-25 at 09:09	67043	2010-01-26 at 15:37

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 10012221 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 220452 - SB-1 6-7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67042	Date Analyzed:	2010-01-26	Analyzed By:	AR
Prep Batch:	57281	Sample Preparation:	2010-01-25	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**6420**	mg/Kg	100	4.00

Sample: 220453 - SB-1 8-9'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67042	Date Analyzed:	2010-01-26	Analyzed By:	AR
Prep Batch:	57281	Sample Preparation:	2010-01-25	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**6260**	mg/Kg	100	4.00

Sample: 220454 - SB-1 10-11'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67042	Date Analyzed:	2010-01-26	Analyzed By:	AR
Prep Batch:	57281	Sample Preparation:	2010-01-25	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**4730**	mg/Kg	100	4.00

Sample: 220455 - SB-1 15-16'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67042	Date Analyzed:	2010-01-26	Analyzed By:	AR
Prep Batch:	57281	Sample Preparation:	2010-01-25	Prepared By:	AR

continued ...

sample 220455 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**6710**	mg/Kg	100	4.00

Sample: 220456 - SB-1 20-21'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67042	Date Analyzed:	2010-01-26	Analyzed By:	AR
Prep Batch:	57281	Sample Preparation:	2010-01-25	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**7460**	mg/Kg	100	4.00

Sample: 220457 - SB-1 25-26'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67042	Date Analyzed:	2010-01-26	Analyzed By:	AR
Prep Batch:	57281	Sample Preparation:	2010-01-25	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**9040**	mg/Kg	100	4.00

Sample: 220458 - SB-1 30-31'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67042	Date Analyzed:	2010-01-26	Analyzed By:	AR
Prep Batch:	57281	Sample Preparation:	2010-01-25	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**7310**	mg/Kg	100	4.00

Sample: 220459 - SB-1 35-36'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67042	Date Analyzed:	2010-01-26	Analyzed By:	AR
Prep Batch:	57281	Sample Preparation:	2010-01-25	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**10600**	mg/Kg	100	4.00

Sample: 220460 - SB-1 40-41'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67042	Date Analyzed:	2010-01-26	Analyzed By:	AR
Prep Batch:	57281	Sample Preparation:	2010-01-25	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**3330**	mg/Kg	100	4.00

Sample: 220461 - SB-1 50-51'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67042	Date Analyzed:	2010-01-26	Analyzed By:	AR
Prep Batch:	57281	Sample Preparation:	2010-01-25	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**477**	mg/Kg	50	4.00

Sample: 220462 - SB-1 60-61'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	67043	Date Analyzed:	2010-01-26	Analyzed By:	AR
Prep Batch:	57282	Sample Preparation:	2010-01-25	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**346**	mg/Kg	50	4.00

Method Blank (1) QC Batch: 67042

QC Batch:	67042	Date Analyzed:	2010-01-26	Analyzed By:	AR
Prep Batch:	57281	QC Preparation:	2010-01-25	Prepared By:	AR

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

Method Blank (1) QC Batch: 67043

QC Batch:	67043	Date Analyzed:	2010-01-26	Analyzed By:	AR
Prep Batch:	57282	QC Preparation:	2010-01-25	Prepared By:	AR

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

Laboratory Control Spike (LCS-1)

QC Batch:	67042	Date Analyzed:	2010-01-26	Analyzed By:	AR
Prep Batch:	57281	QC Preparation:	2010-01-25	Prepared By:	AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.5	mg/Kg	1	100	<2.18	96	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	97.1	mg/Kg	1	100	<2.18	97	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:	67043	Date Analyzed:	2010-01-26	Analyzed By:	AR
Prep Batch:	57282	QC Preparation:	2010-01-25	Prepared By:	AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	93.9	mg/Kg	1	100	<2.18	94	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	95.2	mg/Kg	1	100	<2.18	95	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: 220461

QC Batch: 67042 | Date Analyzed: 2010-01-26 | Analyzed By: AR
Prep Batch: 57281 | QC Preparation: 2010-01-25 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10800	mg/Kg	100	10000	477	103	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	10900	mg/Kg	100	10000	477	104	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: 220471

QC Batch: 67043 | Date Analyzed: 2010-01-26 | Analyzed By: AR
Prep Batch: 57282 | QC Preparation: 2010-01-25 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	9310	mg/Kg	100	10000	<218	93	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	9460	mg/Kg	100	10000	<218	95	85 - 115	2	20

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

Standard (ICV-1)

QC Batch: 67042 | Date Analyzed: 2010-01-26 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	96.4	96	85 - 115	2010-01-26

Standard (CCV-1)

QC Batch: 67042 Date Analyzed: 2010-01-26 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	104	104	85 - 115	2010-01-26

Standard (ICV-1)

QC Batch: 67043 Date Analyzed: 2010-01-26 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	108	108	85 - 115	2010-01-26

Standard (CCV-1)

QC Batch: 67043 Date Analyzed: 2010-01-26 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	91.6	92	85 - 115	2010-01-26

Order #: 10012221

Analysis Request of Chain of Custody Record

PAGE: | OF: 2

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400278

PROJECT NAME: COG / NM 8" Mainline SWD (Skelly)
Eddy Co., NM

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH TX1005 (Ext. to C35)	TPH 8015 MOD	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
~~220452~~	~~1/21~~		S		X	~~SB-1 4-5'~~ ICAD	1							X												X				
452	1/21		S		X	SB-1 6-7'	1																			X				
453	1/21		S		X	SB-1 8-9'	1																			X				
454	1/21		S		X	SB-1 10-11'	1																			X				
455	1/21		S		X	SB-1 15-16'	1																			X				
456	1/21		S		X	SB-1 20-21'	1																			X				
457	1/21		S		X	SB-1 25-26'	1																			X				
458	1/21		S		X	SB-1 30-31'	1																			X				
459 ~~460~~	1/21		S		X	SB-1 35-36'	1																			X				
460	1/21		S		X	SB-1 40-41'	1																			X				

RELINQUISHED BY: (Signature) — Date: 1/22/10 Time: 1215
RECEIVED BY: (Signature) — Date: 1/22/10 Time: 1215
SAMPLED BY: (Print & Initial) Kim — Date: 1/21/10 Time:

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

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

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

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 18.0° Intact

REMARKS: If TPH > 5,000 mg/kg run deeper samples - ~~BTEX~~ Run highest TPH for BTEX?

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

Order #: 10012221

Analysis Request of Chain of Custody Record

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:	SITE MANAGER:
COG	Ike Tavarez

PROJECT NO.:	PROJECT NAME:
114-640-0278	COG / NM 8" Mainline SWD (Skelly) Eddy Co

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 608/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
220461	1/21		S		X	SB-1 50-51'	1																	X				
4602	1/21		S		X	SB-1 60-61'	1																	X				

RELINQUISHED BY: (Signature)	Date: 1/22/10 Time: 1215	RECEIVED BY: (Signature)	Date: 1/22/10 Time: 1215
SAMPLED BY: (Print & Initial) Kim	Date: 1/21/10 Time:		
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS	AIRBILL #: OTHER:		
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
TETRA TECH CONTACT PERSON: Ike Tavarez	Results by:		
RECEIVING LABORATORY: ADDRESS: CITY: STATE: ZIP: CONTACT: PHONE:	RECEIVED BY: (Signature) DATE: TIME:		RUSH Charges Authorized: Yes No
SAMPLE CONDITION WHEN RECEIVED: 18.0° Intact	REMARKS:		

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