

SITE INFORMATION

Report Type: Closure Report

2RP-597

2RP-619

General Site Information

Site:	SRO SWD #101	
Company:	COG Operating LLC	
Section, Township and Range	Unit G Sec 5 T-26S R-28E	
Lease Number:	API #30-015-26105	
County:	Eddy County	
GPS:	32.07323° N	104.10709° W
Surface Owner:	State	
Mineral Owner:		
Directions:	From Malaga, NM at the intersection of Hwy 285 and Sunrise Road travel south on Hwy 285 for 11 miles, turn right on White City Road 2.5 mi, right 0.5 mi to location	

Release Data

Spill #1

Spill #2

Date Released:	1/22/2011	2/20/2011
Type Release:	Produced Water	Produced Water
Source of Contamination:	Transfer pump on wrong line	Victaulic connection ruptured
Fluid Released:	180 bbls	200 bbls
Fluids Recovered:	130 bbls	100 bbls

Official Communication

Name:	Pat Ellis	Ike Tavaréz
Company:	COG Operating, LLC	Tetra Tech
Address:	550 W. Texas Ave. Ste. 1300	1910 N. Big Spring
P.O. Box		
City:	Midland Texas, 79701	Midland, Texas
Phone number:	(432) 686-3023	432-682-4559
Fax:	(432) 684-7137	
Email:	pellis@conchoresources.com	ike.tavaréz@tetrattech.com

Ranking Criteria

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

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

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OCT 17 2011

NMOCD ARTESIA



TETRA TECH

October 4, 2011

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

**Re: Closure Report for the COG Operating LLC., State SRO #101
SWD, Unit G, Section 5, Township 26 South, Range 28 East, Eddy
County, New Mexico.**

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess two spills from the State SRO #101 SWD, Unit G, Section 5, Township 26 South, Range 28 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.07323°, W 104.10709°. The site location is shown on Figures 1 and 2.

Background

Spill #1

According to the State of New Mexico C-141 Initial Report, the leak was discovered on January 22, 2011, and released approximately 180 barrels of produced water due to the water transfer pump being tied in into the wrong disposal line and recovered 130 barrels. To alleviate the problem, the pump was installed on the correct line.

The spill initiated inside the tank battery (lined facility) and impacted a path in front of the battery, measuring a length of approximately 240' and width of 10' to 40' wide. The spill migrated off the pad into the east and west pasture measuring approximately 40' x 40' and 20' X 75', respectively. The initial C-141 form is enclosed in Appendix A.

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559

Fax 432.682.3946

www.tetrattech.com



Spill #2

According to the State of New Mexico C-141 Initial Report, the leak was discovered on February 20, 2011, and released approximately 200 barrels of produced water due to a Victaulic connection rupturing. COG recovered 100 barrels of fluid. To alleviate the problem, the line was re-routed and returned to service.

The spill initiated outside the tank battery and impacted an area south of the battery measuring approximately 30' x 65'. The spill migrate across the pad (3 inches wide) and off the northwest edge of the pad impacting an area approximate length of 200', with a width of 3.0'. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 5. Based on the site location and NMOCD groundwater map, the average depth to groundwater in this area is less than 50' below surface. The well information is shown in Appendix B.

Regulatory

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

Soil Assessment and Analytical Results

Spill #1

On April 8, 2011, Tetra Tech personnel inspected and sampled the spill area. Eight auger holes (AH-1 through AH-8) were installed using a stainless steel hand auger to assess the impacted soils. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by



EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The 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. The chloride impact did show a shallow impact in the subsurface soils at depth ranging from 1.0' to 3.0' below surface. The area of AH-6 did not show a chloride impact the soils. Auger holes (AH-1 and AH-8) did showed chloride concentrations of 3,620 mg/kg at 5.0'-5.5' and 870 mg/kg at 3.5'4.0', respectively. These areas will require additional delineation.

Spill #2

On May 3, 2011, Tetra Tech personnel inspected and sampled the second spill area. Six auger holes (AH-1 through AH-6) were installed using a stainless steel hand auger to assess the impacted soils. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 2. The auger hole locations are shown on Figure 3.

Referring to Table 2, all of the submitted samples were below the RRAL for TPH and BTEX. Referring to Table 2, the areas of AH-1, AH-2 and AH-3 did show shallow impact and declined with depth. Auger holes (AH-4, AH-5 and AH-6) declined with depth, but were not vertically defined. These areas will require additional delineation.

Closure Activities

As approved, the impacted material were removed to the depths as highlighted in Table 1 and Table 2, and shown on Figure 4. The excavation depths ranged from 1.0' to 5.0'. To evaluate the background (chloride concentrations) in the area, a backhoe trench was installed southeast of the location in native soils. A chloride high was detected at 5.0' of 1,510 mg/kg.

Spill #1

The area of AH-1 was excavated to a depth of approximately 5.0' below surface. The bottom was trenched with a backhoe to define extents. The samples at 5.0', 7.0', 9.0' and 11.0' showed increasing chloride concentrations of 1,270 mg/kg, 1,150 mg/kg, 1,420 mg/kg and 1,760 mg/kg,



TETRA TECH

respectively. Based on the results, the excavation bottom was capped with a 40 mil liner and backfilled with clean fill material. The area of AH-8 was excavated to a depth of 4.0'. A bottom hole sample (T-2) was collected at 5.0' and showed a chloride concentration of 663 mg/kg.

Spill #2

The areas of AH-4, AH-5 and AH-6 were excavated to a depth of 3.0' below surface. The bottom hole samples showed chloride concentrations of (T-1) of 427 mg/kg, (T-2) of 1,600 mg/kg and (T-3) of 1,480 mg/kg. Deeper samples were not collected due to the dense formation. These areas are located northwest of the facility pad near the closed reserve pit, which may be impact for the reserve pit or background concentrations.

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

Respectfully submitted,
TETRA TECH



Ike Tavaréz, PG
Project Manager

cc: Pat Ellis – COG

FIGURES

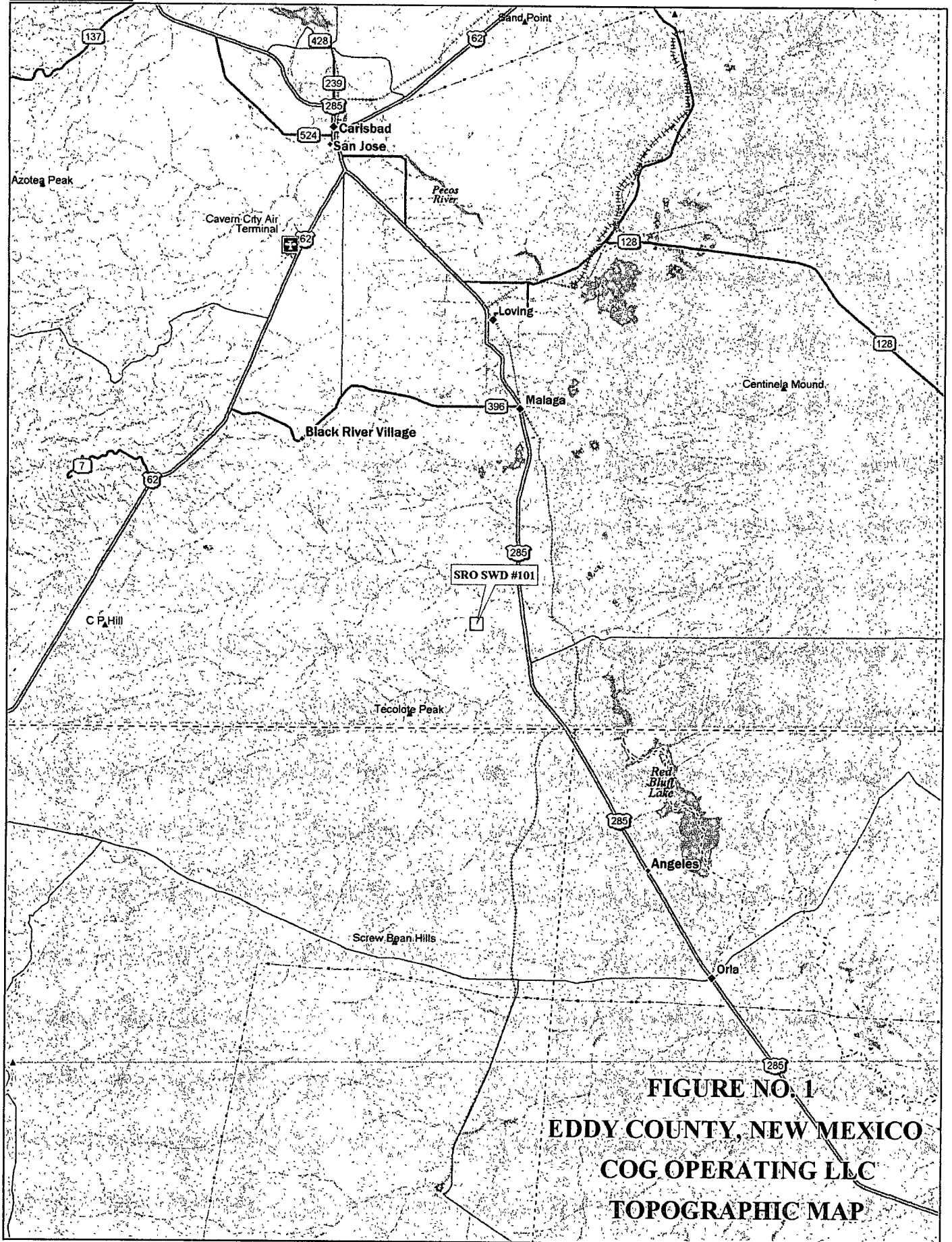
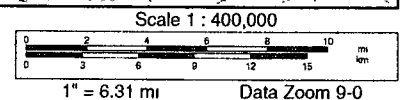


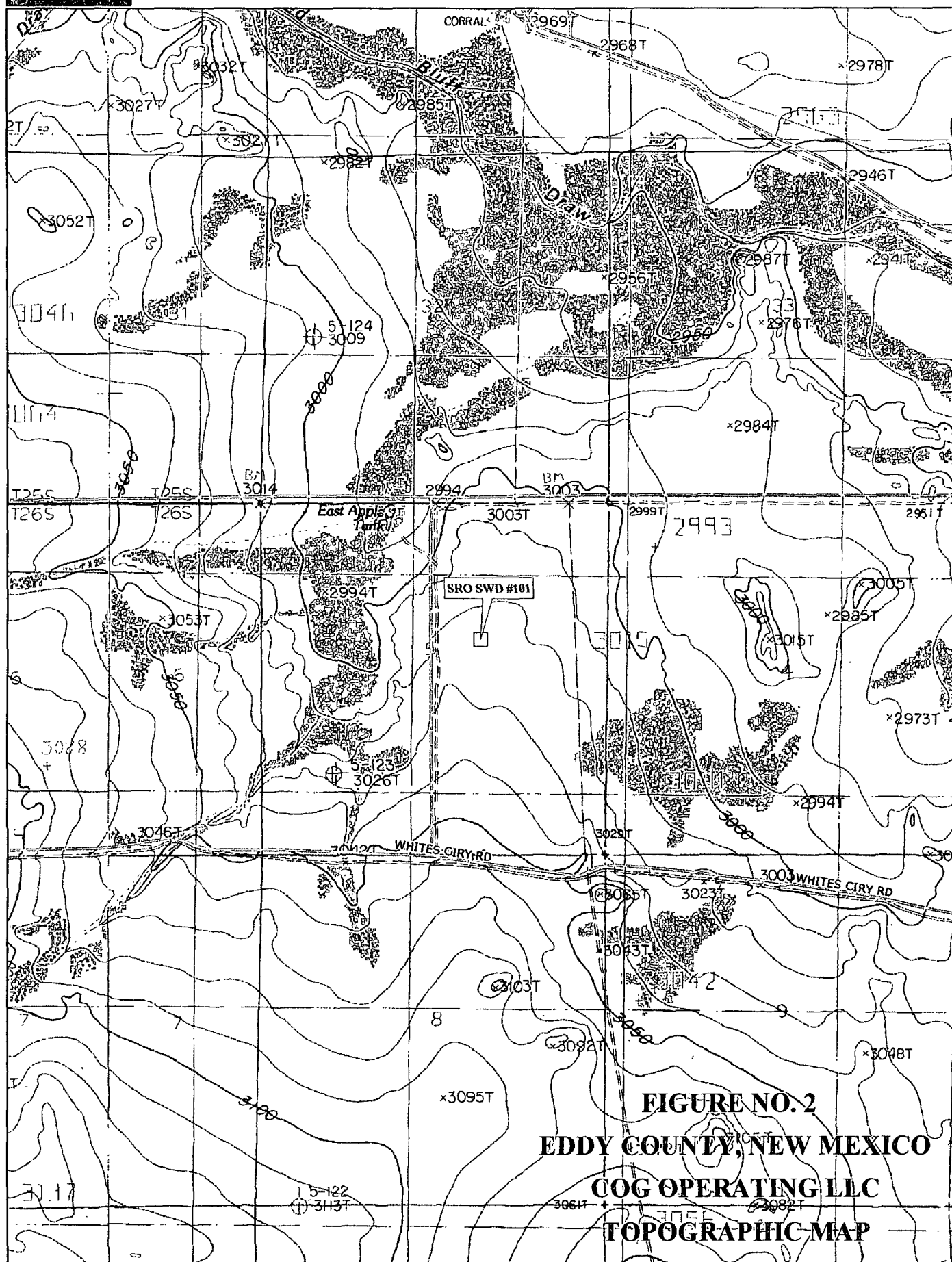
FIGURE NO. 1
EDDY COUNTY, NEW MEXICO
COG OPERATING LLC
TOPOGRAPHIC MAP

Data use subject to license.

© DeLorme. Topo USA® 8.

www.delorme.com

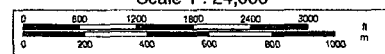




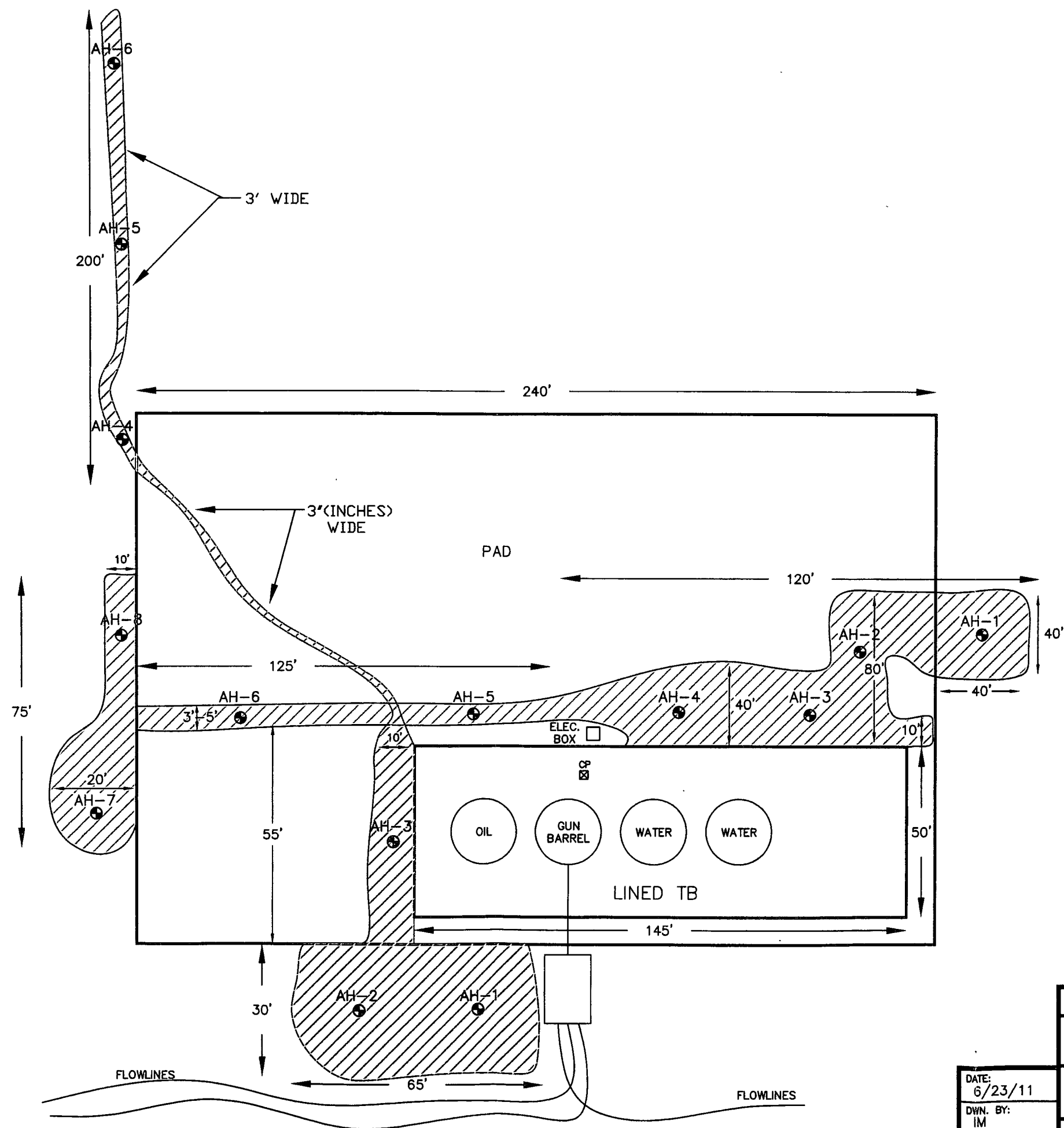
www.delorme.com

TN
★
MN (7.8°E)

Scale 1 : 24,000



1" = 2,000.0 ft Data Zoom 13-0



- SPILL #1 AREA
- SPILL #2 AREA
- AUGER HOLE LOCATIONS SPILL # 1
- AUGER HOLE LOCATIONS SPILL # 2

NOT TO SCALE

DATE:
6/23/11
DWN. BY:
IM
FILE:
H:\COG\6400814
SRO SWD #101

FIGURE NO. 3

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

SRO SWD #101

TETRA TECH, INC.
MIDLAND, TEXAS

TABLES

Table 1
COG Operating LLC.
SPILL #1
SRO SWD #101
Eddy County, New Mexico

[illegible]

Table 1
COG Operating LLC.
SPILL #1
SRO SWD #101
Eddy County, New Mexico

[illegible]

Table 1
COG Operating LLC.
SPILL #1
SRO SWD #101
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-8	2/8/2011	0-1'			X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	3,130
		1-1.5'			X	--	--	--	--	--	--	--	--	1,640
		2-2.5'			X	--	--	--	--	--	--	--	--	939
		3-3.5'			X	--	--	--	--	--	--	--	--	761
		3.5-4'			X	--	--	--	--	--	--	--	--	870
T-2	9/19/2011	5'		X		--	--	--	--	--	--	--	--	663
BG	9/19/2011	1'		X		--	--	--	--	--	--	--	--	<200
		2'		X		--	--	--	--	--	--	--	--	<200
		3'		X		--	--	--	--	--	--	--	--	<200
		4'		X		--	--	--	--	--	--	--	--	<200
		5'		X		--	--	--	--	--	--	--	--	1,510
		7'		X		--	--	--	--	--	--	--	--	<200

(--) Not Analyzed

BEB Below Excavation Bottom

 Excavation Depths

 40 Mil liner installed

BG Background

Table 2
COG Operating LLC.
SPILL #2
SRO SWD #101
Eddy County, New Mexico

[illegible]

Table 2
COG Operating LLC.
SPILL #2
SRO SWD #101
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-4	5/3/2011	0-1'			X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	12,900
		1-1.5'				--	--	--	--	--	--	--	--	1,520
T-1		3'		X		--	--	--	--	--	--	--	--	427
AH-5	5/3/2011	0-1'			X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	8,220
		1-1.5'			X	--	--	--	--	--	--	--	--	3,320
		2-2.5'			X	--	--	--	--	--	--	--	--	1,100
T-2		3'		X		--	--	--	--	--	--	--	--	1,600
AH-6	5/3/2011	0-1'			X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	11,300
		1-1.5'			X	--	--	--	--	--	--	--	--	9,530
		2-2.5'			X	--	--	--	--	--	--	--	--	3,010
T-3		3'		X		--	--	--	--	--	--	--	--	1,480

(--) Not Analyzed

BEB Below Excavation Bottom

☐ Excavation Depths

T-1 bottom hole trench

APPENDIX A

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

State of New Mexico
Energy Minerals and Natural Resources

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

Spill #1

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	SRO SWD #101	Facility Type	SWD

Surface Owner	State	Mineral Owner	Lease No. (API#) 30-015-26105
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	5	26	28					Eddy

Latitude 32 04.389 Longitude 104 06.431

NATURE OF RELEASE

Type of Release	Produced water	Volume of Release	180bbbls	Volume Recovered	130bbbls
Source of Release	Water line	Date and Hour of Occurrence	01/22/2011	Date and Hour of Discovery	01/22/2011 3:00 p.m.
Was Immediate Notice Given?	If YES, To Whom?				
☒ Yes ☐ No ☐ Not Required	Mike Bratcher—OCD				
By Whom?	Josh Russo	Date and Hour	01/24/2011 10:32 a.m.		
Was a Watercourse Reached?	If YES, Volume Impacting the Watercourse.				
☐ Yes ☒ No					

If a Watercourse was Impacted, Describe Fully.*

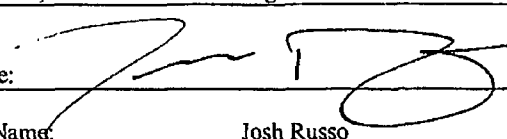
Describe Cause of Problem and Remedial Action Taken.*

Construction crew tied in water transfer pump at the Myox 31 13 to wrong disposal line causing release. The water transfer pump was hooked up to the appropriate line and returned to service.

Describe Area Affected and Cleanup Action Taken.*

Initially 180bbbls was released from the line and we were able to recover 130bbbls with vacuum trucks. The spill was largely contained on the pad location of the SRO SWD #101 and measured an area of 50' X 80'. Northwest of the location a 3' x 50' stream traveled off of the location and into the pasture. East of the location produced water flowed measuring an area of 4' x 20'. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation work.

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

Signature:				OIL CONSERVATION DIVISION	
Printed Name:	Josh Russo			Approved by District Supervisor:	
Title:	HSE Coordinator			Approval Date:	Expiration Date:
E-mail Address:	jrusso@conchoresources.com			Conditions of Approval:	Attached ☐
Date:	02/01/2011			Phone:	432-212-2399

* Attach Additional Sheets If Necessary

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

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	SRO #101 SWD	Facility Type	SWD

Surface Owner	State	Mineral Owner	Lease No. (API#) 30-015-26105
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	5	26S	28E					Eddy

Latitude 32 04.388 Longitude 104 06.431

NATURE OF RELEASE

Type of Release	Produced water	Volume of Release	200bbls	Volume Recovered	100bbls
Source of Release	Ruptured Victaulic connection	Date and Hour of Occurrence	02/20/2011	Date and Hour of Discovery	02/20/2011 9:00 a.m.
Was Immediate Notice Given?	☒ Yes ☐ No ☐ Not Required	If YES, To Whom?	Mike Bratcher—OCD		
By Whom?	Josh Russo	Date and Hour	02/20/2011 3:43 p.m.		
Was a Watercourse Reached?	☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A Victaulic connection ruptured causing the release. The line was re-routed and returned to service.

Describe Area Affected and Cleanup Action Taken.*

Initially 200bbls of produced water was released from the line and we were able to recover 100bbls with a vacuum truck. The spill measured 15' x 20' behind the battery, a second 60' x 80' behind the battery, and a 3' x 100' trail off the northwest corner of the pad. The pad will be scraped to remove contaminants. Tetra Tech will sample the spill site are to delineate any contamination from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation work.

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

Signature: 		<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Josh Russo		Approved by District Supervisor:	
Title: HSE Coordinator		Approval Date:	Expiration Date:
E-mail Address: jrusso@conchoresources.com		Conditions of Approval:	
Date: 02/28/2011 Phone: 432-212-2399		Attached ☐	

* Attach Additional Sheets If Necessary

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OCT 17 2011

NMOCD ARTESIA

APPENDIX B

Water Well Data
Average Depth to Groundwater (ft)
COG - State SRO #101 SWD
Eddy County, New Mexico

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

25 South			28 East		
6	5	4	35	3	2
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
		96			
		90			
					40

25 South			29 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
			40		
			60		

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

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

26 South			29 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	57	23
30	29	28	27	69	25
31	32	33	34	35	36

-  New Mexico State Engineers Well Reports
-  USGS Well Reports
-  Geology and Groundwater Conditions in Southern Eddy, County, NM
-  NMOCD - Groundwater Data
-  Site Location - State SRO #101 SWD

NM WAIDS

[DATA](#)[MAPS](#)[HOME](#)[SCALE](#)[CORROSION](#)

General Information About: Sample 26902			
Section/ Township/Range	18 / 26 S / 28 E	Lat/Long	32.0429 / -104.1264
Elevation	3060	Depth	25
Date Collected	8/4/1987	Chlorides	146
Collector / Point of Collection	SEO / TS@25	Use	Well presently not in use
Formation	CAST	TDS	0



LOCATION NUMBER	WATER LEVEL		YIELD (g.p.m.)	METHOD OF LIFT	USE OF WATER	REMARKS
	BELOW LAND SURFACE (feet)	DATE OF MEASUREMENT				
25.30.9.100a	295+	Mar. 10, 1949	—	W	S	Northeast well of two. See analysis, Table 3.
21.330	268.0	do.	3	W	S	
21.330a	—	—	2	W	S	Southwest well of two.
25.31.21.000	290	Dec. 15, 1948	3	W	S	See analysis, Table 3.
26.24.9.331	65.3	Jan. 26, 1948	—	N	N	Abandoned. See analysis, Table 3.
10.240	20	—	10 ¹	W	S	Driller: H. M. Curtis.
11.314	21.9	Jan. 22, 1948	5	W	S	See analysis, Table 3.
19.431	57.7	do.	5 R.	W	D & S	
28.411	—	—	—	W	S	North of highway. Driller: H. M. Curtis.
28.413	68.6	Jan. 22, 1948	2	W	S	Driller: Redman. See analysis, Table 3.
26.25.17.240	10.5	Nov. 19, 1949	3	W	S	See analysis, Table 3.
26.27.5.440	12.5	Dec. 3, 1948	3	W	S	
13.442	35+	do.	3	W	S	
26.28.2.112	21.2	Dec. 6, 1948	1½	W	S	Depth to water measured while pump- ing. See analysis, Table 3.

See explanation at beginning of table.

1 Measured Jan. 22, 1948.

APPENDIX C

Summary Report

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

Report Date: February 22, 2011

Work Order: 11021117



Project Location: Eddy County, NM
Project Name: COG/SRO SWD #101
Project Number: 114-6400814

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
257249	AH-1 0-1'	soil	2011-02-08	00:00	2011-02-11
257250	AH-1 1'-1.5'	soil	2011-02-08	00:00	2011-02-11
257251	AH-1 2'-2.5'	soil	2011-02-08	00:00	2011-02-11
257252	AH-2 0-1'	soil	2011-02-08	00:00	2011-02-11
257253	AH-2 1'-1.5'	soil	2011-02-08	00:00	2011-02-11
257254	AH-2 2'-2.5'	soil	2011-02-08	00:00	2011-02-11
257255	AH-2 3'-3.5'	soil	2011-02-08	00:00	2011-02-11
257256	AH-2 4'-4.5'	soil	2011-02-08	00:00	2011-02-11
257257	AH-2 5'-5.5'	soil	2011-02-08	00:00	2011-02-11
257258	AH-2 6'-6.5'	soil	2011-02-08	00:00	2011-02-11
257259	AH-3 0-1'	soil	2011-02-08	00:00	2011-02-11
257260	AH-3 1'-1.5'	soil	2011-02-08	00:00	2011-02-11
257261	AH-3 2'-2.5'	soil	2011-02-08	00:00	2011-02-11
257262	AH-3 3'-3.5'	soil	2011-02-08	00:00	2011-02-11
257263	AH-3 4'-4.5'	soil	2011-02-08	00:00	2011-02-11
257264	AH-3 5'-5.5'	soil	2011-02-08	00:00	2011-02-11
257265	AH-4 0-1'	soil	2011-02-08	00:00	2011-02-11
257266	AH-4 1'-1.5'	soil	2011-02-08	00:00	2011-02-11
257267	AH-4 2'-2.5'	soil	2011-02-08	00:00	2011-02-11
257268	AH-4 3'-3.5'	soil	2011-02-08	00:00	2011-02-11
257269	AH-4 4'-4.5'	soil	2011-02-08	00:00	2011-02-11
257270	AH-4 5'-5.5'	soil	2011-02-08	00:00	2011-02-11
257271	AH-5 0-1'	soil	2011-02-08	00:00	2011-02-11
257272	AH-5 1'-1.5'	soil	2011-02-08	00:00	2011-02-11
257273	AH-5 1.5'-2'	soil	2011-02-08	00:00	2011-02-11
257274	AH-6 0-1'	soil	2011-02-08	00:00	2011-02-11
257275	AH-6 1'-1.5'	soil	2011-02-08	00:00	2011-02-11
257276	AH-7 0-1'	soil	2011-02-08	00:00	2011-02-11
257277	AH-7 1'-1.5'	soil	2011-02-08	00:00	2011-02-11
257278	AH-7 2'-2.5'	soil	2011-02-08	00:00	2011-02-11

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
257279	AH-7 3'-3.5'	soil	2011-02-08	00:00	2011-02-11
257280	AH-8 0-1'	soil	2011-02-08	00:00	2011-02-11
257281	AH-8 1'-1.5'	soil	2011-02-08	00:00	2011-02-11
257282	AH-8 2'-2.5'	soil	2011-02-08	00:00	2011-02-11
257283	AH-8 3'-3.5'	soil	2011-02-08	00:00	2011-02-11
257284	AH-8 3.5'-4'	soil	2011-02-08	00:00	2011-02-11

Sample - Field Code	BTEX				TPH DRO - NEW	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
257249 - AH-1 0-1'					<50.0	<2.00
257252 - AH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
257259 - AH-3 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
257265 - AH-4 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
257271 - AH-5 0-1'					<50.0	<2.00
257274 - AH-6 0-1'					<50.0	<2.00
257276 - AH-7 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
257280 - AH-8 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00

Sample: 257249 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		15400	mg/Kg	4.00

Sample: 257250 - AH-1 1'-1.5'

Param	Flag	Result	Units	RL
Chloride		6180	mg/Kg	4.00

Sample: 257251 - AH-1 2'-2.5"

Param	Flag	Result	Units	RL
Chloride		3620	mg/Kg	4.00

Sample: 257252 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		1670	mg/Kg	4.00

Sample: 257253 - AH-2 1'-1.5'

Param	Flag	Result	Units	RL
Chloride		353	mg/Kg	4.00

Sample: 257254 - AH-2 2'-2.5'

Param	Flag	Result	Units	RL
Chloride		408	mg/Kg	4.00

Sample: 257255 - AH-2 3'-3.5'

Param	Flag	Result	Units	RL
Chloride		4340	mg/Kg	4.00

Sample: 257256 - AH-2 4'-4.5'

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

Sample: 257257 - AH-2 5'-5.5'

Param	Flag	Result	Units	RL
Chloride		232	mg/Kg	4.00

Sample: 257258 - AH-2 6'-6.5'

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

Sample: 257259 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		1090	mg/Kg	4.00

Sample: 257260 - AH-3 1'-1.5'

Param	Flag	Result	Units	RL
Chloride		1340	mg/Kg	4.00

Sample: 257261 - AH-3 2'-2.5'

Param	Flag	Result	Units	RL
Chloride		1250	mg/Kg	4.00

Sample: 257262 - AH-3 3'-3.5'

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

Sample: 257263 - AH-3 4'-4.5'

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

Sample: 257264 - AH-3 5'-5.5'

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

Sample: 257265 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		929	mg/Kg	4.00

Sample: 257266 - AH-4 1'-1.5'

Param	Flag	Result	Units	RL
Chloride		207	mg/Kg	4.00

Sample: 257267 - AH-4 2'-2.5'

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

Sample: 257268 - AH-4 3'-3.5'

Param	Flag	Result	Units	RL
Chloride		227	mg/Kg	4.00

Sample: 257269 - AH-4 4'-4.5'

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

Sample: 257270 - AH-4 5'-5.5'

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

Sample: 257271 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		808	mg/Kg	4.00

Sample: 257272 - AH-5 1'-1.5'

Param	Flag	Result	Units	RL
Chloride		372	mg/Kg	4.00

Sample: 257273 - AH-5 1.5'-2'

Param	Flag	Result	Units	RL
Chloride		595	mg/Kg	4.00

Sample: 257274 - AH-6 0-1'

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

Sample: 257275 - AH-6 1'-1.5'

Param	Flag	Result	Units	RL
Chloride		268	mg/Kg	4.00

Sample: 257276 - AH-7 0-1'

Param	Flag	Result	Units	RL
Chloride		709	mg/Kg	4.00

Sample: 257277 - AH-7 1'-1.5'

Param	Flag	Result	Units	RL
Chloride		501	mg/Kg	4.00

Sample: 257278 - AH-7 2'-2.5'

Param	Flag	Result	Units	RL
Chloride		525	mg/Kg	4.00

Sample: 257279 - AH-7 3'-3.5'

Param	Flag	Result	Units	RL
Chloride		496	mg/Kg	4.00

Sample: 257280 - AH-8 0-1'

Param	Flag	Result	Units	RL
Chloride		3130	mg/Kg	4.00

Sample: 257281 - AH-8 1'-1.5'

Param	Flag	Result	Units	RL
Chloride		1640	mg/Kg	4.00

Sample: 257282 - AH-8 2'-2.5'

Param	Flag	Result	Units	RL
Chloride		939	mg/Kg	4.00

Sample: 257283 - AH-8 3'-3.5'

Param	Flag	Result	Units	RL
Chloride		761	mg/Kg	4.00

Sample: 257284 - AH-8 3.5'-4'

Param	Flag	Result	Units	RL
Chloride		870	mg/Kg	4.00

Summary Report

Kim Dorey
Tetra Tech
1910 N. Big Spring Street
Midland, TX 79705

Report Date: May 17, 2011

Work Order: 11050402

Project Location: Eddy Co., NM
Project Name: COG/SRO #101 SWD Spill #2
Project Number: 114-6400841

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
265402	AH-1 0-1'	soil	2011-05-03	00:00	2011-05-03
265403	AH-1 1-1.5'	soil	2011-05-03	00:00	2011-05-03
265404	AH-1 2-2.5'	soil	2011-05-03	00:00	2011-05-03
265405	AH-1 3-3.5'	soil	2011-05-03	00:00	2011-05-03
265406	AH-1 4-4.5'	soil	2011-05-03	00:00	2011-05-03
265407	AH-1 5-5.5'	soil	2011-05-03	00:00	2011-05-03
265408	AH-2 0-1'	soil	2011-05-03	00:00	2011-05-03
265409	AH-2 1-1.5'	soil	2011-05-03	00:00	2011-05-03
265410	AH-2 2-2.5'	soil	2011-05-03	00:00	2011-05-03
265411	AH-2 3-3.5'	soil	2011-05-03	00:00	2011-05-03
265412	AH-2 4-4.5'	soil	2011-05-03	00:00	2011-05-03
265413	AH-3 0-1'	soil	2011-05-03	00:00	2011-05-03
265414	AH-3 1-1.5'	soil	2011-05-03	00:00	2011-05-03
265415	AH-3 2-2.5'	soil	2011-05-03	00:00	2011-05-03
265416	AH-3 3-3.5'	soil	2011-05-03	00:00	2011-05-03
265417	AH-4 0-1'	soil	2011-05-03	00:00	2011-05-03
265418	AH-4 1-1.5'	soil	2011-05-03	00:00	2011-05-03
265419	AH-5 0-1'	soil	2011-05-03	00:00	2011-05-03
265420	AH-5 1-1.5'	soil	2011-05-03	00:00	2011-05-03
265421	AH-5 2-2.5'	soil	2011-05-03	00:00	2011-05-03
265422	AH-6 0-1'	soil	2011-05-03	00:00	2011-05-03
265423	AH-6 1-1.5'	soil	2011-05-03	00:00	2011-05-03
265424	AH-6 2-2.5'	soil	2011-05-03	00:00	2011-05-03

Sample - Field Code	BTEX				TPH DRO - NEW	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
265402 - AH-1 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00

continued . . .

... continued

Sample - Field Code	BTEX				TPH DRO - NEW DRO	TPH GRO GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)		
265408 - AH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
265413 - AH-3 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
265417 - AH-4 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
265419 - AH-5 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
265422 - AH-6 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00

Sample: 265402 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		10200	mg/Kg	4

Sample: 265403 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		4530	mg/Kg	4

Sample: 265404 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		2160	mg/Kg	4

Sample: 265405 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		577	mg/Kg	4

Sample: 265406 - AH-1 4-4.5'

Param	Flag	Result	Units	RL
Chloride		373	mg/Kg	4

Sample: 265407 - AH-1 5-5.5'

Param	Flag	Result	Units	RL
Chloride		421	mg/Kg	4

Sample: 265408 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		7160	mg/Kg	4

Sample: 265409 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		1230	mg/Kg	4

Sample: 265410 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		1120	mg/Kg	4

Sample: 265411 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		818	mg/Kg	4

Sample: 265412 - AH-2 4-4.5'

Param	Flag	Result	Units	RL
Chloride		559	mg/Kg	4

Sample: 265413 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		3390	mg/Kg	4

Sample: 265414 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4

Sample: 265415 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		232	mg/Kg	4

Sample: 265416 - AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		262	mg/Kg	4

Sample: 265417 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		12900	mg/Kg	4

Sample: 265418 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		1520	mg/Kg	4

Sample: 265419 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		8220	mg/Kg	4

Sample: 265420 - AH-5 1-1.5'

Param	Flag	Result	Units	RL
Chloride		3320	mg/Kg	4

Sample: 265421 - AH-5 2-2.5'

Param	Flag	Result	Units	RL
Chloride		1100	mg/Kg	4

Sample: 265422 - AH-6 0-1'

Param	Flag	Result	Units	RL
Chloride		11300	mg/Kg	4

Sample: 265423 - AH-6 1-1.5'

Param	Flag	Result	Units	RL
Chloride		9530	mg/Kg	4

Sample: 265424 - AH-6 2-2.5'

Param	Flag	Result	Units	RL
Chloride		3010	mg/Kg	4



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6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
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Certifications

WBENC: 237019

HUB: 1752439743100-86536
NCTRCA WFWB38444Y0909

DBE: VN 20657

NELAP Certifications

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

El Paso: T104704221-08-TX
LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

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

Report Date: February 22, 2011

Work Order: 11021117



Project Location: Eddy County, NM
Project Name: COG/SRO SWD #101
Project Number: 114-6400814

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
257249	AH-1 0-1'	soil	2011-02-08	00:00	2011-02-11
257250	AH-1 1'-1.5'	soil	2011-02-08	00:00	2011-02-11
257251	AH-1 2'-2.5'	soil	2011-02-08	00:00	2011-02-11
257252	AH-2 0-1'	soil	2011-02-08	00:00	2011-02-11
257253	AH-2 1'-1.5'	soil	2011-02-08	00:00	2011-02-11
257254	AH-2 2'-2.5'	soil	2011-02-08	00:00	2011-02-11
257255	AH-2 3'-3.5'	soil	2011-02-08	00:00	2011-02-11
257256	AH-2 4'-4.5'	soil	2011-02-08	00:00	2011-02-11
257257	AH-2 5'-5.5'	soil	2011-02-08	00:00	2011-02-11
257258	AH-2 6'-6.5'	soil	2011-02-08	00:00	2011-02-11

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
257259	AH-3 0-1'	soil	2011-02-08	00:00	2011-02-11
257260	AH-3 1'-1.5'	soil	2011-02-08	00:00	2011-02-11
257261	AH-3 2'-2.5'	soil	2011-02-08	00:00	2011-02-11
257262	AH-3 3'-3.5'	soil	2011-02-08	00:00	2011-02-11
257263	AH-3 4'-4.5'	soil	2011-02-08	00:00	2011-02-11
257264	AH-3 5'-5.5'	soil	2011-02-08	00:00	2011-02-11
257265	AH-4 0-1'	soil	2011-02-08	00:00	2011-02-11
257266	AH-4 1'-1.5'	soil	2011-02-08	00:00	2011-02-11
257267	AH-4 2'-2.5'	soil	2011-02-08	00:00	2011-02-11
257268	AH-4 3'-3.5'	soil	2011-02-08	00:00	2011-02-11
257269	AH-4 4'-4.5'	soil	2011-02-08	00:00	2011-02-11
257270	AH-4 5'-5.5'	soil	2011-02-08	00:00	2011-02-11
257271	AH-5 0-1'	soil	2011-02-08	00:00	2011-02-11
257272	AH-5 1'-1.5'	soil	2011-02-08	00:00	2011-02-11
257273	AH-5 1.5'-2'	soil	2011-02-08	00:00	2011-02-11
257274	AH-6 0-1'	soil	2011-02-08	00:00	2011-02-11
257275	AH-6 1'-1.5'	soil	2011-02-08	00:00	2011-02-11
257276	AH-7 0-1'	soil	2011-02-08	00:00	2011-02-11
257277	AH-7 1'-1.5'	soil	2011-02-08	00:00	2011-02-11
257278	AH-7 2'-2.5'	soil	2011-02-08	00:00	2011-02-11
257279	AH-7 3'-3.5'	soil	2011-02-08	00:00	2011-02-11
257280	AH-8 0-1'	soil	2011-02-08	00:00	2011-02-11
257281	AH-8 1'-1.5'	soil	2011-02-08	00:00	2011-02-11
257282	AH-8 2'-2.5'	soil	2011-02-08	00:00	2011-02-11
257283	AH-8 3'-3.5'	soil	2011-02-08	00:00	2011-02-11
257284	AH-8 3.5'-4'	soil	2011-02-08	00:00	2011-02-11

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



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

Standard Flags

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

Samples for project COG/SRO SWD #101 were received by TraceAnalysis, Inc. on 2011-02-11 and assigned to work order 11021117. Samples for work order 11021117 were received intact at a temperature of 10.1 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	66561	2011-02-14 at 12:44	77767	2011-02-14 at 12:44
Chloride (Titration)	SM 4500-Cl B	66550	2011-02-14 at 12:32	77623	2011-02-15 at 15:29
Chloride (Titration)	SM 4500-Cl B	66550	2011-02-14 at 12:32	77625	2011-02-15 at 15:29
Chloride (Titration)	SM 4500-Cl B	66550	2011-02-14 at 12:32	77626	2011-02-15 at 15:30
Chloride (Titration)	SM 4500-Cl B	66550	2011-02-14 at 12:32	77627	2011-02-15 at 15:31
Chloride (Titration)	SM 4500-Cl B	66550	2011-02-14 at 12:32	77628	2011-02-15 at 15:31
TPH DRO - NEW	S 8015 D	66583	2011-02-15 at 10:10	77633	2011-02-15 at 10:10
TPH DRO - NEW	S 8015 D	66584	2011-02-15 at 10:10	77634	2011-02-15 at 10:10
TPH GRO	S 8015 D	66561	2011-02-14 at 12:44	77597	2011-02-14 at 12:44

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 11021117 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Report Date: February 22, 2011
114-6400814

Work Order: 11021117
COG/SRO SWD #101

Page Number: 4 of 34
Eddy County, NM

Analytical Report

Sample: 257249 - AH-1 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77623	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		15400	mg/Kg	100	4.00

Sample: 257249 - AH-1 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2011-02-15	Analyzed By:	kg
QC Batch:	77633	Sample Preparation:	2011-02-15	Prepared By:	kg
Prep Batch:	66583				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		84.4	mg/Kg	1	100	84	70 - 130

Sample: 257249 - AH-1 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2011-02-14	Analyzed By:	ME
QC Batch:	77597	Sample Preparation:	2011-02-14	Prepared By:	ME
Prep Batch:	66561				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.56	mg/Kg	1	2.00	128	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.40	mg/Kg	1	2.00	120	22.2 - 160.2

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Sample: 257250 - AH-1 1'-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77625	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		6180	mg/Kg	100	4.00

Sample: 257251 - AH-1 2'-2.5''

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77625	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		3620	mg/Kg	100	4.00

Sample: 257252 - AH-2 0-1'

Laboratory:	Midland	Analytical Method:	S 8021B	Prep Method:	S 5035
Analysis:	BTEX	Date Analyzed:	2011-02-14	Analyzed By:	ME
QC Batch:	77767	Sample Preparation:	2011-02-14	Prepared By:	ME
Prep Batch:	66561				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.68	mg/Kg	1	2.00	134	51.6 - 149.2
4-Bromofluorobenzene (4-BFB)		2.71	mg/Kg	1	2.00	136	35.7 - 159.6

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Sample: 257252 - AH-2 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77625 Date Analyzed: 2011-02-15 Analyzed By: AR
Prep Batch: 66550 Sample Preparation: 2011-02-14 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1670	mg/Kg	100	4.00

Sample: 257252 - AH-2 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 77633 Date Analyzed: 2011-02-15 Analyzed By: kg
Prep Batch: 66583 Sample Preparation: 2011-02-15 Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		84.1	mg/Kg	1	100	84	70 - 130

Sample: 257252 - AH-2 0-1'

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 77597 Date Analyzed: 2011-02-14 Analyzed By: ME
Prep Batch: 66561 Sample Preparation: 2011-02-14 Prepared By: ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.54	mg/Kg	1	2.00	127	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.34	mg/Kg	1	2.00	117	22.2 - 160.2

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Sample: 257253 - AH-2 1'-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77625	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		353	mg/Kg	50	4.00

Sample: 257254 - AH-2 2'-2.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77625	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		408	mg/Kg	50	4.00

Sample: 257255 - AH-2 3'-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77625	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		4340	mg/Kg	100	4.00

Sample: 257256 - AH-2 4'-4.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77625	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

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

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Sample: 257257 - AH-2 5'-5.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77625 Date Analyzed: 2011-02-15 Analyzed By: AR
Prep Batch: 66550 Sample Preparation: 2011-02-14 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		232	mg/Kg	50	4.00

Sample: 257258 - AH-2 6'-6.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77625 Date Analyzed: 2011-02-15 Analyzed By: AR
Prep Batch: 66550 Sample Preparation: 2011-02-14 Prepared By: AR

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

Sample: 257259 - AH-3 0-1'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 77767 Date Analyzed: 2011-02-14 Analyzed By: ME
Prep Batch: 66561 Sample Preparation: 2011-02-14 Prepared By: ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.65	mg/Kg	1	2.00	132	51.6 - 149.2
4-Bromofluorobenzene (4-BFB)		2.71	mg/Kg	1	2.00	136	35.7 - 159.6

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Sample: 257259 - AH-3 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77625	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1090	mg/Kg	100	4.00

Sample: 257259 - AH-3 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2011-02-15	Analyzed By:	kg
QC Batch:	77633	Sample Preparation:	2011-02-15	Prepared By:	kg
Prep Batch:	66583				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		82.4	mg/Kg	1	100	82	70 - 130

Sample: 257259 - AH-3 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2011-02-14	Analyzed By:	ME
QC Batch:	77597	Sample Preparation:	2011-02-14	Prepared By:	ME
Prep Batch:	66561				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.53	mg/Kg	1	2.00	126	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.34	mg/Kg	1	2.00	117	22.2 - 160.2

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Sample: 257260 - AH-3 1'-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77626	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1340	mg/Kg	100	4.00

Sample: 257261 - AH-3 2'-2.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77626	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1250	mg/Kg	100	4.00

Sample: 257262 - AH-3 3'-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77626	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

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

Sample: 257263 - AH-3 4'-4.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77626	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

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

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Sample: 257264 - AH-3 5'-5.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77626 Date Analyzed: 2011-02-15 Analyzed By: AR
Prep Batch: 66550 Sample Preparation: 2011-02-14 Prepared By: AR

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

Sample: 257265 - AH-4 0-1'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 77767 Date Analyzed: 2011-02-14 Analyzed By: ME
Prep Batch: 66561 Sample Preparation: 2011-02-14 Prepared By: ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.27	mg/Kg	1	2.00	114	51.6 - 149.2
4-Bromofluorobenzene (4-BFB)		2.36	mg/Kg	1	2.00	118	35.7 - 159.6

Sample: 257265 - AH-4 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77626 Date Analyzed: 2011-02-15 Analyzed By: AR
Prep Batch: 66550 Sample Preparation: 2011-02-14 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		929	mg/Kg	50	4.00

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Sample: 257265 - AH-4 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2011-02-15	Analyzed By:	kg
QC Batch:	77634	Sample Preparation:	2011-02-15	Prepared By:	kg
Prep Batch:	66584				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		85.4	mg/Kg	1	100	85	70 - 130

Sample: 257265 - AH-4 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2011-02-14	Analyzed By:	ME
QC Batch:	77597	Sample Preparation:	2011-02-14	Prepared By:	ME
Prep Batch:	66561				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.16	mg/Kg	1	2.00	108	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.05	mg/Kg	1	2.00	102	22.2 - 160.2

Sample: 257266 - AH-4 1'-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77626	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		207	mg/Kg	50	4.00

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Sample: 257267 - AH-4 2'-2.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77626	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

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

Sample: 257268 - AH-4 3'-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77626	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		227	mg/Kg	50	4.00

Sample: 257269 - AH-4 4'-4.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77626	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

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

Sample: 257270 - AH-4 5'-5.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77627	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

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

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Sample: 257271 - AH-5 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77627	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		808	mg/Kg	50	4.00

Sample: 257271 - AH-5 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2011-02-15	Analyzed By:	kg
QC Batch:	77634	Sample Preparation:	2011-02-15	Prepared By:	kg
Prep Batch:	66584				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		86.1	mg/Kg	1	100	86	70 - 130

Sample: 257271 - AH-5 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2011-02-14	Analyzed By:	ME
QC Batch:	77597	Sample Preparation:	2011-02-14	Prepared By:	ME
Prep Batch:	66561				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.57	mg/Kg	1	2.00	128	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.36	mg/Kg	1	2.00	118	22.2 - 160.2

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Sample: 257272 - AH-5 1'-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77627	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		372	mg/Kg	50	4.00

Sample: 257273 - AH-5 1.5'-2'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77627	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		595	mg/Kg	50	4.00

Sample: 257274 - AH-6 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-15	Analyzed By:	AR
QC Batch:	77627	Sample Preparation:	2011-02-14	Prepared By:	AR
Prep Batch:	66550				

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

Sample: 257274 - AH-6 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2011-02-15	Analyzed By:	kg
QC Batch:	77634	Sample Preparation:	2011-02-15	Prepared By:	kg
Prep Batch:	66584				

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

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		96.9	mg/Kg	1	100	97	70 - 130

Sample: 257274 - AH-6 0-1'

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 77597 Date Analyzed: 2011-02-14 Analyzed By: ME
Prep Batch: 66561 Sample Preparation: 2011-02-14 Prepared By: ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.48	mg/Kg	1	2.00	124	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.25	mg/Kg	1	2.00	112	22.2 - 160.2

Sample: 257275 - AH-6 1'-1.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77627 Date Analyzed: 2011-02-15 Analyzed By: AR
Prep Batch: 66550 Sample Preparation: 2011-02-14 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		268	mg/Kg	50	4.00

Sample: 257276 - AH-7 0-1'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 77767 Date Analyzed: 2011-02-14 Analyzed By: ME
Prep Batch: 66561 Sample Preparation: 2011-02-14 Prepared By: ME

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

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.41	mg/Kg	1	2.00	120	51.6 - 149.2
4-Bromofluorobenzene (4-BFB)		2.45	mg/Kg	1	2.00	122	35.7 - 159.6

Sample: 257276 - AH-7 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77627 Date Analyzed: 2011-02-15 Analyzed By: AR
Prep Batch: 66550 Sample Preparation: 2011-02-14 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		709	mg/Kg	50	4.00

Sample: 257276 - AH-7 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 77634 Date Analyzed: 2011-02-15 Analyzed By: kg
Prep Batch: 66584 Sample Preparation: 2011-02-15 Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		82.6	mg/Kg	1	100	83	70 - 130

Sample: 257276 - AH-7 0-1'

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 77597 Date Analyzed: 2011-02-14 Analyzed By: ME
Prep Batch: 66561 Sample Preparation: 2011-02-14 Prepared By: ME

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

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.31	mg/Kg	1	2.00	116	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.13	mg/Kg	1	2.00	106	22.2 - 160.2

Sample: 257277 - AH-7 1'-1.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77627 Date Analyzed: 2011-02-15 Analyzed By: AR
Prep Batch: 66550 Sample Preparation: 2011-02-14 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		501	mg/Kg	50	4.00

Sample: 257278 - AH-7 2'-2.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77627 Date Analyzed: 2011-02-15 Analyzed By: AR
Prep Batch: 66550 Sample Preparation: 2011-02-14 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		525	mg/Kg	50	4.00

Sample: 257279 - AH-7 3'-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77627 Date Analyzed: 2011-02-15 Analyzed By: AR
Prep Batch: 66550 Sample Preparation: 2011-02-14 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		496	mg/Kg	50	4.00

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Sample: 257280 - AH-8 0-1'

Laboratory: Midland
Analysis: BTEX
QC Batch: 77767
Prep Batch: 66561

Analytical Method: S 8021B
Date Analyzed: 2011-02-14
Sample Preparation: 2011-02-14

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.68	mg/Kg	1	2.00	134	51.6 - 149.2
4-Bromofluorobenzene (4-BFB)		2.71	mg/Kg	1	2.00	136	35.7 - 159.6

Sample: 257280 - AH-8 0-1'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 77628
Prep Batch: 66550

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-02-15
Sample Preparation: 2011-02-14

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		3130	mg/Kg	100	4.00

Sample: 257280 - AH-8 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 77634
Prep Batch: 66584

Analytical Method: S 8015 D
Date Analyzed: 2011-02-15
Sample Preparation: 2011-02-15

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		83.5	mg/Kg	1	100	84	70 - 130

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Sample: 257280 - AH-8 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 77597
Prep Batch: 66561

Analytical Method: S 8015 D
Date Analyzed: 2011-02-14
Sample Preparation: 2011-02-14

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.57	mg/Kg	1	2.00	128	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.35	mg/Kg	1	2.00	118	22.2 - 160.2

Sample: 257281 - AH-8 1'-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 77628
Prep Batch: 66550

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-02-15
Sample Preparation: 2011-02-14

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1640	mg/Kg	100	4.00

Sample: 257282 - AH-8 2'-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 77628
Prep Batch: 66550

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-02-15
Sample Preparation: 2011-02-14

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		939	mg/Kg	50	4.00

Sample: 257283 - AH-8 3'-3.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 77628
Prep Batch: 66550

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-02-15
Sample Preparation: 2011-02-14

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

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Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		761	mg/Kg	50	4.00

Sample: 257284 - AH-8 3.5'-4'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 77628

Prep Batch: 66550

Analytical Method: SM 4500-Cl B

Date Analyzed: 2011-02-15

Sample Preparation: 2011-02-14

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		870	mg/Kg	50	4.00

Method Blank (1) QC Batch: 77597

QC Batch: 77597

Prep Batch: 66561

Date Analyzed: 2011-02-14

QC Preparation: 2011-02-14

Analyzed By: ME

Prepared By: ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.08	mg/Kg	1	2.00	104	74.6 - 127.8
4-Bromofluorobenzene (4-BFB)		1.89	mg/Kg	1	2.00	94	32.9 - 129.8

Method Blank (1) QC Batch: 77623

QC Batch: 77623

Prep Batch: 66550

Date Analyzed: 2011-02-15

QC Preparation: 2011-02-14

Analyzed By: AR

Prepared By: AR

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

Method Blank (1) QC Batch: 77625

QC Batch: 77625

Prep Batch: 66550

Date Analyzed: 2011-02-15

QC Preparation: 2011-02-14

Analyzed By: AR

Prepared By: AR

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

Method Blank (1) QC Batch: 77626

QC Batch: 77626 Date Analyzed: 2011-02-15 Analyzed By: AR
Prep Batch: 66550 QC Preparation: 2011-02-14 Prepared By: AR

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

Method Blank (1) QC Batch: 77627

QC Batch: 77627 Date Analyzed: 2011-02-15 Analyzed By: AR
Prep Batch: 66550 QC Preparation: 2011-02-14 Prepared By: AR

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

Method Blank (1) QC Batch: 77628

QC Batch: 77628 Date Analyzed: 2011-02-15 Analyzed By: AR
Prep Batch: 66550 QC Preparation: 2011-02-14 Prepared By: AR

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

Method Blank (1) QC Batch: 77633

QC Batch: 77633 Date Analyzed: 2011-02-15 Analyzed By: kg
Prep Batch: 66583 QC Preparation: 2011-02-15 Prepared By: kg

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

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		86.4	mg/Kg	1	100	86	70 - 130

Method Blank (1) QC Batch: 77634

QC Batch: 77634 Date Analyzed: 2011-02-15 Analyzed By: kg
Prep Batch: 66584 QC Preparation: 2011-02-15 Prepared By: kg

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

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

Method Blank (1) QC Batch: 77767

QC Batch: 77767 Date Analyzed: 2011-02-14 Analyzed By: ME
Prep Batch: 66561 QC Preparation: 2011-02-14 Prepared By: ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.15	mg/Kg	1	2.00	108	70.8 - 123.5
4-Bromofluorobenzene (4-BFB)		2.18	mg/Kg	1	2.00	109	48.8 - 134

Laboratory Control Spike (LCS-1)

QC Batch: 77597 Date Analyzed: 2011-02-14 Analyzed By: ME
Prep Batch: 66561 QC Preparation: 2011-02-14 Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	16.7	mg/Kg	1	20.0	<0.753	84	61.8 - 97

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	16.4	mg/Kg	1	20.0	<0.753	82	61.8 - 97	2	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.99	2.02	mg/Kg	1	2.00	100	101	74.6 - 124
4-Bromofluorobenzene (4-BFB)	1.94	1.97	mg/Kg	1	2.00	97	98	53.9 - 121.1

Laboratory Control Spike (LCS-1)

QC Batch: 77623
Prep Batch: 66550

Date Analyzed: 2011-02-15
QC Preparation: 2011-02-14

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.1	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	104	mg/Kg	1	100	<2.18	104	85 - 115	8	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: 77625
Prep Batch: 66550

Date Analyzed: 2011-02-15
QC Preparation: 2011-02-14

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.9	mg/Kg	1	100	<2.18	97	85 - 115

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 77626
Prep Batch: 66550

Date Analyzed: 2011-02-15
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Analyzed By: AR
Prepared By: AR

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	102	mg/Kg	1	100	<2.18	102	85 - 115	4	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: 77627
Prep Batch: 66550

Date Analyzed: 2011-02-15
QC Preparation: 2011-02-14

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.1	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	103	mg/Kg	1	100	<2.18	103	85 - 115	7	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 77628
Prep Batch: 66550

Date Analyzed: 2011-02-15
QC Preparation: 2011-02-14

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.4	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	102	mg/Kg	1	100	<2.18	102	85 - 115	6	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 77633
Prep Batch: 66583

Date Analyzed: 2011-02-15
QC Preparation: 2011-02-15

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	249	mg/Kg	1	250	<15.7	100	47.5 - 144.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	225	mg/Kg	1	250	<15.7	90	47.5 - 144.1	10	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	112	109	mg/Kg	1	100	112	109	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 77634
Prep Batch: 66584

Date Analyzed: 2011-02-15
QC Preparation: 2011-02-15

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	234	mg/Kg	1	250	<15.7	94	47.5 - 144.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	263	mg/Kg	1	250	<15.7	105	47.5 - 144.1	12	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	106	127	mg/Kg	1	100	106	127	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 77767
Prep Batch: 66561

Date Analyzed: 2011-02-14
QC Preparation: 2011-02-14

Analyzed By: ME
Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.05	mg/Kg	1	2.00	<0.0118	102	76.4 - 118.4
Toluene	2.05	mg/Kg	1	2.00	<0.00600	102	81.8 - 111.9
Ethylbenzene	2.06	mg/Kg	1	2.00	<0.00850	103	81.1 - 112.2
Xylene	6.19	mg/Kg	1	6.00	<0.00613	103	81.7 - 111.5

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

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Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.02	mg/Kg	1	2.00	<0.0118	101	76.4 - 118.4	2	20
Toluene	2.01	mg/Kg	1	2.00	<0.00600	100	81.8 - 111.9	2	20
Ethylbenzene	2.05	mg/Kg	1	2.00	<0.00850	102	81.1 - 112.2	0	20
Xylene	6.18	mg/Kg	1	6.00	<0.00613	103	81.7 - 111.5	0	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.20	2.12	mg/Kg	1	2.00	110	106	69 - 123.3
4-Bromofluorobenzene (4-BFB)	2.38	2.26	mg/Kg	1	2.00	119	113	64.9 - 131.9

Matrix Spike (MS-1) Spiked Sample: 257206

QC Batch: 77597
Prep Batch: 66561

Date Analyzed: 2011-02-14
QC Preparation: 2011-02-14

Analyzed By: ME
Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	22.3	mg/Kg	1	20.0	1.8232	102	63 - 108.5

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	20.2	mg/Kg	1	20.0	1.8232	92	63 - 108.5	10	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.58	2.56	mg/Kg	1	2	129	128	54.1 - 154.3
4-Bromofluorobenzene (4-BFB)	2.56	2.59	mg/Kg	1	2	128	130	41.9 - 162.8

Matrix Spike (MS-1) Spiked Sample: 257249

QC Batch: 77623
Prep Batch: 66550

Date Analyzed: 2011-02-15
QC Preparation: 2011-02-14

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	24800	mg/Kg	100	10000	15400	94	85 - 115

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

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Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	25900	mg/Kg	100	10000	15400	105	85 - 115	4	20

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

Matrix Spike (MS-1) Spiked Sample: 257259

QC Batch: 77625 Date Analyzed: 2011-02-15 Analyzed By: AR
Prep Batch: 66550 QC Preparation: 2011-02-14 Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10600	mg/Kg	100	10000	1090	95	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	11300	mg/Kg	100	10000	1090	102	85 - 115	6	20

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

Matrix Spike (MS-1) Spiked Sample: 257269

QC Batch: 77626 Date Analyzed: 2011-02-15 Analyzed By: AR
Prep Batch: 66550 QC Preparation: 2011-02-14 Prepared By: AR

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

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10400	mg/Kg	100	10000	<218	104	85 - 115	3	20

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

Matrix Spike (MS-1) Spiked Sample: 257279

QC Batch: 77627 Date Analyzed: 2011-02-15 Analyzed By: AR
Prep Batch: 66550 QC Preparation: 2011-02-14 Prepared By: AR

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matrix spikes continued ...

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10000	mg/Kg	100	10000	496	95	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10600	mg/Kg	100	10000	496	101	85 - 115	6	20

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

Matrix Spike (MS-1) Spiked Sample: 257289

QC Batch: 77628
Prep Batch: 66550

Date Analyzed: 2011-02-15
QC Preparation: 2011-02-14

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10700	mg/Kg	100	10000	504	102	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	11100	mg/Kg	100	10000	504	106	85 - 115	4	20

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

Matrix Spike (MS-1) Spiked Sample: 257259

QC Batch: 77633
Prep Batch: 66583

Date Analyzed: 2011-02-15
QC Preparation: 2011-02-15

Analyzed By: kg
Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	223	mg/Kg	1	250	<15.7	89	11.7 - 152.3

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	216	mg/Kg	1	250	<15.7	86	11.7 - 152.3	3	20

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

Report Date: February 22, 2011
114-6400814

Work Order: 11021117
COG/SRO SWD #101

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Eddy County, NM

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	97.8	97.0	mg/Kg	1	100	98	97	70 - 130

Matrix Spike (MS-1) Spiked Sample: 257280

QC Batch: 77634
Prep Batch: 66584

Date Analyzed: 2011-02-15
QC Preparation: 2011-02-15

Analyzed By: kg
Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	223	mg/Kg	1	250	<15.7	89	11.7 - 152.3

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	208	mg/Kg	1	250	<15.7	83	11.7 - 152.3	7	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	101	94.3	mg/Kg	1	100	101	94	70 - 130

Standard (CCV-1)

QC Batch: 77597

Date Analyzed: 2011-02-14

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	0.988	99	80 - 120	2011-02-14

Standard (CCV-2)

QC Batch: 77597

Date Analyzed: 2011-02-14

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	0.912	91	80 - 120	2011-02-14

Standard (CCV-3)

QC Batch: 77597

Date Analyzed: 2011-02-14

Analyzed By: ME

Report Date: February 22, 2011
114-6400814

Work Order: 11021117
COG/SRO SWD #101

Page Number: 31 of 34
Eddy County, NM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.10	110	80 - 120	2011-02-14

Standard (ICV-1)

QC Batch: 77623 Date Analyzed: 2011-02-15 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.1	99	85 - 115	2011-02-15

Standard (CCV-1)

QC Batch: 77623 Date Analyzed: 2011-02-15 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2011-02-15

Standard (ICV-1)

QC Batch: 77625 Date Analyzed: 2011-02-15 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2011-02-15

Standard (CCV-1)

QC Batch: 77625 Date Analyzed: 2011-02-15 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.1	99	85 - 115	2011-02-15

Standard (ICV-1)

QC Batch: 77626 Date Analyzed: 2011-02-15 Analyzed By: AR

Report Date: February 22, 2011
114-6400814

Work Order: 11021117
COG/SRO SWD #101

Page Number: 32 of 34
Eddy County, NM

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.2	99	85 - 115	2011-02-15

Standard (CCV-1)

QC Batch: 77626

Date Analyzed: 2011-02-15

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2011-02-15

Standard (ICV-1)

QC Batch: 77627

Date Analyzed: 2011-02-15

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.9	99	85 - 115	2011-02-15

Standard (CCV-1)

QC Batch: 77627

Date Analyzed: 2011-02-15

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2011-02-15

Standard (ICV-1)

QC Batch: 77628

Date Analyzed: 2011-02-15

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2011-02-15

Standard (CCV-1)

QC Batch: 77628

Date Analyzed: 2011-02-15

Analyzed By: AR

Report Date: February 22, 2011
114-6400814

Work Order: 11021117
COG/SRO SWD #101

Page Number: 33 of 34
Eddy County, NM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.2	99	85 - 115	2011-02-15

Standard (CCV-2)

QC Batch: 77633 Date Analyzed: 2011-02-15 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	224	90	80 - 120	2011-02-15

Standard (CCV-3)

QC Batch: 77633 Date Analyzed: 2011-02-15 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	228	91	80 - 120	2011-02-15

Standard (CCV-4)

QC Batch: 77633 Date Analyzed: 2011-02-15 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	232	93	80 - 120	2011-02-15

Standard (CCV-1)

QC Batch: 77634 Date Analyzed: 2011-02-15 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	243	97	80 - 120	2011-02-15

Standard (CCV-2)

QC Batch: 77634 Date Analyzed: 2011-02-15 Analyzed By: kg

Report Date: February 22, 2011
114-6400814

Work Order: 11021117
COG/SRO SWD #101

Page Number: 34 of 34
Eddy County, NM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	240	96	80 - 120	2011-02-15

Standard (CCV-1)

QC Batch: 77767

Date Analyzed: 2011-02-14

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	2011-02-14
Toluene		mg/Kg	0.100	0.0998	100	80 - 120	2011-02-14
Ethylbenzene		mg/Kg	0.100	0.0958	96	80 - 120	2011-02-14
Xylene		mg/Kg	0.300	0.291	97	80 - 120	2011-02-14

Standard (CCV-2)

QC Batch: 77767

Date Analyzed: 2011-02-14

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	0.101	101	80 - 120	2011-02-14
Toluene		mg/Kg	0.100	0.101	101	80 - 120	2011-02-14
Ethylbenzene		mg/Kg	0.100	0.101	101	80 - 120	2011-02-14
Xylene		mg/Kg	0.300	0.305	102	80 - 120	2011-02-14

Standard (CCV-3)

QC Batch: 77767

Date Analyzed: 2011-02-14

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	0.100	100	80 - 120	2011-02-14
Toluene		mg/Kg	0.100	0.0993	99	80 - 120	2011-02-14
Ethylbenzene		mg/Kg	0.100	0.102	102	80 - 120	2011-02-14
Xylene		mg/Kg	0.300	0.330	110	80 - 120	2011-02-14

W0# 11021117

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 4

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

CLIENT NAME:

COG

SITE MANAGER:

Ike Tovar

PROJECT NO.:

114-6406814

PROJECT NAME:

COG / GRO SUDS #101

LAB I.D.
NUMBERDATE
2/11

TIME

MATRIX

COMP

GRAB

 Edd. C. NM
 SAMPLE IDENTIFICATION

NUMBER OF CONTAINERS

FILTERED (Y/N)

HCL

HNO3

ICE

NONE

PRESERVATIVE
METHOD

BTEX 8015 MOD (Ext. to C95)

PAH 8270

PCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8260/824

GC/MS Semi. Vol. 8270/825

PCB's 8080/808

Pest. 808/808

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

257249

2/8

S

X

AH-1 0-1'

1

X

X

250

1'-1.5'

251

2'-2.5'

252

AH-2 0-1'

X

253

1'-1.5'

254

2'-2.5'

255

3'-3.5'

256

4'-4.5'

257

5'-5.5'

258

6'-6.5'

RELINQUISHED BY: (Signature)

Date: 2/11/11

Time: 1410

RECEIVED BY: (Signature)

Date: _____

Time: _____

SAMPLED BY: (Print & Initial)

JT/TF

Date: 2/8/11

Time: _____

RELINQUISHED BY: (Signature)

Date: _____

Time: _____

RECEIVED BY: (Signature)

Date: _____

Time: _____

SAMPLE SHIPPED BY: (Circle)

FEDEX BUS

AIRBILL #: _____

RELINQUISHED BY: (Signature)

Date: _____

Time: _____

RECEIVED BY: (Signature)

Date: _____

Time: _____

TETRA TECH CONTACT PERSON:

Ike Tovar

Results by:

RUSH Charges

Authorized:

Yes No

RECEIVING LABORATORY:

ADDRESS:

CITY:

CONTACT:

Tetra

Midland

STATE:

PHONE:

ZIP:

DATE:

TIME:

RECEIVED BY: (Signature)

DATE:

TIME:

SAMPLE CONDITION WHEN RECEIVED:

REMARKS:

10.1°C intact

W0#11021117

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

 ANALYSIS REQUEST
 (Circle or Specify Method No.)

CLIENT NAME:

COG

SITE MANAGER:

IKT Tavaraz

PROJECT NO.:

114-L400814

PROJECT NAME:

COG/ BRO SWA # 101

LAB I.D.
NUMBERDATE
2011

TIME

MATRIX
COMP
GRAB

Eddy Co, NM

SAMPLE IDENTIFICATION

NUMBER OF CONTAINERS

FILTERED (Y/N)

HCL

HNO3

ICE

NONE

PRESERVATIVE
METHOD

BTEX 8021B

TPH 8015 MOD

PAH 8270

PCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

PCI

GC/MS Vol. 8240/8260/624

GC/MS Semi. Vol. 8270/625

PCB's 8080/808

Pest. 809/608

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

257259

2/8

S

X

AH-3 0-1'

1

X

260

AH-3 1-1.5'

261

AH-3 2-2.5'

262

AH-3 3-3.5'

263

AH-3 4-4.5'

264

AH-3 5-5.5'

265

AH-4 0-1'

266

AH-4 1-1.5'

267

AH-4 2-2.5'

268

AH-4 3-3.5'

WD# 1102117

Analysis Request of Chain of Custody Record

PAGE: 3 OF: 4

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

 ANALYSIS REQUEST
 (Circle or Specify Method No.)

CLIENT NAME:

COG

SITE MANAGER:

Ike Tavaraz

PROJECT NO.:

114-6400814

PROJECT NAME:

COG / 520 Sub #101

LAB I.D.
NUMBER

DATE

TIME

MATRIX

COMP

GRAB

Eddy Co., NM

SAMPLE IDENTIFICATION

NUMBER OF CONTAINERS

FILTERED (Y/N)

HCL

HNO3

ICE

NONE

PRESERVATIVE
METHOD
 BTX 8021B
 TPH 8015 MOD
 PAH 8270

RCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8260/824

GC/MS Semi. Vol. 8270/825

PCB's 8080/608

Pest. 808/608

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

257269

2/8

S

X

AH-4

4'-4.5'

1

X

270

AH-4

5'-5.5'

271

AH-5

0-1'

272

AH-5

1'-1.5'

273

AH-5

1.5-2'

274

AH-6

0-1'

275

AH-6

1'-1.5'

276

AH-7

0-1'

277

AH-7

1'-1.5'

278

AH-7

2'-2.5'

W0# 11021117

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

 ANALYSIS REQUEST
 (Circle or Specify Method No.)

CLIENT NAME:

COG

SITE MANAGER:

Ike Tavaraz

PROJECT NO.:

1146400814

PROJECT NAME:

COG / SRO SWD # 101

Fddly C. NM

SAMPLE IDENTIFICATION

LAB I.D.
NUMBERDATE
2011

TIME

MATRIX

COMF

GRAB

NUMBER OF CONTAINERS

FILTERED (Y/N)

HCL

HNO3

ICE

NONE

PRESERVATIVE
METHODBTEX 8024B
C1P1 8015 MODY TX1005 (Ext. to C35)

PAH 8270

RCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8260/824

GC/MS Semi. Vol. 8270/825

PCB's 8080/808

Pest. 808/808

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

257279

2/8

S

X

AH-7 3'-3.5'

1

X

X

X

280

AH-8 0-1'

281

AH-8 1'-1.5'

282

AH-8 2'-2.5'

283

AH-8 3'-3.5'

284

AH-8 3.5'-4'

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

SAMPLED BY: (Print & Initial)

Date:

Time:

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

SAMPLE SHIPPED BY: (Circle)

AIRBILL #:

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

TETRA TECH CONTACT PERSON:

Results by:

RECEIVING LABORATORY:

ADDRESS:

CITY: Midland

STATE: TX

ZIP:

CONTACT:

PHONE:

RECEIVED BY: (Signature)

DATE: 2-11-11

TIME: 14:10

Ike Tavaraz

RUSH Charges

Authorized:

Yes

No

SAMPLE CONDITION WHEN RECEIVED:

REMARKS:

10.1°C intact

If total TPH exceeds 100 mg/kg, run deeper samples / Run BTEX on 5 highest TPH. If Benzene exceeds 10 mg/kg or BTEX exceeds 50 mg/kg run deeper samples

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

Summary Report

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

Report Date: October 4, 2011

Work Order: 11092216



Project Location: Eddy Co., NM
Project Name: COG/SRO SWD #101
Project Number: 114-6400814

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
278049	BG 1' Background Trench	soil	2011-09-19	00:00	2011-09-22
278050	BG 2' Background Trench	soil	2011-09-19	00:00	2011-09-22
278051	BG 3' Background Trench	soil	2011-09-19	00:00	2011-09-22
278052	BG 4' Background Trench	soil	2011-09-19	00:00	2011-09-22
278053	BG 5' Background Trench	soil	2011-09-19	00:00	2011-09-22
278054	BG 7' Background Trench	soil	2011-09-19	00:00	2011-09-22
278055	T1-5' Spill 1 @ AH-1	soil	2011-09-19	00:00	2011-09-22
278056	T1-7' Spill 1 @ AH-1	soil	2011-09-19	00:00	2011-09-22
278057	T1-9' Spill 1 @ AH-1	soil	2011-09-19	00:00	2011-09-22
278058	T1-11' Spill 1 @ AH-1	soil	2011-09-19	00:00	2011-09-22
278059	T2-5' Spill 1 @ AH-8	soil	2011-09-19	00:00	2011-09-22
278060	T1-3' Spill 2 @ AH-4	soil	2011-09-19	00:00	2011-09-22
278061	T2-3' Spill 2 @ AH-5	soil	2011-09-19	00:00	2011-09-22
278062	T3-3' Spill 2 @ AH-6	soil	2011-09-19	00:00	2011-09-22

Sample: 278049 - BG 1' Background Trench

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4

Sample: 278050 - BG 2' Background Trench

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4

Sample: 278051 - BG 3' Background Trench

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4

Sample: 278052 - BG 4' Background Trench

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4

Sample: 278053 - BG 5' Background Trench

Param	Flag	Result	Units	RL
Chloride		1510	mg/Kg	4

Sample: 278054 - BG 7' Background Trench

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4

Sample: 278055 - T1-5' Spill 1 @ AH-1

Param	Flag	Result	Units	RL
Chloride		1270	mg/Kg	4

Sample: 278056 - T1-7' Spill 1 @ AH-1

Param	Flag	Result	Units	RL
Chloride		1150	mg/Kg	4

Sample: 278057 - T1-9' Spill 1 @ AH-1

Param	Flag	Result	Units	RL
Chloride		1420	mg/Kg	4

Sample: 278058 - T1-11' Spill 1 @ AH-1

Param	Flag	Result	Units	RL
Chloride		1760	mg/Kg	4

Sample: 278059 - T2-5' Spill 1 @ AH-8

Param	Flag	Result	Units	RL
Chloride		663	mg/Kg	4

Sample: 278060 - T1-3' Spill 2 @ AH-4

Param	Flag	Result	Units	RL
Chloride		427	mg/Kg	4

Sample: 278061 - T2-3' Spill 2 @ AH-5

Param	Flag	Result	Units	RL
Chloride		1600	mg/Kg	4

Sample: 278062 - T3-3' Spill 2 @ AH-6

Param	Flag	Result	Units	RL
Chloride		1480	mg/Kg	4



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

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: October 4, 2011

Work Order: 11092216



Project Location: Eddy Co., NM
Project Name: COG/SRO SWD #101
Project Number: 114-6400814

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
278049	BG 1' Background Trench	soil	2011-09-19	00:00	2011-09-22
278050	BG 2' Background Trench	soil	2011-09-19	00:00	2011-09-22
278051	BG 3' Background Trench	soil	2011-09-19	00:00	2011-09-22
278052	BG 4' Background Trench	soil	2011-09-19	00:00	2011-09-22
278053	BG 5' Background Trench	soil	2011-09-19	00:00	2011-09-22
278054	BG 7' Background Trench	soil	2011-09-19	00:00	2011-09-22
278055	T1-5' Spill 1 @ AH-1	soil	2011-09-19	00:00	2011-09-22
278056	T1-7' Spill 1 @ AH-1	soil	2011-09-19	00:00	2011-09-22
278057	T1-9' Spill 1 @ AH-1	soil	2011-09-19	00:00	2011-09-22
278058	T1-11' Spill 1 @ AH-1	soil	2011-09-19	00:00	2011-09-22
278059	T2-5' Spill 1 @ AH-8	soil	2011-09-19	00:00	2011-09-22
278060	T1-3' Spill 2 @ AH-4	soil	2011-09-19	00:00	2011-09-22
278061	T2-3' Spill 2 @ AH-5	soil	2011-09-19	00:00	2011-09-22
278062	T3-3' Spill 2 @ AH-6	soil	2011-09-19	00:00	2011-09-22

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

A handwritten signature in black ink that reads "Michael Abel". The signature is written in a cursive style with a large, stylized 'M' and 'A'.

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

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Case Narrative

Samples for project COG/SRO SWD #101 were received by TraceAnalysis, Inc. on 2011-09-22 and assigned to work order 11092216. Samples for work order 11092216 were received intact at a temperature of 1.0 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	72245	2011-09-27 at 10:20	85170	2011-09-29 at 15:16
Chloride (Titration)	SM 4500-Cl B	72245	2011-09-27 at 10:20	85171	2011-09-29 at 15:16

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 11092216 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Report Date: October 4, 2011
114-6400814

Work Order: 11092216
COG/SRO SWD #101

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Eddy Co., NM

Analytical Report

Sample: 278049 - BG 1' Background Trench

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-09-29	Analyzed By:	AR
QC Batch:	85170	Sample Preparation:	2011-09-28	Prepared By:	AR
Prep Batch:	72245				

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

Sample: 278050 - BG 2' Background Trench

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-09-29	Analyzed By:	AR
QC Batch:	85170	Sample Preparation:	2011-09-28	Prepared By:	AR
Prep Batch:	72245				

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

Sample: 278051 - BG 3' Background Trench

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-09-29	Analyzed By:	AR
QC Batch:	85170	Sample Preparation:	2011-09-28	Prepared By:	AR
Prep Batch:	72245				

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

Report Date: October 4, 2011
114-6400814

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Eddy Co., NM

Sample: 278052 - BG 4' Background Trench

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 85170 Date Analyzed: 2011-09-29 Analyzed By: AR
Prep Batch: 72245 Sample Preparation: 2011-09-28 Prepared By: AR

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

Sample: 278053 - BG 5' Background Trench

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 85170 Date Analyzed: 2011-09-29 Analyzed By: AR
Prep Batch: 72245 Sample Preparation: 2011-09-28 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1510	mg/Kg	100	4.00

Sample: 278054 - BG 7' Background Trench

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 85170 Date Analyzed: 2011-09-29 Analyzed By: AR
Prep Batch: 72245 Sample Preparation: 2011-09-28 Prepared By: AR

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

Sample: 278055 - T1-5' Spill 1 @ AH-1

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 85170 Date Analyzed: 2011-09-29 Analyzed By: AR
Prep Batch: 72245 Sample Preparation: 2011-09-28 Prepared By: AR

Report Date: October 4, 2011
114-G400814

Work Order: 11092216
COG/SRO SWD #101

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1270	mg/Kg	100	4.00

Sample: 278056 - T1-7' Spill 1 @ AH-1

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 85170 Date Analyzed: 2011-09-29 Analyzed By: AR
Prep Batch: 72245 Sample Preparation: 2011-09-28 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1150	mg/Kg	100	4.00

Sample: 278057 - T1-9' Spill 1 @ AH-1

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 85170 Date Analyzed: 2011-09-29 Analyzed By: AR
Prep Batch: 72245 Sample Preparation: 2011-09-28 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1420	mg/Kg	100	4.00

Sample: 278058 - T1-11' Spill 1 @ AH-1

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 85170 Date Analyzed: 2011-09-29 Analyzed By: AR
Prep Batch: 72245 Sample Preparation: 2011-09-28 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1760	mg/Kg	100	4.00

Report Date: October 4, 2011
114-6400814

Work Order: 11092216
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Eddy Co., NM

Sample: 278059 - T2-5' Spill 1 @ AH-8

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-09-29	Analyzed By:	AR
QC Batch:	85171	Sample Preparation:	2011-09-28	Prepared By:	AR
Prep Batch:	72245				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			663	mg/Kg	50	4.00

Sample: 278060 - T1-3' Spill 2 @ AH-4

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-09-29	Analyzed By:	AR
QC Batch:	85171	Sample Preparation:	2011-09-28	Prepared By:	AR
Prep Batch:	72245				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			427	mg/Kg	50	4.00

Sample: 278061 - T2-3' Spill 2 @ AH-5

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-09-29	Analyzed By:	AR
QC Batch:	85171	Sample Preparation:	2011-09-28	Prepared By:	AR
Prep Batch:	72245				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1600	mg/Kg	100	4.00

Sample: 278062 - T3-3' Spill 2 @ AH-6

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-09-29	Analyzed By:	AR
QC Batch:	85171	Sample Preparation:	2011-09-28	Prepared By:	AR
Prep Batch:	72245				

Report Date: October 4, 2011
114-6400814

Work Order: 11092216
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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1480	mg/Kg	100	4.00

Report Date: October 4, 2011
114-6400814

Work Order: 11092216
COG/SRO SWD #101

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Method Blanks

Method Blank (1) QC Batch: 85170

QC Batch: 85170
Prep Batch: 72245

Date Analyzed: 2011-09-29
QC Preparation: 2011-09-27

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 85171

QC Batch: 85171
Prep Batch: 72245

Date Analyzed: 2011-09-29
QC Preparation: 2011-09-27

Analyzed By: AR
Prepared By: AR

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

Report Date: October 4, 2011
114-6400814

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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 85170
Prep Batch: 72245

Date Analyzed: 2011-09-29
QC Preparation: 2011-09-27

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			96.0	mg/Kg	1	100	<3.85	96	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			105	mg/Kg	1	100	<3.85	105	85 - 115	9	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: 85171
Prep Batch: 72245

Date Analyzed: 2011-09-29
QC Preparation: 2011-09-27

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			95.9	mg/Kg	1	100	<3.85	96	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			104	mg/Kg	1	100	<3.85	104	85 - 115	8	20

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

Matrix Spike (MS-1) Spiked Sample: 278058

QC Batch: 85170
Prep Batch: 72245

Date Analyzed: 2011-09-29
QC Preparation: 2011-09-27

Analyzed By: AR
Prepared By: AR

Report Date: October 4, 2011
114-6400814

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Eddy Co., NM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			11500	mg/Kg	100	10000	1760	97	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			12000	mg/Kg	100	10000	1760	102	79.4 - 120.6	4	20

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

Matrix Spike (MS-1) Spiked Sample: 278068

QC Batch: 85171
Prep Batch: 72245

Date Analyzed: 2011-09-29
QC Preparation: 2011-09-27

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10200	mg/Kg	100	10000	<385	102	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			10700	mg/Kg	100	10000	<385	107	79.4 - 120.6	5	20

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

Report Date: October 4, 2011
114-6400814

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Eddy Co., NM

Calibration Standards

Standard (ICV-1)

QC Batch: 85170

Date Analyzed: 2011-09-29

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	98.1	98	85 - 115	2011-09-29

Standard (CCV-1)

QC Batch: 85170

Date Analyzed: 2011-09-29

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	102	102	85 - 115	2011-09-29

Standard (ICV-1)

QC Batch: 85171

Date Analyzed: 2011-09-29

Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	102	102	85 - 115	2011-09-29

Standard (CCV-1)

QC Batch: 85171

Date Analyzed: 2011-09-29

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	97.8	98	85 - 115	2011-09-29

Appendix

Laboratory Certifications

	Certifying	Certification	Laboratory
C	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis

Standard Flags

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

Attachments

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

W0#11092216

Analysis Request of Chain of Custody Record

PAGE: 1

OF: 2

**TETRA TECH**

1910 N. Big Spring St.

Midland, Texas 79705

(432) 682-4559 • Fax (432) 682-3946

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:

COG

SITE MANAGER:

IKE TAVAREZ

PROJECT NO.:

114-6400814

PROJECT NAME:

SRD SWD #101

LAB I.D.
NUMBER

DATE

TIME

MATRIX

COMP

GRAB

278049

9/19/11

S

X

BG 1'

BACKGROUND TRENCH

050

9/19/11

S

X

BG 2'

BACKGROUND TRENCH

051

9/19/11

S

X

BG 3'

BACKGROUND TRENCH

052

9/19/11

S

X

BG 4'

BACKGROUND TRENCH

053

9/19/11

S

X

BG 5'

BACKGROUND TRENCH

054

9/19/11

S

X

BG 7'

BACKGROUND TRENCH

055

9/19/11

S

X

T1-5'

SPILL 1 @ AH-1

W0#11092216

Analysis Request of Chain of Custody Record

PAGE: 8 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.:

114-6400814

PROJECT NAME:

SRO SWD #101

LAB I.D.
NUMBER

DATE

TIME

MATRIX

COMP

GRAB

 Edley Cu LHM
 SAMPLE IDENTIFICATION

 NUMBER OF CONTAINERS
 FILTERED (Y/N)
PRESERVATIVE
METHOD

HCL

HNO3

ICE

NONE

BTX 8021B

TPH 8015 MOD. TX1005 (Ext. to C35)

PAH 8270

RCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8260/824

GC/MS Semi. Vol. 8270/625

PCB's 8080/608

Pest. 808/608

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

RELINQUISHED BY: (Signature)

Date:

RECEIVED BY: (Signature)

Date:

SAMPLED BY: (Print & Initial)

Date:

RELINQUISHED BY: (Signature)

Date:

RECEIVED BY: (Signature)

Date:

SAMPLE SHIPPED BY: (Circle)

AIRBILL #:

RELINQUISHED BY: (Signature)

Date:

RECEIVED BY: (Signature)

Date:

TETRA TECH CONTACT PERSON:

OTHER:

RECEIVING LABORATORY:

ADDRESS:

CITY:

STATE:

ZIP:

CONTACT:

PHONE:

RECEIVED BY: (Signature)

DATE:

TIME:

IKE TAVAREZ

Results by:

RUSH Charges

Authorized:

Yes No

SAMPLE CONDITION WHEN RECEIVED:

REMARKS: