

SITE INFORMATION

Report Type: Closure Report

General Site Information:

Site:	SRO SWD #104				
Company:	COG Operating LLC				
Section, Township and Range	Unit F	Sec 10	T26S	R28E	
Lease Number:	API-30-015-25864				
County:	Eddy County				
GPS:	32.05869° N			104.07691° W	
Surface Owner:	State				
Mineral Owner:					
Directions:	South of Malaga at the intersection of Hwy 285 and CR 274 (White City Rd.) travel west on CR 274 for 0.6 miles, turn left and travel 0.1 miles to the site.				

Release Data:

	1st Spill	2nd Spill
Date Released:	2/6/2013	2/26/2013
Type Release:	Produced Water	Oil and Produced Water
Source of Contamination:	Victaulic Clamp	4" Load Line Collar
Fluid Released:	700 bbls	200 bbls
Fluids Recovered:	650 bbls	190 bbls

Official Communication:

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

Ranking Criteria

Depth to Groundwater:	Ranking Score	Site Data
<50 ft	20	
50-99 ft	10	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:	10	

Acceptable Soil RRAL (mg/kg)		
Benzene	Total BTEX	TPH
10	50	1,000



TETRA TECH

July 15, 2013

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

Re: Closure Report for the COG Operating LLC., SRO SWD #104, Unit F, Section 10, 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 a spill from the SRO SWD #104 located in Unit F, Section 10, Township 26 South, Range 28 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.05869°, W 104.07691°. The site location is shown on Figures 1 and 2.

Background

1st Spill

According to the State of New Mexico C-141 Initial Report, the leak was discovered on February 6, 2013, and released approximately seven hundred (700) barrels of produced water from a clamp on the inlet header. To alleviate the problem, COG personnel replaced the header. Six hundred fifty (650) barrels of standing fluids were recovered. The spill initiated inside a lined facility and breached the firewall migrating south and southwest into the pasture measuring approximately 85' to 110' wide and 240' long. The initial C-141 form is enclosed in Appendix A.

2nd Spill

According to the State of New Mexico C-141 Initial Report, the leak was discovered on February 26, 2013, and released approximately two hundred (200) barrels of produced fluid from the 4" load line collar. To alleviate the problem, COG personnel replaced the load line collar. One hundred ninety (190) barrels of standing fluids were recovered. The spill initiated inside a lined facility and breached the fire wall migrating south and southwest into the pasture measuring

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com



approximately 85' to 110' wide and 240' long. The initial C-141 form is enclosed in Appendix A.

Hydrogeology and Groundwater

According to the Geology and Groundwater Resources of Eddy County, New Mexico (Report 3), the Rustler and Castile formation (Ochoa Series) is present west and east of the Pecos River. The Salado formation overlies the Castile formation east of the Pecos River and was removed by solution west of the river. The Rustler and Castile formations consist of anhydrite, gypsum, interbedded sandy clay and beds of dolomite. Groundwater from the Castile and Rustler formations west of the Pecos River is historically high in chloride and sulfate concentrations which increase towards the river.

According to the USGS, no water wells are listed in Section 10. One water well is reported in Section 18, with a depth to groundwater of 25' bgs. According to the NMOCD groundwater map the reported depth to groundwater in this area is approximately 80.0' below surface. The groundwater data is shown in Appendix B.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 1,000 mg/kg.

Soil Assessment and Analytical Results

On March 13, 2013, Tetra Tech personnel inspected and sampled the spill area. Twelve (12) auger holes (AH-1 through AH-12) were installed using a stainless steel hand auger to assess the impacted soils. AH-8 through AH-12, were installed in a reserve pit in order to assess the hydrocarbon impact to the surface soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3.



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Referring to Table 1, none of the samples in the spill footprint exceeded the TPH or BTEX RRAL. Elevated chloride concentrations were detected in all of the auger holes. In the areas of AH-1 through AH-5 the chloride highs were at a depth of 1.0' with concentrations of 4,470 mg/kg, 2,040 mg/kg, 6,570 mg/kg, 1,080 mg/kg and 2,620 mg/kg, respectively. The chlorides in AH-1 through AH-5 declined at a depth of 1.5' below surface and were vertically defined. The areas of AH-6 and AH-7 were not vertically defined.

The area of AH-3 did show elevated chloride levels at a depth of 2.0' to 2.5' below surface. Referring to Table 1, background samples were collected at the SRO 102 SWD in Unit G, Section 16, T26S, R28E in Eddy Co. New Mexico. The background samples were found to increase with depth and contain higher concentrations. This area is historically high in chloride and sulfate concentrations.

Site Remediation and Conclusion

On May 7, 2013, Tetra Tech personnel supervised the excavation of the impacted soils. Two trenches (CS-1 and CS-2) were installed in the areas of AH-6 and AH-7 to further delineate the vertical extent of the chloride release. The sampling results are summarized in Table 1. Referring to Table 1, the confirmation trench samples not show any chloride impacts below 4.0' below surface.

In order to remove the chloride impacts, the excavation depths ranged from 1.0' to 4.5' below surface. The excavated areas and depths are highlighted in Table 1 and shown on Figure 4. Confirmation samples were collected in the bottom of the AH-6 and AH-7 excavations and did not show chloride increasing chloride impacts. Approximately 970 cubic yards³ of soil were removed and transported to R360 facility for proper disposal. The site was then backfilled with clean material to surface grade, ripped and seeded.

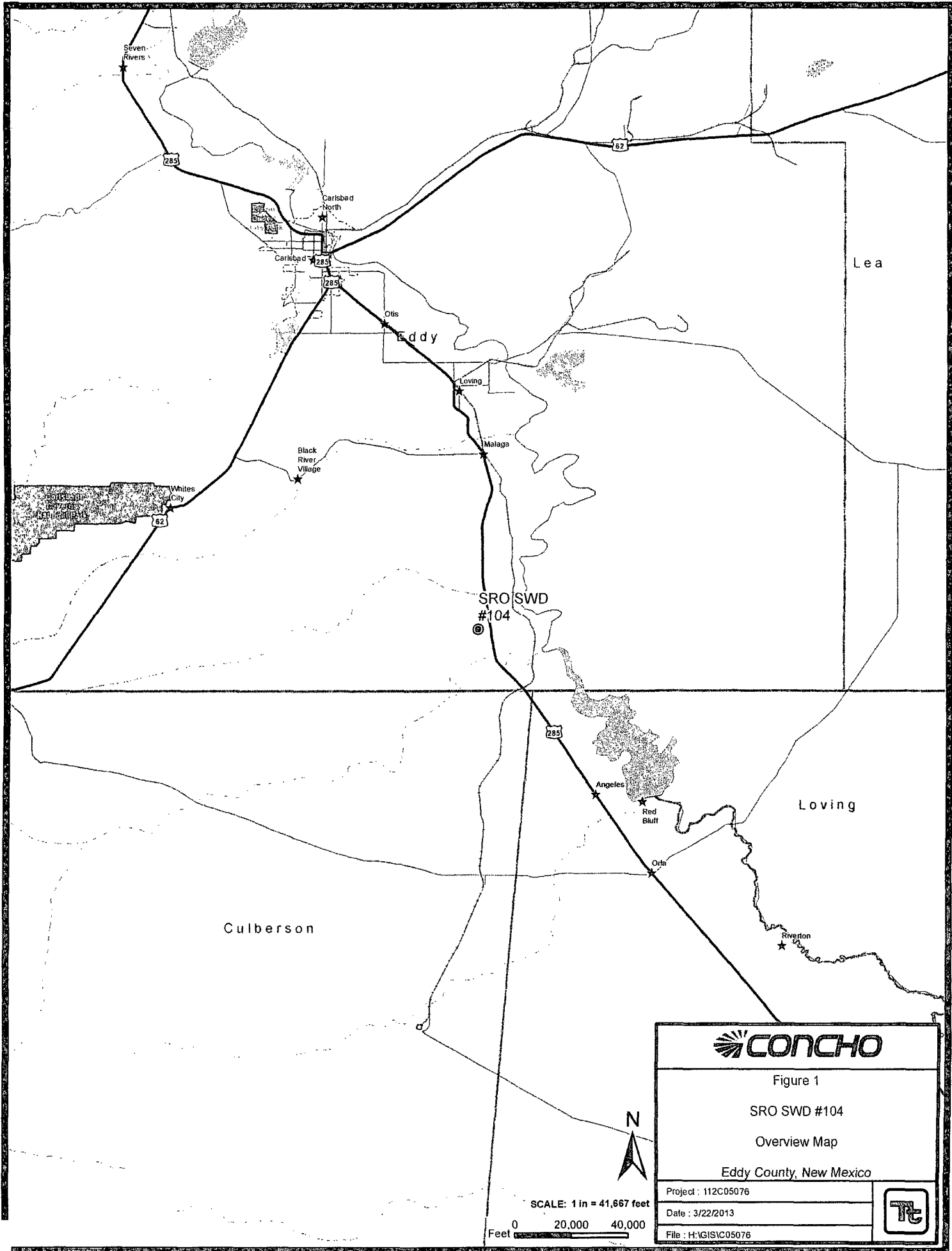
Based on the remediation activities performed at this location, COG requests closure for this site. The C-141 (Final) is included in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities performed at the site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH



Ike Tavarez
Senior Project Manager

FIGURES



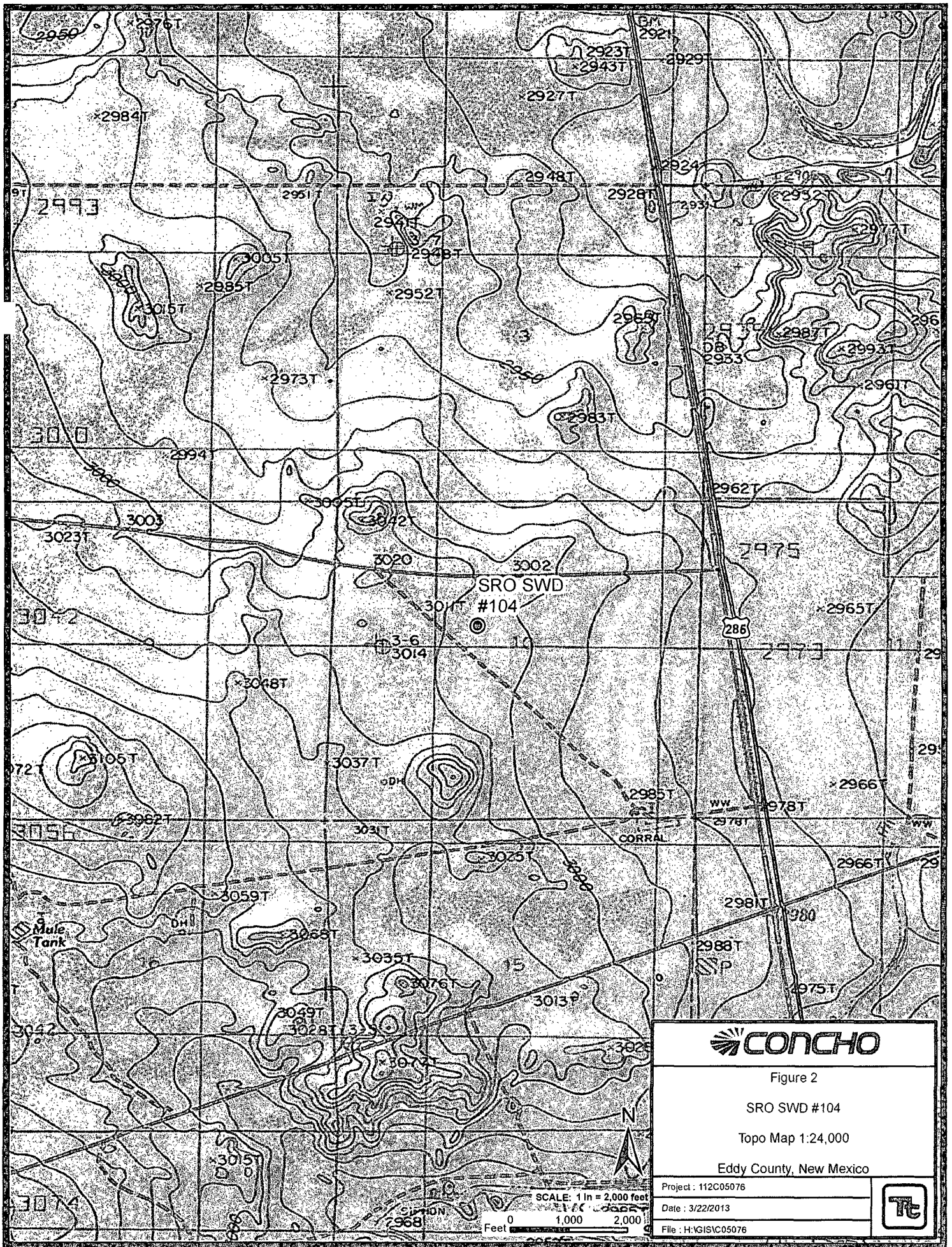


Figure 2

SRO SWD #104

Topo Map 1:24,000

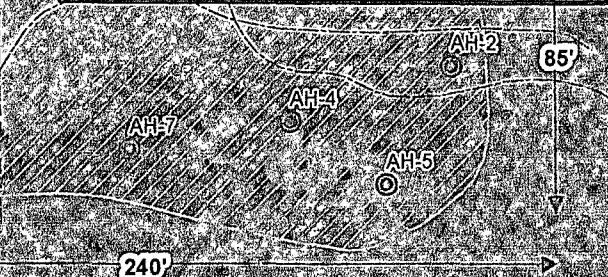
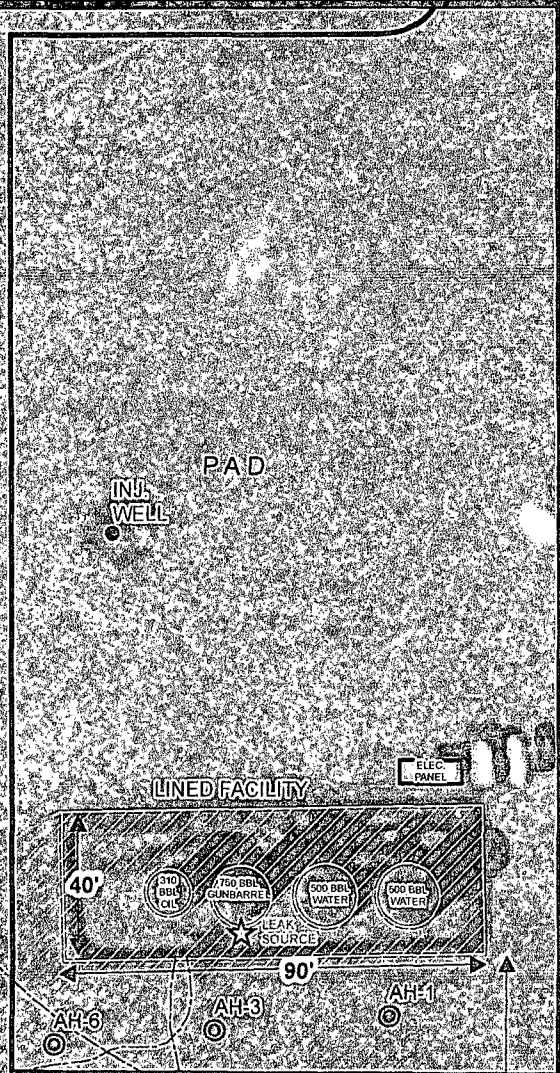
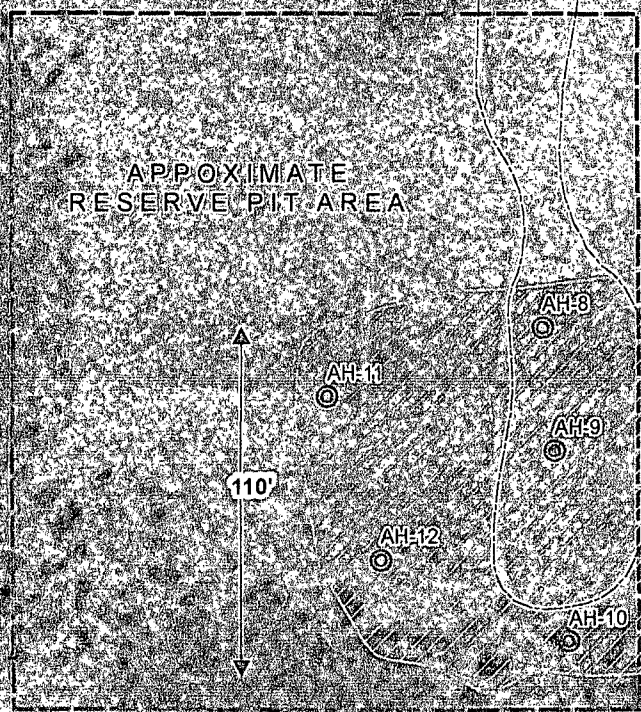
Eddy County, New Mexico

Project : 112C05076

Date : 3/22/2013

File : H:\GIS\C05076





BG-1

EXPLANATION

- ⊙ AUGER HOLE SAMPLE LOCATIONS
- ⊙ BACKGROUND SAMPLE LOCATION
- ★ LEAK SOURCE
- ▨ SPILL AREAS



SCALE: 1"IN = 60 FEET
0 20 40
Feet



Figure 3

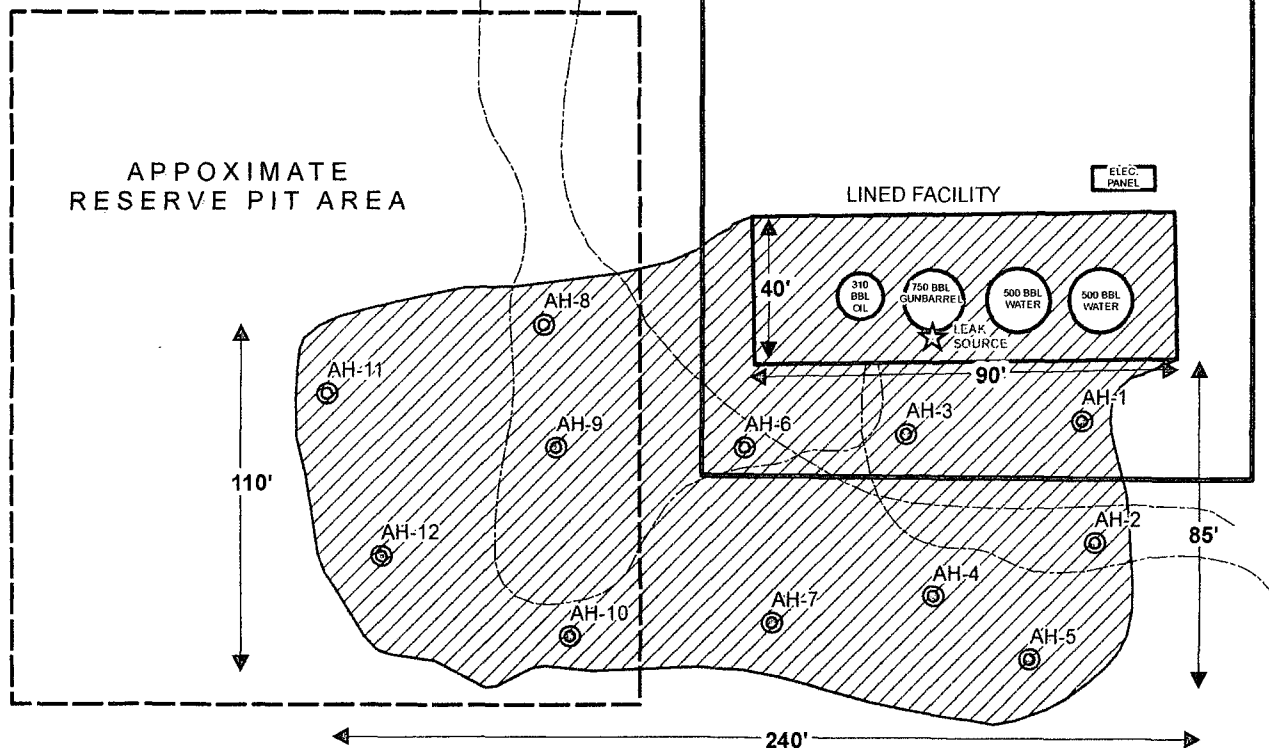
SRO SWD 104

Spill Assessment Map

Eddy County, New Mexico

Project : 112C05076
Date : 3/22/2013
File : H:\GIS\VC05076





EXPLANATION

- ⊙ AUGER HOLE SAMPLE LOCATIONS
- ⊙ BACKGROUND SAMPLE LOCATION
- ★ LEAK SOURCE
- ▨ SPILL AREAS

SCALE: 1 IN = 60 FEET

Feet 0 20 40



Figure 3

SRO SWD 104

Spill Assessment Map

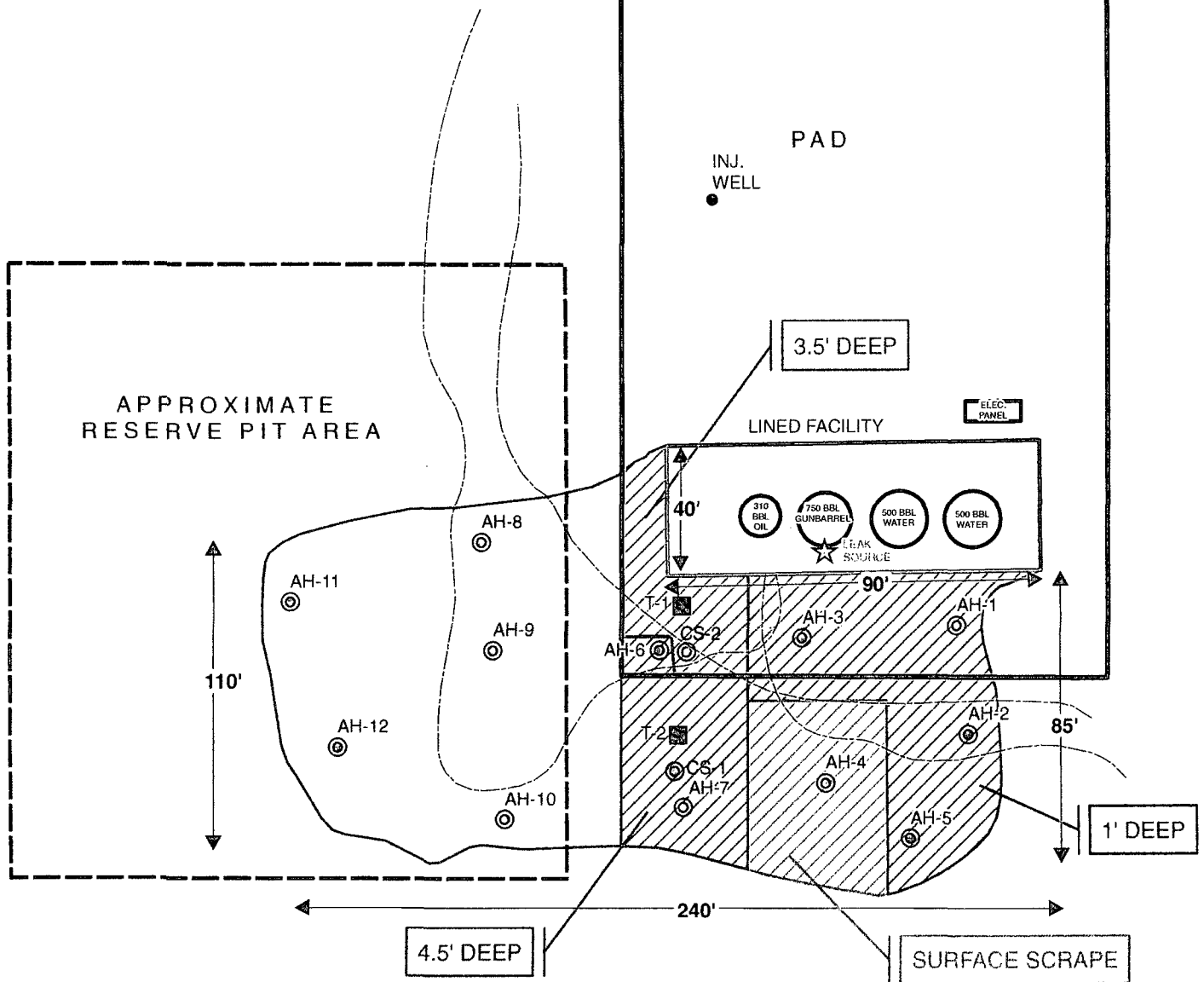
Eddy County, New Mexico

Project : 112C05076

Date : 3/22/2013

File : H:\GIS\IC05076





LEGEND

- ⊙ AUGER HOLE SAMPLE LOCATIONS
- ⊙ BACKGROUND SAMPLE LOCATION
- ☆ LEAK SOURCE
- ⊙ CONFORMATION SAMPLE LOCATIONS
- TRENCH

EXCAVATION AREAS

SCALE: 1 IN = 50 FEET

Feet 0 20 40



Figure 4

SRO SWD 104

Excavation Areas & Depths Map

Eddy County, New Mexico

Project : 112C05076

Date : 4/30/2013

File : H:\GISVC05076

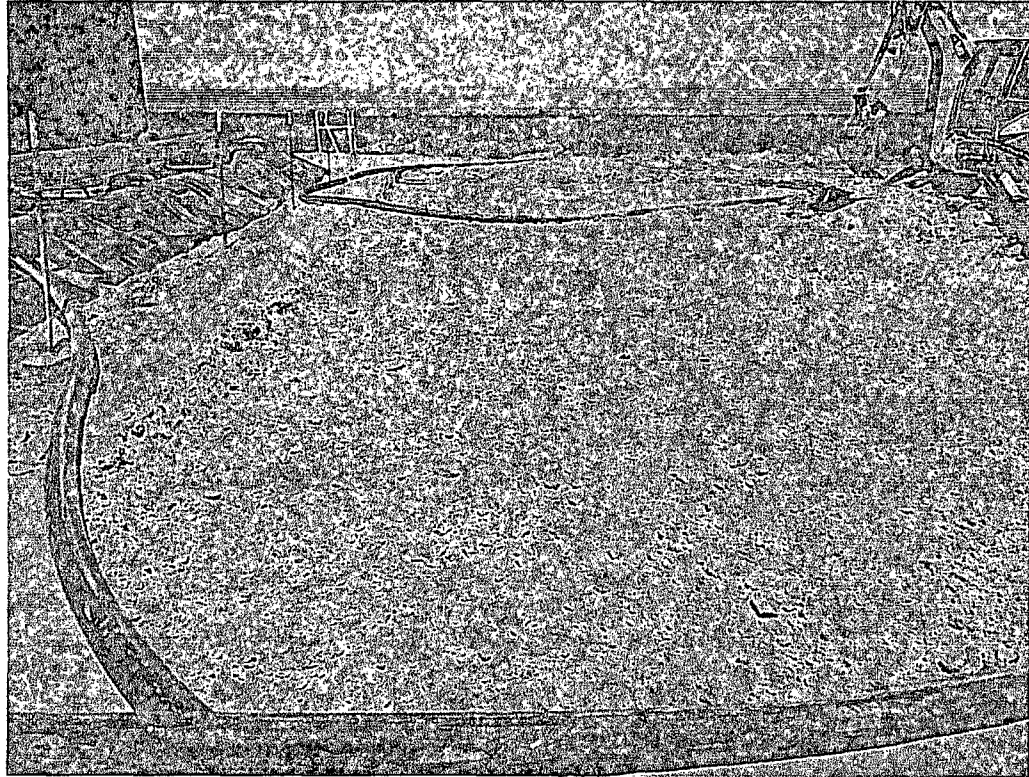


PHOTOGRAPHS

COG Operating LLC
SRO SWD #104
Eddy County, New Mexico



TETRA TECH



View East – Area of AH-1, AH-2, AH-3 and AH-5.



View Southeast – Area of AH-6.

COG Operating LLC
SRO SWD #104
Eddy County, New Mexico



TETRA TECH



View Southeast – Backfill

TABLES

Eddy County, New Mexico

[illegible]

Eddy County, New Mexico

[illegible]

Table 1
COG Operating LLC.
SRO Salt Water Disposal #104
Eddy County, New Mexico

Sample ID	Sample Date	BEB Sample Depth (ft)	Excavation Bottom Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
Reserve Pit Area														
AH-8	3/14/2013	0-1	0	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	-
AH-9	3/14/2013	0-1	0	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	-
AH-10	3/14/2013	0-1	0	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	-
AH-11	3/14/2013	0-1	0	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	-
AH-12	3/14/2013	0-1	0	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	-
Background	3/14/2013	0-1	0	X		-	-	-	-	-	-	-	-	<20.0
	"	1-1.5	"	X		-	-	-	-	-	-	-	-	<20.0
	"	2-2.5	"	X		-	-	-	-	-	-	-	-	<20.0
	"	3-3.5	"	X		-	-	-	-	-	-	-	-	79.1

(-) Not Analyzed

(BEB) Below Excavation Bottom

 Excavation Depths

APPENDIX A

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	600 West Illinois Avenue, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	SRO SWD #104	Facility Type	SWD
Surface Owner	State	Mineral Owner	Lease No. (API#) 30-015-25864

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	10	26S	28E					Eddy

Latitude 32 03.534 Longitude 104 04.612

NATURE OF RELEASE

Type of Release	Produced water	Volume of Release	700bbls	Volume Recovered	650bbls
Source of Release	Victaulic clamp on header	Date and Hour of Occurrence	02/06/2013	Date and Hour of Discovery	02/06/2013 11:30 p.m.
Was Immediate Notice Given?	☒ Yes ☐ No ☐ Not Required	If YES, To Whom?	Mike Bratcher-OCD		
By Whom?	Michelle Mullins	Date and Hour	02/07/2013 8:05 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 clamp failed on the inlet header inside the facility. The inlet header has been replaced with new components that are coated and lined.

Describe Area Affected and Cleanup Action Taken.*

Initially 700bbls were released from the header and we were able to recover 650bbls with vacuum trucks. The release occurred inside the lined facility. The majority of the release was contained inside the walls of the tank battery. All free fluid has been recovered. Contaminated gravel has been removed from inside the facility and we have replaced with fresh gravel as necessary. The facility has been returned to its prior condition. Tetra Tech will sample the spill site area outside of the lined facility 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:			
Printed Name:	Josh Russo	Approved by District Supervisor:	
Title:	Senior Environmental Coordinator	Approval Date:	Expiration Date:
E-mail Address:	jrusso@concho.com	Conditions of Approval:	Attached ☐
Date:	02/18/2013	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
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1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
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Revised October 10, 2003

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side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	600 West Illinois Avenue, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	SRO SWD #104	Facility Type	SWD

Surface Owner	STATE	Mineral Owner		Lease No. (API#)	30-015-25864
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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
F	10	26S	28E					EDDY

Latitude 32.05890

Longitude 104.07743

NATURE OF RELEASE

Type of Release Oil and Produced water	Volume of Release 20bbls Oil 180bbls Produced water	Volume Recovered 20bbls Oil 170bbls Produced water
Source of Release 4" load line collar on gun barrel.	Date and Hour of Occurrence 02/26/2013	Date and Hour of Discovery 02/26/213 8:00am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher - NMOCD	
By Whom? Michelle Mullins	Date and Hour 02/27/2013 10:02am	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The 4" load line collar on the gun barrel rotted. We replaced the 4" load line collar on the gun barrel.

Describe Area Affected and Cleanup Action Taken.*

Initially 180bbls of produced water and 20bbls of oil were released from a rotted 4" collar we were able to recover 170bbls of produced water and 20bbls of oil with vacuum trucks. The release occurred inside the lined facility. The majority of the release was contained inside the walls of the tank battery. All free fluid has been recovered. Contaminated gravel has been removed from inside the facility and we have replaced with fresh gravel as necessary. The facility has been returned to its prior condition. Tetra Tech will sample the spill site area outside of the lined facility 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.

OIL CONSERVATION DIVISION

Signature:

Printed Name:

Josh Russo

Title:

Senior Environmental Coordinator

E-mail Address:

jrusso@concho.com

Date: 03/08/2013

Phone: 432-212-2399

Approved by District Supervisor:

Approval Date:

Expiration Date:

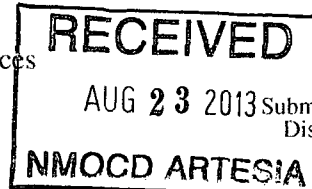
Conditions of Approval:

Attached ☐

* Attach Additional Sheets If Necessary

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Oil Conservation Division
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Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	COG Operating LLC	Contact	Pat Ellis
Address	600 West Illinois Avenue, Midland, TX 79701	Telephone No.	(432) 230-0077
Facility Name	SRO SWD #104	Facility Type	SWD

Surface Owner: State	Mineral Owner	Lease No. (API#)30-015-25864
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LOCATION OF RELEASE

Unit Letter F	Section 10	Township 26S	Range 28E	Feet from the	North/South Line	Feet from the	East/West Line	County Eddy
------------------	---------------	-----------------	--------------	---------------	------------------	---------------	----------------	----------------

Latitude N32.05890 ° Longitude W104.07743°

NATURE OF RELEASE

Type of Release: Oil and Produced Water	Volume of Release 20 bbls Oil 180 bbls Produced Water	Volume Recovered 20 bbls Oil 170 bbls Produced Water
Source of Release: 4" load line collar on gun barrel	Date and Hour of Occurrence 02/26/2013	Date and Hour of Discovery 02/26/2013 8:00 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher - NMOCD	
By Whom? Michelle Mullins	Date and Hour 02/27/2013 10:02 am	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

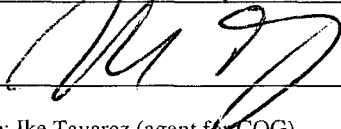
Describe Cause of Problem and Remedial Action Taken.*

The 4" load line collar on the gun barrel rotted. We replaced the 4" load line collar on the gun barrel.

Describe Area Affected and Cleanup Action Taken.*

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

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

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

* Attach Additional Sheets If Necessary

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District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

RECEIVED

AUG 23 2013

NMOCD ARTESIA

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	COG Operating LLC	Contact	Pat Ellis
Address	600 West Illinois Avenue, Midland, TX 79701	Telephone No.	(432) 230-0077
Facility Name	Dodd Federal Unit #128	Facility Type	Well Location

Surface Owner: State	Mineral Owner	Lease No. (API#)30-015-25864
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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
F	10	26S	28E					Eddy

Latitude N32.84810 ° Longitude W104.03795 °

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release 700 bbls	Volume Recovered 650 bbls
Source of Release: Victaulic clamp on header	Date and Hour of Occurrence 02/06/2013	Date and Hour of Discovery 02/06/2013 11:30 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher - NMOCD	
By Whom? Michelle Mullins	Date and Hour 02/07/2013 8:05 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

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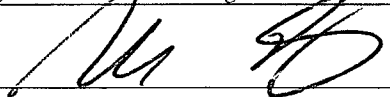
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Describe Area Affected and Cleanup Action Taken.*

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

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

Signature: 	OIL CONSERVATION DIVISION		
Printed Name: Ike Tavarez (agent for COG)	Approved by District Supervisor:		
Title: Project Manager	Approval Date:	Expiration Date:	
E-mail Address: Ike.Tavarez@tetrattech.com	Conditions of Approval:		Attached ☐
Date: 7-15-13 Phone: (432) 682-4559			

* Attach Additional Sheets If Necessary

APPENDIX B

Water Well Data
Average Depth to Groundwater (ft)
COG - SRO SWD #104
Eddy County, New Mexico

24 South			27 East		
6	5	4	3	2	1
7	8	26	9	10	11
		43			12
18	17	16	15	14	13
34					31
19	20	21	22	23	24
			70		
30	29	28	27	26	25
31	32	33	34	35	36

24 South			28 East		
6	5	30	4	30	3
70	8	50	9	10	11
				17	20
18	17	16	15	14	13
	42	29	18	52	34
19	20	21	22	23	24
	48				
30	29	28	27	26	25
31	32	33	34	35	36

24 South			29 East		
6	5	4	3	2	1
7	8	9	10	11	12
160	17	16	15	14	13
		18			
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

25 South			27 East		
6	5	4	3	2	1
7	8	9	10	11	12
					92
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	59	4	35	3
7	8	9	10	11	12
18	17	16	15	14	13
67			48	49	
19	20	21	22	23	24
	96				
30	29	28	27	26	25
	15	90		30	
31	32	33	34	35	36
					40

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

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

26 South			28 East		
6	5	4	3	2	1
				120	
7	8	9	10	11	12
			SITE		100
18	17	16	15	14	13
25				120	56
19	20	21	22	23	24
			120		
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	67	23
			69		
30	29	28	27	26	25
31	32	33	34	35	36

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

APPENDIX C



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800-378-1296 806-794-1296 FAX 806-794-1288
200 East Sunset Road, Suite E El Paso, Texas 79922 915-585-3443 FAX 915-585-4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432-689-6301 FAX 432-689-6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972-242-7750
E-Mail: tab@traceanalysis.com WEB: www.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: March 26, 2013

Work Order: 13031824



Project Location: Eddy Co., NM
Project Name: COG/SRO SWD #104
Project Number: 112C05076

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
323794	Background 0-1'	soil	2013-03-14	00:00	2013-03-18
323795	Background 1-1.5'	soil	2013-03-14	00:00	2013-03-18
323796	Background 2-2.5'	soil	2013-03-14	00:00	2013-03-18
323797	Background 3-3.5'	soil	2013-03-14	00:00	2013-03-18
323798	AH-1 0-1'	soil	2013-03-14	00:00	2013-03-18
323799	AH-1 1-1.5'	soil	2013-03-14	00:00	2013-03-18
323800	AH-1 2-2.5'	soil	2013-03-14	00:00	2013-03-18
323801	AH-1 3-3.5'	soil	2013-03-14	00:00	2013-03-18
323802	AH-2 0-1'	soil	2013-03-14	00:00	2013-03-18
323803	AH-2 1-1.5'	soil	2013-03-14	00:00	2013-03-18
323804	AH-2 2-2.5'	soil	2013-03-14	00:00	2013-03-18
323805	AH-2 3-3.5'	soil	2013-03-14	00:00	2013-03-18
323806	AH-3 0-1'	soil	2013-03-14	00:00	2013-03-18
323807	AH-3 1-1.5'	soil	2013-03-14	00:00	2013-03-18
323808	AH-3 2-2.5'	soil	2013-03-14	00:00	2013-03-18
323809	AH-3 3-3.5'	soil	2013-03-14	00:00	2013-03-18
323810	AH-4 0-1'	soil	2013-03-14	00:00	2013-03-18
323811	AH-4 1-1.5'	soil	2013-03-14	00:00	2013-03-18

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
323812	AH-4 2-2.5'	soil	2013-03-14	00:00	2013-03-18
323813	AH-4 3-3.5'	soil	2013-03-14	00:00	2013-03-18
323814	AH-5 0-1'	soil	2013-03-14	00:00	2013-03-18
323815	AH-5 1-1.5'	soil	2013-03-14	00:00	2013-03-18
323816	AH-5 2-2.5'	soil	2013-03-14	00:00	2013-03-18
323817	AH-5 3-3.5'	soil	2013-03-14	00:00	2013-03-18
323818	AH-6 0-1'	soil	2013-03-14	00:00	2013-03-18
323819	AH-6 1-1.5'	soil	2013-03-14	00:00	2013-03-18
323820	AH-6 2-2.5'	soil	2013-03-14	00:00	2013-03-18
323821	AH-6 3-3.5'	soil	2013-03-14	00:00	2013-03-18
323822	AH-7 0-1'	soil	2013-03-14	00:00	2013-03-18
323823	AH-7 1-1.5'	soil	2013-03-14	00:00	2013-03-18
323824	AH-7 2-2.5'	soil	2013-03-14	00:00	2013-03-18
323825	AH-7 3-3.5'	soil	2013-03-14	00:00	2013-03-18
323826	AH-8 0-1' Reserve Pit	soil	2013-03-14	00:00	2013-03-18
323828	AH-9 0-1' Reserve Pit	soil	2013-03-14	00:00	2013-03-18
323830	AH-10 0-1' Reserve Pit	soil	2013-03-14	00:00	2013-03-18
323832	AH-11 0-1' Reserve Pit	soil	2013-03-14	00:00	2013-03-18
323834	AH-12 0-1' Reserve Pit	soil	2013-03-14	00:00	2013-03-18

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 59 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

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Sample 323805 (AH-2 3-3.5')	12
Sample 323806 (AH-3 0-1')	12
Sample 323807 (AH-3 1-1.5')	14
Sample 323808 (AH-3 2-2.5')	14
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Sample 323810 (AH-4 0-1')	15
Sample 323811 (AH-4 1-1.5')	16
Sample 323812 (AH-4 2-2.5')	16
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QC Batch 100028 - CCV (3)	51
QC Batch 100029 - CCV (1)	51
QC Batch 100029 - CCV (2)	51
QC Batch 100029 - CCV (3)	52

QC Batch 100032 - CCV (1)	52
QC Batch 100032 - CCV (2)	52
QC Batch 100032 - CCV (3)	52
QC Batch 99874 - CCV (1)	52
QC Batch 99874 - CCV (2)	53
QC Batch 99874 - CCV (3)	53
QC Batch 99874 - CCV (4)	53
QC Batch 99955 - CCV (1)	53
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QC Batch 99957 - CCV (1)	54
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Case Narrative

Samples for project COG/SRO SWD #104 were received by TraceAnalysis, Inc. on 2013-03-18 and assigned to work order 13031824. Samples for work order 13031824 were received intact at a temperature of 2.2 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	84699	2013-03-25 at 10:55	99982	2013-03-25 at 10:58
BTEX	S 8021B	84712	2013-03-25 at 13:50	100009	2013-03-25 at 14:15
BTEX	S 8021B	84734	2013-03-26 at 10:39	100028	2013-03-26 at 10:41
Chloride (Titration)	SM 4500-Cl B	84675	2013-03-21 at 22:15	99955	2013-03-24 at 22:28
Chloride (Titration)	SM 4500-Cl B	84675	2013-03-21 at 22:15	99956	2013-03-24 at 22:29
Chloride (Titration)	SM 4500-Cl B	84675	2013-03-21 at 22:15	99957	2013-03-24 at 22:30
Chloride (Titration)	SM 4500-Cl B	84675	2013-03-21 at 22:15	99958	2013-03-24 at 22:31
TPH DRO - NEW	S 8015 D	84613	2013-03-20 at 10:00	99874	2013-03-21 at 09:58
TPH DRO - NEW	S 8015 D	84737	2013-03-25 at 10:00	100032	2013-03-26 at 11:30
TPH GRO	S 8015 D	84700	2013-03-25 at 10:57	99983	2013-03-25 at 10:58
TPH GRO	S 8015 D	84718	2013-03-25 at 14:05	100010	2013-03-25 at 14:19
TPH GRO	S 8015 D	84735	2013-03-26 at 10:40	100029	2013-03-26 at 10:46

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 13031824 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: March 26, 2013
112C05076

Work Order: 13031824
COG/SRO SWD #104

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Eddy Co., NM

Analytical Report

Sample: 323794 - Background 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-03-24	Analyzed By:	AR
QC Batch:	99955	Sample Preparation:	2013-03-23	Prepared By:	AR
Prep Batch:	84675				

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

Sample: 323795 - Background 1-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-03-24	Analyzed By:	AR
QC Batch:	99955	Sample Preparation:	2013-03-23	Prepared By:	AR
Prep Batch:	84675				

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

Sample: 323796 - Background 2-2.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-03-24	Analyzed By:	AR
QC Batch:	99956	Sample Preparation:	2013-03-23	Prepared By:	AR
Prep Batch:	84675				

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

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112C05076

Work Order: 13031824
COG/SRO SWD #104

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Eddy Co., NM

Sample: 323797 - Background 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 99956 Date Analyzed: 2013-03-24 Analyzed By: AR
Prep Batch: 84675 Sample Preparation: 2013-03-23 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			79.1	mg/Kg	5	4.00

Sample: 323798 - AH-1 0-1'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 99982 Date Analyzed: 2013-03-25 Analyzed By: AH
Prep Batch: 84699 Sample Preparation: 2013-03-23 Prepared By: AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.93	mg/Kg	1	2.00	97	70 - 130
4-Bromofluorobenzene (4-BFB)			1.74	mg/Kg	1	2.00	87	70 - 130

Sample: 323798 - AH-1 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 99956 Date Analyzed: 2013-03-24 Analyzed By: AR
Prep Batch: 84675 Sample Preparation: 2013-03-23 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			4470	mg/Kg	10	4.00

Report Date: March 26, 2013
112C05076

Work Order: 13031824
COG/SRO SWD #104

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Eddy Co., NM

Sample: 323798 - AH-1 0-1'

Laboratory:	Midland		
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D
QC Batch:	99874	Date Analyzed:	2013-03-21
Prep Batch:	84613	Sample Preparation:	2013-03-20
		Prep Method:	N/A
		Analyzed By:	CW
		Prepared By:	CW

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

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

Sample: 323798 - AH-1 0-1'

Laboratory:	Midland		
Analysis:	TPH GRO	Analytical Method:	S 8015 D
QC Batch:	99983	Date Analyzed:	2013-03-25
Prep Batch:	84700	Sample Preparation:	2013-03-23
		Prep Method:	S 5035
		Analyzed By:	AH
		Prepared By:	AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.73	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			1.69	mg/Kg	1	2.00	84	70 - 130

Sample: 323799 - AH-1 1-1.5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	99956	Date Analyzed:	2013-03-24
Prep Batch:	84675	Sample Preparation:	2013-03-23
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			79.1	mg/Kg	5	4.00

Report Date: March 26, 2013
112C05076

Work Order: 13031824
COG/SRO SWD #104

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Eddy Co., NM

Sample: 323800 - AH-1 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 99956 Date Analyzed: 2013-03-24 Analyzed By: AR
Prep Batch: 84675 Sample Preparation: 2013-03-23 Prepared By: AR

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

Sample: 323801 - AH-1 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 99956 Date Analyzed: 2013-03-24 Analyzed By: AR
Prep Batch: 84675 Sample Preparation: 2013-03-23 Prepared By: AR

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

Sample: 323802 - AH-2 0-1'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 99982 Date Analyzed: 2013-03-25 Analyzed By: AH
Prep Batch: 84699 Sample Preparation: 2013-03-23 Prepared By: AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.93	mg/Kg	1	2.00	96	70 - 130
4-Bromofluorobenzene (4-BFB)			1.75	mg/Kg	1	2.00	87	70 - 130

Report Date: March 26, 2013
112C05076

Work Order: 13031824
COG/SRO SWD #104

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Eddy Co., NM

Sample: 323802 - AH-2 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-03-24	Analyzed By:	AR
QC Batch:	99956	Sample Preparation:	2013-03-23	Prepared By:	AR
Prep Batch:	84675				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			2040	mg/Kg	10	4.00

Sample: 323802 - AH-2 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2013-03-21	Analyzed By:	CW
QC Batch:	99874	Sample Preparation:	2013-03-20	Prepared By:	CW
Prep Batch:	84613				

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			97.5	mg/Kg	1	100	98	70 - 130

Sample: 323802 - AH-2 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2013-03-25	Analyzed By:	AH
QC Batch:	99983	Sample Preparation:	2013-03-23	Prepared By:	AH
Prep Batch:	84700				

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.71	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			1.69	mg/Kg	1	2.00	84	70 - 130

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Sample: 323803 - AH-2 1-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-03-24	Analyzed By:	AR
QC Batch:	99956	Sample Preparation:	2013-03-23	Prepared By:	AR
Prep Batch:	84675				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			440	mg/Kg	5	4.00

Sample: 323804 - AH-2 2-2.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-03-24	Analyzed By:	AR
QC Batch:	99956	Sample Preparation:	2013-03-23	Prepared By:	AR
Prep Batch:	84675				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			480	mg/Kg	5	4.00

Sample: 323805 - AH-2 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-03-24	Analyzed By:	AR
QC Batch:	99956	Sample Preparation:	2013-03-23	Prepared By:	AR
Prep Batch:	84675				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			549	mg/Kg	5	4.00

Sample: 323806 - AH-3 0-1'

Laboratory:	Midland	Analytical Method:	S 8021B	Prep Method:	S 5035
Analysis:	BTEX	Date Analyzed:	2013-03-26	Analyzed By:	AH
QC Batch:	100028	Sample Preparation:	2013-03-25	Prepared By:	AH
Prep Batch:	84734				

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	Q38,U	1	<0.0200	mg/Kg	1	0.0200
Toluene	Q38,U	1	<0.0200	mg/Kg	1	0.0200
Ethylbenzene	Q38,U	1	<0.0200	mg/Kg	1	0.0200
Xylene	Q38,U	1	<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.94	mg/Kg	1	2.00	97	70 - 130
4-Bromofluorobenzene (4-BFB)			1.93	mg/Kg	1	2.00	96	70 - 130

Sample: 323806 - AH-3 0-1'

Laboratory:	Midland			
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method: N/A
QC Batch:	99957	Date Analyzed:	2013-03-24	Analyzed By: AR
Prep Batch:	84675	Sample Preparation:	2013-03-23	Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			6570	mg/Kg	10	4.00

Sample: 323806 - AH-3 0-1'

Laboratory:	Midland			
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method: N/A
QC Batch:	100032	Date Analyzed:	2013-03-26	Analyzed By: CW
Prep Batch:	84737	Sample Preparation:	2013-03-25	Prepared By: CW

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		111	mg/Kg	1	100	111		70 - 130

Sample: 323806 - AH-3 0-1'

Laboratory:	Midland			
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method: S 5035
QC Batch:	100029	Date Analyzed:	2013-03-26	Analyzed By: AH
Prep Batch:	84735	Sample Preparation:	2013-03-26	Prepared By: AH

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

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

Sample: 323807 - AH-3 1-1.5'

Laboratory:	Midland			
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method: N/A
QC Batch:	99957	Date Analyzed:	2013-03-24	Analyzed By: AR
Prep Batch:	84675	Sample Preparation:	2013-03-23	Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			384	mg/Kg	5	4.00

Sample: 323808 - AH-3 2-2.5'

Laboratory:	Midland			
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method: N/A
QC Batch:	99957	Date Analyzed:	2013-03-24	Analyzed By: AR
Prep Batch:	84675	Sample Preparation:	2013-03-23	Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1090	mg/Kg	5	4.00

Sample: 323809 - AH-3 3-3.5'

Laboratory:	Midland			
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method: N/A
QC Batch:	99957	Date Analyzed:	2013-03-24	Analyzed By: AR
Prep Batch:	84675	Sample Preparation:	2013-03-23	Prepared By: AR

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			314	mg/Kg	5	4.00

Sample: 323810 - AH-4 0-1'

Laboratory: Midland

Analysis: BTEX

QC Batch: 99982

Prep Batch: 84699

Analytical Method: S 8021B

Date Analyzed: 2013-03-25

Sample Preparation: 2013-03-23

Prep Method: S 5035

Analyzed By: AH

Prepared By: AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.95	mg/Kg	1	2.00	97	70 - 130
4-Bromofluorobenzene (4-BFB)			1.79	mg/Kg	1	2.00	89	70 - 130

Sample: 323810 - AH-4 0-1'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 99957

Prep Batch: 84675

Analytical Method: SM 4500-Cl B

Date Analyzed: 2013-03-24

Sample Preparation: 2013-03-23

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1080	mg/Kg	10	4.00

Sample: 323810 - AH-4 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 99874

Prep Batch: 84613

Analytical Method: S 8015 D

Date Analyzed: 2013-03-21

Sample Preparation: 2013-03-20

Prep Method: N/A

Analyzed By: CW

Prepared By: CW

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			86.9	mg/Kg	1	100	87	70 - 130

Sample: 323810 - AH-4 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 99983
Prep Batch: 84700

Analytical Method: S 8015 D
Date Analyzed: 2013-03-25
Sample Preparation: 2013-03-23

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.73	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			1.72	mg/Kg	1	2.00	86	70 - 130

Sample: 323811 - AH-4 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 99957
Prep Batch: 84675

Analytical Method: SM 4500-Cl B
Date Analyzed: 2013-03-24
Sample Preparation: 2013-03-23

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

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

Sample: 323812 - AH-4 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 99957
Prep Batch: 84675

Analytical Method: SM 4500-Cl B
Date Analyzed: 2013-03-24
Sample Preparation: 2013-03-23

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

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			538	mg/Kg	5	4.00

Sample: 323813 - AH-4 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 99957 Date Analyzed: 2013-03-24 Analyzed By: AR
Prep Batch: 84675 Sample Preparation: 2013-03-23 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			558	mg/Kg	5	4.00

Sample: 323814 - AH-5 0-1'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 99982 Date Analyzed: 2013-03-25 Analyzed By: AH
Prep Batch: 84699 Sample Preparation: 2013-03-23 Prepared By: AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.94	mg/Kg	1	2.00	97	70 - 130
4-Bromofluorobenzene (4-BFB)			1.76	mg/Kg	1	2.00	88	70 - 130

Sample: 323814 - AH-5 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 99957 Date Analyzed: 2013-03-24 Analyzed By: AR
Prep Batch: 84675 Sample Preparation: 2013-03-23 Prepared By: AR

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			2620	mg/Kg	10	4.00

Sample: 323814 - AH-5 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 99874
Prep Batch: 84613

Analytical Method: S 8015 D
Date Analyzed: 2013-03-21
Sample Preparation: 2013-03-20

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			70.8	mg/Kg	1	100	71	70 - 130

Sample: 323814 - AH-5 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 99983
Prep Batch: 84700

Analytical Method: S 8015 D
Date Analyzed: 2013-03-25
Sample Preparation: 2013-03-23

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.72	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			1.70	mg/Kg	1	2.00	85	70 - 130

Sample: 323815 - AH-5 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 99957
Prep Batch: 84675

Analytical Method: SM 4500-Cl B
Date Analyzed: 2013-03-24
Sample Preparation: 2013-03-23

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

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			917	mg/Kg	10	4.00

Sample: 323816 - AH-5 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 99958 Date Analyzed: 2013-03-24 Analyzed By: AR
Prep Batch: 84675 Sample Preparation: 2013-03-23 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			765	mg/Kg	5	4.00

Sample: 323817 - AH-5 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 99958 Date Analyzed: 2013-03-24 Analyzed By: AR
Prep Batch: 84675 Sample Preparation: 2013-03-23 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			322	mg/Kg	5	4.00

Sample: 323818 - AH-6 0-1'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 99982 Date Analyzed: 2013-03-25 Analyzed By: AH
Prep Batch: 84699 Sample Preparation: 2013-03-23 Prepared By: AH

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.92	mg/Kg	1	2.00	96	70 - 130
4-Bromofluorobenzene (4-BFB)			1.74	mg/Kg	1	2.00	87	70 - 130

Sample: 323818 - AH-6 0-1'

Laboratory:	Midland			
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method: N/A
QC Batch:	99958	Date Analyzed:	2013-03-24	Analyzed By: AR
Prep Batch:	84675	Sample Preparation:	2013-03-23	Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			3120	mg/Kg	10	4.00

Sample: 323818 - AH-6 0-1'

Laboratory:	Midland			
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method: N/A
QC Batch:	99874	Date Analyzed:	2013-03-21	Analyzed By: CW
Prep Batch:	84613	Sample Preparation:	2013-03-20	Prepared By: CW

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

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

Sample: 323818 - AH-6 0-1'

Laboratory:	Midland			
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method: S 5035
QC Batch:	99983	Date Analyzed:	2013-03-25	Analyzed By: AH
Prep Batch:	84700	Sample Preparation:	2013-03-23	Prepared By: AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.71	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			1.69	mg/Kg	1	2.00	84	70 - 130

Sample: 323819 - AH-6 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 99958 Date Analyzed: 2013-03-24 Analyzed By: AR
Prep Batch: 84675 Sample Preparation: 2013-03-23 Prepared By: AR

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

Sample: 323820 - AH-6 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 99958 Date Analyzed: 2013-03-24 Analyzed By: AR
Prep Batch: 84675 Sample Preparation: 2013-03-23 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			2660	mg/Kg	10	4.00

Sample: 323821 - AH-6 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 99958 Date Analyzed: 2013-03-24 Analyzed By: AR
Prep Batch: 84675 Sample Preparation: 2013-03-23 Prepared By: AR

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			3630	mg/Kg	10	4.00

Sample: 323822 - AH-7 0-1'

Laboratory: Midland

Analysis: BTEX

QC Batch: 99982

Prep Batch: 84699

Analytical Method: S 8021B

Date Analyzed: 2013-03-25

Sample Preparation: 2013-03-23

Prep Method: S 5035

Analyzed By: AH

Prepared By: AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.94	mg/Kg	1	2.00	97	70 - 130
4-Bromofluorobenzene (4-BFB)			1.77	mg/Kg	1	2.00	88	70 - 130

Sample: 323822 - AH-7 0-1'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 99958

Prep Batch: 84675

Analytical Method: SM 4500-Cl B

Date Analyzed: 2013-03-24

Sample Preparation: 2013-03-23

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			9150	mg/Kg	10	4.00

Sample: 323822 - AH-7 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 99874

Prep Batch: 84613

Analytical Method: S 8015 D

Date Analyzed: 2013-03-21

Sample Preparation: 2013-03-20

Prep Method: N/A

Analyzed By: CW

Prepared By: CW

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

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

Sample: 323822 - AH-7 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 99983
Prep Batch: 84700

Analytical Method: S 8015 D
Date Analyzed: 2013-03-25
Sample Preparation: 2013-03-23

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

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.72	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			1.70	mg/Kg	1	2.00	85	70 - 130

Sample: 323823 - AH-7 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 99958
Prep Batch: 84675

Analytical Method: SM 4500-Cl B
Date Analyzed: 2013-03-24
Sample Preparation: 2013-03-23

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			3310	mg/Kg	10	4.00

Sample: 323824 - AH-7 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 99958
Prep Batch: 84675

Analytical Method: SM 4500-Cl B
Date Analyzed: 2013-03-24
Sample Preparation: 2013-03-23

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

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1580	mg/Kg	10	4.00

Sample: 323825 - AH-7 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 99958 Date Analyzed: 2013-03-24 Analyzed By: AR
Prep Batch: 84675 Sample Preparation: 2013-03-23 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			2160	mg/Kg	10	4.00

Sample: 323826 - AH-8 0-1' Reserve Pit

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 99982 Date Analyzed: 2013-03-25 Analyzed By: AH
Prep Batch: 84699 Sample Preparation: 2013-03-23 Prepared By: AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.94	mg/Kg	1	2.00	97	70 - 130
4-Bromofluorobenzene (4-BFB)			1.77	mg/Kg	1	2.00	88	70 - 130

Sample: 323826 - AH-8 0-1' Reserve Pit

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 99874 Date Analyzed: 2013-03-21 Analyzed By: CW
Prep Batch: 84613 Sample Preparation: 2013-03-20 Prepared By: CW

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			107	mg/Kg	1	100	107	70 - 130

Sample: 323826 - AH-8 0-1' Reserve Pit

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 99983

Prep Batch: 84700

Analytical Method: S 8015 D

Date Analyzed: 2013-03-25

Sample Preparation: 2013-03-23

Prep Method: S 5035

Analyzed By: AH

Prepared By: AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.71	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			1.72	mg/Kg	1	2.00	86	70 - 130

Sample: 323828 - AH-9 0-1' Reserve Pit

Laboratory: Midland

Analysis: BTEX

QC Batch: 100009

Prep Batch: 84712

Analytical Method: S 8021B

Date Analyzed: 2013-03-25

Sample Preparation: 2013-03-23

Prep Method: S 5035

Analyzed By: AH

Prepared By: AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.94	mg/Kg	1	2.00	97	70 - 130
4-Bromofluorobenzene (4-BFB)			1.92	mg/Kg	1	2.00	96	70 - 130

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Sample: 323828 - AH-9 0-1' Reserve Pit

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 99874 Date Analyzed: 2013-03-21 Analyzed By: CW
Prep Batch: 84613 Sample Preparation: 2013-03-20 Prepared By: CW

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

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

Sample: 323828 - AH-9 0-1' Reserve Pit

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 100010 Date Analyzed: 2013-03-25 Analyzed By: AH
Prep Batch: 84718 Sample Preparation: Prepared By: AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.72	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			1.87	mg/Kg	1	2.00	94	70 - 130

Sample: 323830 - AH-10 0-1' Reserve Pit

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 100009 Date Analyzed: 2013-03-25 Analyzed By: AH
Prep Batch: 84712 Sample Preparation: 2013-03-23 Prepared By: AH

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

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Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.93	mg/Kg	1	2.00	96	70 - 130
4-Bromofluorobenzene (4-BFB)			1.78	mg/Kg	1	2.00	89	70 - 130

Sample: 323830 - AH-10 0-1' Reserve Pit

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 99874 Date Analyzed: 2013-03-21 Analyzed By: CW
Prep Batch: 84613 Sample Preparation: 2013-03-20 Prepared By: CW

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

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

Sample: 323830 - AH-10 0-1' Reserve Pit

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 100010 Date Analyzed: 2013-03-25 Analyzed By: AH
Prep Batch: 84718 Sample Preparation: Prepared By: AH

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	Q*, U	1	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.72	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			1.73	mg/Kg	1	2.00	86	70 - 130

Sample: 323832 - AH-11 0-1' Reserve Pit

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 100009 Date Analyzed: 2013-03-25 Analyzed By: AH
Prep Batch: 84712 Sample Preparation: 2013-03-23 Prepared By: AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.92	mg/Kg	1	2.00	96	70 - 130
4-Bromofluorobenzene (4-BFB)			1.78	mg/Kg	1	2.00	89	70 - 130

Sample: 323832 - AH-11 0-1' Reserve Pit

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 99874 Date Analyzed: 2013-03-21 Analyzed By: CW
Prep Batch: 84613 Sample Preparation: 2013-03-20 Prepared By: CW

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		111		mg/Kg	1	100	111	70 - 130

Sample: 323832 - AH-11 0-1' Reserve Pit

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 100010 Date Analyzed: 2013-03-25 Analyzed By: AH
Prep Batch: 84718 Sample Preparation: Prepared By: AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.71	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			1.79	mg/Kg	1	2.00	90	70 - 130

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Sample: 323834 - AH-12 0-1' Reserve Pit

Laboratory: Midland

Analysis: BTEX

QC Batch: 100009

Prep Batch: 84712

Analytical Method: S 8021B

Date Analyzed: 2013-03-25

Sample Preparation: 2013-03-23

Prep Method: S 5035

Analyzed By: AH

Prepared By: AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.94	mg/Kg	1	2.00	97	70 - 130
4-Bromofluorobenzene (4-BFB)			1.78	mg/Kg	1	2.00	89	70 - 130

Sample: 323834 - AH-12 0-1' Reserve Pit

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 99874

Prep Batch: 84613

Analytical Method: S 8015 D

Date Analyzed: 2013-03-21

Sample Preparation: 2013-03-20

Prep Method: N/A

Analyzed By: CW

Prepared By: CW

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			92.3	mg/Kg	1	100	92	70 - 130

Sample: 323834 - AH-12 0-1' Reserve Pit

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 100010

Prep Batch: 84718

Analytical Method: S 8015 D

Date Analyzed: 2013-03-25

Sample Preparation:

Prep Method: S 5035

Analyzed By: AH

Prepared By: AH

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

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Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.74	mg/Kg	1	2.00	87	70 - 130
4-Bromofluorobenzene (4-BFB)			1.73	mg/Kg	1	2.00	86	70 - 130

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Method Blanks

Method Blank (1) QC Batch: 100009

QC Batch: 100009
Prep Batch: 84712

Date Analyzed: 2013-03-25
QC Preparation: 2013-03-25

Analyzed By: AH
Prepared By: AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.91	mg/Kg	1	2.00	96	70 - 130
4-Bromofluorobenzene (4-BFB)			1.80	mg/Kg	1	2.00	90	70 - 130

Method Blank (1) QC Batch: 100010

QC Batch: 100010
Prep Batch: 84718

Date Analyzed: 2013-03-25
QC Preparation: 2013-03-25

Analyzed By: AH
Prepared By: AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.72	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			1.76	mg/Kg	1	2.00	88	70 - 130

Method Blank (1) QC Batch: 100028

QC Batch: 100028
Prep Batch: 84734

Date Analyzed: 2013-03-26
QC Preparation: 2013-03-26

Analyzed By: AH
Prepared By: AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.91	mg/Kg	1	2.00	96	70 - 130
4-Bromofluorobenzene (4-BFB)			1.80	mg/Kg	1	2.00	90	70 - 130

Method Blank (1) QC Batch: 100029

QC Batch: 100029
Prep Batch: 84735

Date Analyzed: 2013-03-26
QC Preparation: 2013-03-26

Analyzed By: AH
Prepared By: AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.72	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			1.75	mg/Kg	1	2.00	88	70 - 130

Method Blank (1) QC Batch: 100032

QC Batch: 100032
Prep Batch: 84737

Date Analyzed: 2013-03-26
QC Preparation: 2013-03-25

Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	21.7	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			97.3	mg/Kg	1	100	97	70 - 130

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Method Blank (1) QC Batch: 99874

QC Batch: 99874
Prep Batch: 84613

Date Analyzed: 2013-03-21
QC Preparation: 2013-03-20

Analyzed By: CW
Prepared By: CW

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	8.44	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			105	mg/Kg	1	100	105	70 - 130

Method Blank (1) QC Batch: 99955

QC Batch: 99955
Prep Batch: 84675

Date Analyzed: 2013-03-24
QC Preparation: 2013-03-21

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 99956

QC Batch: 99956
Prep Batch: 84675

Date Analyzed: 2013-03-24
QC Preparation: 2013-03-21

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 99957

QC Batch: 99957
Prep Batch: 84675

Date Analyzed: 2013-03-24
QC Preparation: 2013-03-21

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 99958

QC Batch: 99958
Prep Batch: 84675

Date Analyzed: 2013-03-24
QC Preparation: 2013-03-21

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 99982

QC Batch: 99982
Prep Batch: 84699

Date Analyzed: 2013-03-25
QC Preparation: 2013-03-25

Analyzed By: AH
Prepared By: AH

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.91	mg/Kg	1	2.00	96	70 - 130
4-Bromofluorobenzene (4-BFB)			1.78	mg/Kg	1	2.00	89	70 - 130

Method Blank (1) QC Batch: 99983

QC Batch: 99983
Prep Batch: 84700

Date Analyzed: 2013-03-25
QC Preparation: 2013-03-25

Analyzed By: AH
Prepared By: AH

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

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Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.76	mg/Kg	1	2.00	88	70 - 130
4-Bromofluorobenzene (4-BFB)			1.77	mg/Kg	1	2.00	88	70 - 130

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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 100009
Prep Batch: 84712

Date Analyzed: 2013-03-25
QC Preparation: 2013-03-25

Analyzed By: AH
Prepared By: AH

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.51	mg/Kg	1	2.00	<0.00810	76	70 - 130
Toluene		1	1.52	mg/Kg	1	2.00	<0.00750	76	70 - 130
Ethylbenzene		1	1.56	mg/Kg	1	2.00	<0.00730	78	70 - 130
Xylene		1	4.70	mg/Kg	1	6.00	<0.00700	78	70 - 130

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

Param	LCSD						Spike	Matrix	Rec.		RPD		
	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit		
Benzene	1	Qr	Qr	1	2.12	mg/Kg	1	2.00	<0.00810	106	70 - 130	34	20
Toluene		Qr	Qr	1	2.10	mg/Kg	1	2.00	<0.00750	105	70 - 130	32	20
Ethylbenzene		Qr	Qr	1	2.15	mg/Kg	1	2.00	<0.00730	108	70 - 130	32	20
Xylene		Qr	Qr	1	6.40	mg/Kg	1	6.00	<0.00700	107	70 - 130	31	20

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

Surrogate	LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.92	1.93	mg/Kg	1	2.00	96	96	70 - 130
4-Bromofluorobenzene (4-BFB)	1.83	1.82	mg/Kg	1	2.00	92	91	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 100010
Prep Batch: 84718

Date Analyzed: 2013-03-25
QC Preparation: 2013-03-25

Analyzed By: AH
Prepared By: AH

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	16.3	mg/Kg	1	20.0	<2.32	82	70 - 130

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

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Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	16.3	mg/Kg	1	20.0	<2.32	82	70 - 130	0	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.81	1.74	mg/Kg	1	2.00	90	87	70 - 130
4-Bromofluorobenzene (4-BFB)	1.78	1.81	mg/Kg	1	2.00	89	90	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 100028
Prep Batch: 84734

Date Analyzed: 2013-03-26
QC Preparation: 2013-03-26

Analyzed By: AH
Prepared By: AH

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.76	mg/Kg	1	2.00	<0.00810	88	70 - 130
Toluene		1	1.72	mg/Kg	1	2.00	<0.00750	86	70 - 130
Ethylbenzene		1	1.76	mg/Kg	1	2.00	<0.00730	88	70 - 130
Xylene		1	5.32	mg/Kg	1	6.00	<0.00700	89	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.10	mg/Kg	1	2.00	<0.00810	105	70 - 130	18	20
Toluene		1	2.08	mg/Kg	1	2.00	<0.00750	104	70 - 130	19	20
Ethylbenzene		1	2.12	mg/Kg	1	2.00	<0.00730	106	70 - 130	19	20
Xylene		1	6.33	mg/Kg	1	6.00	<0.00700	106	70 - 130	17	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)	1.92	1.91	mg/Kg	1	2.00	96	96	70 - 130
4-Bromofluorobenzene (4-BFB)	1.85	1.85	mg/Kg	1	2.00	92	92	70 - 130

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Laboratory Control Spike (LCS-1)

QC Batch: 100029
Prep Batch: 84735

Date Analyzed: 2013-03-26
QC Preparation: 2013-03-26

Analyzed By: AH
Prepared By: AH

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	18.4	mg/Kg	1	20.0	<2.32	92	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	19.0	mg/Kg	1	20.0	<2.32	95	70 - 130	3	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.76	1.78	mg/Kg	1	2.00	88	89	70 - 130
4-Bromofluorobenzene (4-BFB)	1.81	1.83	mg/Kg	1	2.00	90	92	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 100032
Prep Batch: 84737

Date Analyzed: 2013-03-26
QC Preparation: 2013-03-25

Analyzed By: CW
Prepared By: CW

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	255	mg/Kg	1	250	21.7	93	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	259	mg/Kg	1	250	21.7	95	70 - 130	2	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	112	114	mg/Kg	1	100	112	114	70 - 130

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Laboratory Control Spike (LCS-1)

QC Batch: 99874
Prep Batch: 84613

Date Analyzed: 2013-03-21
QC Preparation: 2013-03-20

Analyzed By: CW
Prepared By: CW

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	227	mg/Kg	1	250	8.44	87	70 - 130

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	226	mg/Kg	1	250	8.44	87	70 - 130	0	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	107	107	mg/Kg	1	100	107	107	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 99955
Prep Batch: 84675

Date Analyzed: 2013-03-24
QC Preparation: 2013-03-21

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2730	mg/Kg	1	2500	<3.85	109	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2700	mg/Kg	1	2500	<3.85	108	85 - 115	1	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 99956
Prep Batch: 84675

Date Analyzed: 2013-03-24
QC Preparation: 2013-03-21

Analyzed By: AR
Prepared By: AR

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Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2460	mg/Kg	1	2500	<3.85	98	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			2540	mg/Kg	1	2500	<3.85	102	85 - 115	3	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 99957
Prep Batch: 84675

Date Analyzed: 2013-03-24
QC Preparation: 2013-03-21

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2660	mg/Kg	1	2500	<3.85	106	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			2550	mg/Kg	1	2500	<3.85	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: 99958
Prep Batch: 84675

Date Analyzed: 2013-03-24
QC Preparation: 2013-03-21

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2450	mg/Kg	1	2500	<3.85	98	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			2530	mg/Kg	1	2500	<3.85	101	85 - 115	3	20

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

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Laboratory Control Spike (LCS-1)

QC Batch: 99982
Prep Batch: 84699

Date Analyzed: 2013-03-25
QC Preparation: 2013-03-25

Analyzed By: AH
Prepared By: AH

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.72	mg/Kg	1	2.00	<0.00810	86	70 - 130
Toluene		1	1.73	mg/Kg	1	2.00	<0.00750	86	70 - 130
Ethylbenzene		1	1.79	mg/Kg	1	2.00	<0.00730	90	70 - 130
Xylene		1	5.36	mg/Kg	1	6.00	<0.00700	89	70 - 130

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.01	mg/Kg	1	2.00	<0.00810	100	70 - 130	16	20
Toluene		1	2.00	mg/Kg	1	2.00	<0.00750	100	70 - 130	14	20
Ethylbenzene		1	2.05	mg/Kg	1	2.00	<0.00730	102	70 - 130	14	20
Xylene		1	6.14	mg/Kg	1	6.00	<0.00700	102	70 - 130	14	20

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

Surrogate	LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.90	1.92	mg/Kg	1	2.00	95	96	70 - 130
4-Bromofluorobenzene (4-BFB)	1.79	1.82	mg/Kg	1	2.00	90	91	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 99983
Prep Batch: 84700

Date Analyzed: 2013-03-25
QC Preparation: 2013-03-25

Analyzed By: AH
Prepared By: AH

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

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	19.3	mg/Kg	1	20.0	<2.32	96	70 - 130	8	20

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

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Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.82	1.83	mg/Kg	1	2.00	91	92	70 - 130
4-Bromofluorobenzene (4-BFB)	1.82	1.90	mg/Kg	1	2.00	91	95	70 - 130

Matrix Spike (xMS-1) Spiked Sample: 323957

QC Batch: 100009
Prep Batch: 84712

Date Analyzed: 2013-03-25
QC Preparation: 2013-03-25

Analyzed By: AH
Prepared By: AH

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.30	mg/Kg	1	2.00	<0.00810	115	70 - 130
Toluene		1	2.36	mg/Kg	1	2.00	<0.00750	118	70 - 130
Ethylbenzene		1	2.50	mg/Kg	1	2.00	<0.00730	125	70 - 130
Xylene		1	7.44	mg/Kg	1	6.00	<0.00700	124	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.44	mg/Kg	1	2.00	<0.00810	122	70 - 130	6	20
Toluene		1	2.52	mg/Kg	1	2.00	<0.00750	126	70 - 130	7	20
Ethylbenzene	Qs	Qs	2.68	mg/Kg	1	2.00	<0.00730	134	70 - 130	7	20
Xylene	Qs	Qs	7.99	mg/Kg	1	6.00	<0.00700	133	70 - 130	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
Trifluorotoluene (TFT)	1.95	1.94	mg/Kg	1	2	98	97	70 - 130
4-Bromofluorobenzene (4-BFB)	1.78	1.76	mg/Kg	1	2	89	88	70 - 130

Matrix Spike (MS-1) Spiked Sample: 323957

QC Batch: 100010
Prep Batch: 84718

Date Analyzed: 2013-03-25
QC Preparation: 2013-03-25

Analyzed By: AH
Prepared By: AH

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Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	Qs	Qs	1	13.6	mg/Kg	1	20.0	<2.32	68 70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	14.1	mg/Kg	1	20.0	<2.32	70	70 - 130	4	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.71	1.70	mg/Kg	1	2	86	85	70 - 130
4-Bromofluorobenzene (4-BFB)	1.81	1.83	mg/Kg	1	2	90	92	70 - 130

Matrix Spike (MS-1) Spiked Sample: 323806

QC Batch: 100028
Prep Batch: 84734

Date Analyzed: 2013-03-26
QC Preparation: 2013-03-26

Analyzed By: AH
Prepared By: AH

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	Qs	Qs	1	1.34	mg/Kg	1	2.00	<0.00810	67 70 - 130
Toluene	Qs	Qs	1	1.35	mg/Kg	1	2.00	<0.00750	68 70 - 130
Ethylbenzene	Qs	Qs	1	1.39	mg/Kg	1	2.00	<0.00730	70 70 - 130
Xylene	Qs	Qs	1	4.16	mg/Kg	1	6.00	<0.00700	69 70 - 130

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

Param				MSD		Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
	F	C	Result	Units								
Benzene	Qs	Qs	1	1.33	mg/Kg	1	2.00	<0.00810	66	70 - 130	1	20
Toluene	Qs	Qs	1	1.35	mg/Kg	1	2.00	<0.00750	68	70 - 130	0	20
Ethylbenzene			1	1.41	mg/Kg	1	2.00	<0.00730	70	70 - 130	1	20
Xylene			1	4.22	mg/Kg	1	6.00	<0.00700	70	70 - 130	1	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.92	1.90	mg/Kg	1	2	96	95	70 - 130
4-Bromofluorobenzene (4-BFB)	1.89	1.83	mg/Kg	1	2	94	92	70 - 130

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Matrix Spike (MS-1) Spiked Sample: 323806

QC Batch: 100029
Prep Batch: 84735

Date Analyzed: 2013-03-26
QC Preparation: 2013-03-26

Analyzed By: AH
Prepared By: AH

Param			MS			Spike	Matrix		Rec.	
	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	
GRO	Q ^s	Q ^s	1	9.79	mg/Kg	1	20.0	2.34	37	70 - 130

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

Param			F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	Q _s	Q _s		1	9.62	mg/Kg	1	20.0	2.34	36	70 - 130	2	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.67	1.67	mg/Kg	1	2	84	84	70 - 130
4-Bromofluorobenzene (4-BFB)	1.84	1.84	mg/Kg	1	2	92	92	70 - 130

Matrix Spike (MS-1) Spiked Sample: 323806

QC Batch: 100032
Prep Batch: 84737

Date Analyzed: 2013-03-26
QC Preparation: 2013-03-25

Analyzed By: CW
Prepared By: CW

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	263	mg/Kg	1	250	<6.88	105	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	284	mg/Kg	1	250	<6.88	114	70 - 130	8	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	113	118	mg/Kg	1	100	113	118	70 - 130

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Matrix Spike (MS-1) Spiked Sample: 323768

QC Batch: 99874
Prep Batch: 84613

Date Analyzed: 2013-03-21
QC Preparation: 2013-03-20

Analyzed By: CW
Prepared By: CW

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO			258	mg/Kg	1	250	10.6	99	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO			239	mg/Kg	1	250	10.6	91	70 - 130	8	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	108	113	mg/Kg	1	100	108	113	70 - 130

Matrix Spike (MS-1) Spiked Sample: 323795

QC Batch: 99955
Prep Batch: 84675

Date Analyzed: 2013-03-24
QC Preparation: 2013-03-21

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2470	mg/Kg	5	2500	<19.2	99	78.9 - 121

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2600	mg/Kg	5	2500	<19.2	104	78.9 - 121	5	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: 323805

QC Batch: 99956
Prep Batch: 84675

Date Analyzed: 2013-03-24
QC Preparation: 2013-03-21

Analyzed By: AR
Prepared By: AR

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Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			3100	mg/Kg	5	2500	549	102	78.9 - 121

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			3190	mg/Kg	5	2500	549	106	78.9 - 121	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: 323815

QC Batch: 99957
Prep Batch: 84675

Date Analyzed: 2013-03-24
QC Preparation: 2013-03-21

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			3360	mg/Kg	10	2500	917	98	78.9 - 121

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			3680	mg/Kg	10	2500	917	110	78.9 - 121	9	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: 323825

QC Batch: 99958
Prep Batch: 84675

Date Analyzed: 2013-03-24
QC Preparation: 2013-03-21

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			4780	mg/Kg	10	2500	2160	105	78.9 - 121

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			5000	mg/Kg	10	2500	2160	114	78.9 - 121	4	20

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

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Matrix Spike (MS-1) Spiked Sample: 323826

QC Batch: 99982
Prep Batch: 84699

Date Analyzed: 2013-03-25
QC Preparation: 2013-03-25

Analyzed By: AH
Prepared By: AH

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	Qs	Qs	1	2.72	mg/Kg	1	2.00	<0.00810	136 70 - 130
Toluene	Qs	Qs	1	2.79	mg/Kg	1	2.00	<0.00750	140 70 - 130
Ethylbenzene	Qs	Qs	1	3.01	mg/Kg	1	2.00	<0.00730	150 70 - 130
Xylene	Qs	Qs	1	8.96	mg/Kg	1	6.00	<0.00700	149 70 - 130

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

Param			MSD		Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit	
	F	C	Result	Units								
Benzene			1	2.42	mg/Kg	1	2.00	<0.00810	121	70 - 130	12	20
Toluene			1	2.49	mg/Kg	1	2.00	<0.00750	124	70 - 130	11	20
Ethylbenzene	Qs	Qs	1	2.64	mg/Kg	1	2.00	<0.00730	132	70 - 130	13	20
Xylene	Qs	Qs	1	7.94	mg/Kg	1	6.00	<0.00700	132	70 - 130	12	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.94	1.93	mg/Kg	1	2	97	96	70 - 130
4-Bromofluorobenzene (4-BFB)	1.78	1.78	mg/Kg	1	2	89	89	70 - 130

Matrix Spike (MS-1) Spiked Sample: 323826

QC Batch: 99983
Prep Batch: 84700

Date Analyzed: 2013-03-25
QC Preparation: 2013-03-25

Analyzed By: AH
Prepared By: AH

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	16.7	mg/Kg	1	20.0	<2.32	84	70 - 130

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	17.4	mg/Kg	1	20.0	<2.32	87	70 - 130	4	20

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

continued ...

Report Date: March 26, 2013
112C05076

Work Order: 13031824
COG/SRO SWD #104

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Eddy Co., NM

matrix: spikes continued ...

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.74	1.71	mg/Kg	1	2	87	86	70 - 130
4-Bromofluorobenzene (4-BFB)	1.83	1.85	mg/Kg	1	2	92	92	70 - 130

Report Date: March 26, 2013
112C05076

Work Order: 13031824
COG/SRO SWD #104

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Eddy Co., NM

Calibration Standards

Standard (CCV-1)

QC Batch: 100009

Date Analyzed: 2013-03-25

Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.102	102	80 - 120	2013-03-25
Toluene		1	mg/kg	0.100	0.102	102	80 - 120	2013-03-25
Ethylbenzene		1	mg/kg	0.100	0.104	104	80 - 120	2013-03-25
Xylene		1	mg/kg	0.300	0.310	103	80 - 120	2013-03-25

Standard (CCV-2)

QC Batch: 100009

Date Analyzed: 2013-03-25

Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0977	98	80 - 120	2013-03-25
Toluene		1	mg/kg	0.100	0.0967	97	80 - 120	2013-03-25
Ethylbenzene		1	mg/kg	0.100	0.0976	98	80 - 120	2013-03-25
Xylene		1	mg/kg	0.300	0.290	97	80 - 120	2013-03-25

Standard (CCV-3)

QC Batch: 100009

Date Analyzed: 2013-03-25

Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.102	102	80 - 120	2013-03-25
Toluene		1	mg/kg	0.100	0.100	100	80 - 120	2013-03-25
Ethylbenzene		1	mg/kg	0.100	0.101	101	80 - 120	2013-03-25
Xylene		1	mg/kg	0.300	0.301	100	80 - 120	2013-03-25

Report Date: March 26, 2013
112C05076

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COG/SRO SWD #104

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Eddy Co., NM

Standard (CCV-1)

QC Batch: 100010

Date Analyzed: 2013-03-25

Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.831	83	80 - 120	2013-03-25

Standard (CCV-2)

QC Batch: 100010

Date Analyzed: 2013-03-25

Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.815	82	80 - 120	2013-03-25

Standard (CCV-3)

QC Batch: 100010

Date Analyzed: 2013-03-25

Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.825	82	80 - 120	2013-03-25

Standard (CCV-1)

QC Batch: 100028

Date Analyzed: 2013-03-26

Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0810	81	80 - 120	2013-03-26
Toluene		1	mg/kg	0.100	0.0803	80	80 - 120	2013-03-26
Ethylbenzene		1	mg/kg	0.100	0.0835	84	80 - 120	2013-03-26
Xylene		1	mg/kg	0.300	0.249	83	80 - 120	2013-03-26

Report Date: March 26, 2013
112C05076

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Eddy Co., NM

Standard (CCV-2)

QC Batch: 100028

Date Analyzed: 2013-03-26

Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0919	92	80 - 120	2013-03-26
Toluene		1	mg/kg	0.100	0.0911	91	80 - 120	2013-03-26
Ethylbenzene		1	mg/kg	0.100	0.0920	92	80 - 120	2013-03-26
Xylene		1	mg/kg	0.300	0.275	92	80 - 120	2013-03-26

Standard (CCV-3)

QC Batch: 100028

Date Analyzed: 2013-03-26

Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0907	91	80 - 120	2013-03-26
Toluene		1	mg/kg	0.100	0.0886	89	80 - 120	2013-03-26
Ethylbenzene		1	mg/kg	0.100	0.0881	88	80 - 120	2013-03-26
Xylene		1	mg/kg	0.300	0.265	88	80 - 120	2013-03-26

Standard (CCV-1)

QC Batch: 100029

Date Analyzed: 2013-03-26

Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.930	93	80 - 120	2013-03-26

Standard (CCV-2)

QC Batch: 100029

Date Analyzed: 2013-03-26

Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.866	87	80 - 120	2013-03-26

Report Date: March 26, 2013
112C05076

Work Order: 13031824
COG/SRO SWD #104

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Eddy Co., NM

Standard (CCV-3)

QC Batch: 100029

Date Analyzed: 2013-03-26

Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		i	mg/Kg	1.00	0.874	87	80 - 120	2013-03-26

Standard (CCV-1)

QC Batch: 100032

Date Analyzed: 2013-03-26

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		i	mg/Kg	250	244	98	80 - 120	2013-03-26

Standard (CCV-2)

QC Batch: 100032

Date Analyzed: 2013-03-26

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		i	mg/Kg	250	270	108	80 - 120	2013-03-26

Standard (CCV-3)

QC Batch: 100032

Date Analyzed: 2013-03-26

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		i	mg/Kg	250	252	101	80 - 120	2013-03-26

Standard (CCV-1)

QC Batch: 99874

Date Analyzed: 2013-03-21

Analyzed By: CW

Report Date: March 26, 2013
112C05076

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Eddy Co., NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	234	94	80 - 120	2013-03-21

Standard (CCV-2)

QC Batch: 99874

Date Analyzed: 2013-03-21

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	219	88	80 - 120	2013-03-21

Standard (CCV-3)

QC Batch: 99874

Date Analyzed: 2013-03-21

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	245	98	80 - 120	2013-03-21

Standard (CCV-4)

QC Batch: 99874

Date Analyzed: 2013-03-21

Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	254	102	80 - 120	2013-03-21

Standard (CCV-1)

QC Batch: 99955

Date Analyzed: 2013-03-24

Analyzed By: AR

Report Date: March 26, 2013
112C05076

Work Order: 13031824
COG/SRO SWD #104

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Eddy Co., NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	98.8	99	85 - 115	2013-03-24

Standard (CCV-2)

QC Batch: 99955

Date Analyzed: 2013-03-24

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2013-03-24

Standard (CCV-1)

QC Batch: 99956

Date Analyzed: 2013-03-24

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2013-03-24

Standard (CCV-2)

QC Batch: 99956

Date Analyzed: 2013-03-24

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.8	100	85 - 115	2013-03-24

Standard (CCV-1)

QC Batch: 99957

Date Analyzed: 2013-03-24

Analyzed By: AR

Report Date: March 26, 2013
112C05076

Work Order: 13031824
COG/SRO SWD #104

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Eddy Co., NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2013-03-24

Standard (CCV-2)

QC Batch: 99957

Date Analyzed: 2013-03-24

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.5	100	85 - 115	2013-03-24

Standard (CCV-1)

QC Batch: 99958

Date Analyzed: 2013-03-24

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2013-03-24

Standard (CCV-2)

QC Batch: 99958

Date Analyzed: 2013-03-24

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.5	100	85 - 115	2013-03-24

Standard (CCV-1)

QC Batch: 99982

Date Analyzed: 2013-03-25

Analyzed By: AH

Report Date: March 26, 2013
112C05076

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COG/SRO SWD #104

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Eddy Co., NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0956	96	80 - 120	2013-03-25
Toluene		1	mg/kg	0.100	0.0951	95	80 - 120	2013-03-25
Ethylbenzene		1	mg/kg	0.100	0.0989	99	80 - 120	2013-03-25
Xylene		1	mg/kg	0.300	0.295	98	80 - 120	2013-03-25

Standard (CCV-2)

QC Batch: 99982

Date Analyzed: 2013-03-25

Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0869	87	80 - 120	2013-03-25
Toluene		1	mg/kg	0.100	0.0864	86	80 - 120	2013-03-25
Ethylbenzene		1	mg/kg	0.100	0.0882	88	80 - 120	2013-03-25
Xylene		1	mg/kg	0.300	0.264	88	80 - 120	2013-03-25

Standard (CCV-3)

QC Batch: 99982

Date Analyzed: 2013-03-25

Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.101	101	80 - 120	2013-03-25
Toluene		1	mg/kg	0.100	0.100	100	80 - 120	2013-03-25
Ethylbenzene		1	mg/kg	0.100	0.102	102	80 - 120	2013-03-25
Xylene		1	mg/kg	0.300	0.302	101	80 - 120	2013-03-25

Standard (CCV-1)

QC Batch: 99983

Date Analyzed: 2013-03-25

Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.806	81	80 - 120	2013-03-25

Report Date: March 26, 2013
112C05076

Work Order: 13031824
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Eddy Co., NM

Standard (CCV-2)

QC Batch: 99983

Date Analyzed: 2013-03-25

Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.822	82	80 - 120	2013-03-25

Standard (CCV-3)

QC Batch: 99983

Date Analyzed: 2013-03-25

Analyzed By: AH

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.831	83	80 - 120	2013-03-25

Appendix

Report Definitions

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

Laboratory Certifications

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

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less 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.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Result Comments

Report Date: March 26, 2013
112C05076

Work Order: 13031824
COG/SRO SWD #104

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Eddy Co., NM

- 1 RPD for MS/MSD are within laboratory control limits and show the batch to be under control.

Attachments

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

10031824

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 5

**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 Tovar

PROJECT NO.:

112005076

PROJECT NAME:

COG/SPD SWD #104

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

BTEX 8021B

TPH 8095 M05 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. 8240/8260/624

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

323794

7/11

S

X

Background (0-1')

1

X

795

Background (1-1.5')

1

X

796

Background (2-2.5')

1

X

797

Background (3-3.5')

1

X

798

AH1 (0-1')

1

X

KK

799

(1-1.5')

1

X

800

(2-2.5')

1

X

801

(3-3.5')

1

X

802

AH2 (0-1')

1

X

KK

803

(1-1.5')

1

X

RELINQUISHED BY: (Signature)

Date: 5-18-13

Time: 1403

RECEIVED BY: (Signature)

Date: 3/10/13

Time: 1403

SAMPLED BY: (Print & Initial)

REITF

Date: _____

Time: _____

RELINQUISHED BY: (Signature)

Date: _____

Time: _____

RECEIVED BY: (Signature)

Date: _____

Time: _____

SAMPLE SHIPPED BY: (Circle)

FEDEX BUS

HAND DELIVERED UPS

AIRBILL #: _____

OTHER: _____

RELINQUISHED BY: (Signature)

Date: _____

Time: _____

RECEIVED BY: (Signature)

Date: _____

Time: _____

TETRA TECH CONTACT PERSON:

Results by:

RECEIVING LABORATORY:

ADDRESS:

CITY:

CONTACT:

Tetra

Midland

STATE:

PHONE:

ZIP:

DATE:

TIME:

RECEIVED BY: (Signature)

DATE:

TIME:

Ike Tovar

RUSH Charges

Authorized:

Yes No

SAMPLE CONDITION WHEN RECEIVED:

REMARKS:

2.20

Run deeper sample if TPH exceeds 1000 mg/kg. Run deeper sample if Benzene exceeds 10 mg/kg and Total BTEX exceeds 50 mg/kg.

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

Midland all

RTH

13031824

Analysis Request of Chain of Custody Record

PAGE: 3 OF: 5

**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 Turez

PROJECT NO.:

11205576

PROJECT NAME:

COG/ SRD SWD # 104

Eddy Co, NM

SAMPLE IDENTIFICATION

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP	GRAB		NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	PRESERVATIVE METHOD
814	20/3		S	X		AH 5 (0-1')	1				X		KA
815			S	X		(1-1.5')	1				X		
816			S	X		(2-2.5')	1				X		
817			S	X		(3-3.5')	1				X		
818			S	X		AH 6 (0-1')	1				X		KK
819			S	X		(1-1.5')	1				X		
820			S	X		(2-2.5')	1				X		
821			S	X		(3-3.5')	1				X		
822			S	X		AH 7 (0-1')	1				X		KK
823			S	X		(1-1.5')	1				X		

RELINQUISHED BY: (Signature)

Date: 3-18-13

Time: 1403

RECEIVED BY: (Signature)

Date: 3/18/13

Time: 1403

SAMPLED BY: (Print & Initial)

PR/TF

Date: _____

Time: _____

RELINQUISHED BY: (Signature)

Date: _____

Time: _____

RECEIVED BY: (Signature)

Date: _____

Time: _____

SAMPLE SHIPPED BY: (Circle)

FEDEX

BUS

HAND DELIVERED

UPS

AIRBILL #: _____

OTHER: _____

RELINQUISHED BY: (Signature)

Date: _____

Time: _____

RECEIVED BY: (Signature)

Date: _____

Time: _____

TETRA TECH CONTACT PERSON:

Ike Turez

Results by:

RUSH Charges
Authorized:

Yes No

RECEIVING LABORATORY:

ADDRESS:

CITY: Midland

STATE: _____

ZIP: _____

CONTACT:

PHONE: _____

DATE: _____

TIME: _____

SAMPLE CONDITION WHEN RECEIVED:

REMARKS:

2.2

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

15031824

Analysis Request of Chain of Custody Record

PAGE: 5 OF: 5

**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:

C06

SITE MANAGER:

Ike Tovar

PROJECT NO.:

112005076

PROJECT NAME:

C06 / SR0 SWD #104

NUMBER OF CONTAINERS

PRESERVATIVE
METHOD

FILTERED (Y/N)

HCL

HNO3

ICE

NONE

LAB I.D.
NUMBERDATE
2-13

TIME

MATRIX

COMP.

GRAB

Eddy Co. nm
SAMPLE IDENTIFICATIONBTEX 6021B
TPH 8018 MONS 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. 8240/8260/624

GC/MS Semi. Vol. 8270/625

PCB's 8080/608

Pest. 808/608

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

RELINQUISHED BY: (Signature)

BTR

Date:

3-18-13

Time:

14:03

RECEIVED BY: (Signature)

BTR

Date:

3-18-13

Time:

14:03

SAMPLED BY: (Print & Initial)

BTR

Date:

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:

Results by:

RECEIVING LABORATORY:

Tetra

RECEIVED BY: (Signature)

ADDRESS:

CITY: Midland

STATE:

ZIP:

CONTACT:

PHONE:

DATE:

TIME:

SAMPLE CONDITION WHEN RECEIVED:

REMARKS:

2-20

Ike Tovar

RUSH Charges

Authorized:

Yes

No

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

AH

Summary Report

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

Report Date: June 25, 2013

Work Order: 13061839



Project Location: Eddy Co., NM
Project Name: COG/SRO SWD #104
Project Number: 112C05076

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
332623	CS 1 BH (AH-7) 4-4.5'	soil	2013-06-11	00:00	2013-06-18
332624	CS 2 BH (AH-6) 3-3.5'	soil	2013-06-11	00:00	2013-06-18
332627	T1 (AH-6) 0'	soil	2013-06-11	00:00	2013-06-18
332628	T1 (AH-6) 2'	soil	2013-06-11	00:00	2013-06-18
332629	T1 (AH-6) 4'	soil	2013-06-11	00:00	2013-06-18
332630	T1 (AH-6) 6'	soil	2013-06-11	00:00	2013-06-18
332631	T1 (AH-6) 8'	soil	2013-06-11	00:00	2013-06-18
332632	T1 (AH-6) 10'	soil	2013-06-11	00:00	2013-06-18
332633	T1 (AH-6) 12'	soil	2013-06-11	00:00	2013-06-18
332634	T2 (AH-7) 0'	soil	2013-06-11	00:00	2013-06-18
332635	T2 (AH-7) 2'	soil	2013-06-11	00:00	2013-06-18
332636	T2 (AH-7) 4'	soil	2013-06-11	00:00	2013-06-18
332637	T2 (AH-7) 6'	soil	2013-06-11	00:00	2013-06-18
332638	T2 (AH-7) 8'	soil	2013-06-11	00:00	2013-06-18
332639	T2 (AH-7) 10'	soil	2013-06-11	00:00	2013-06-18
332640	T2 (AH-7) 12'	soil	2013-06-11	00:00	2013-06-18

Sample: 332623 - CS 1 BH (AH-7) 4-4.5'

Param	Flag	Result	Units	RL
Chloride		691	mg/Kg	4

Sample: 332624 - CS 2 BH (AH-6) 3-3.5'

Param	Flag	Result	Units	RL
Chloride		1380	mg/Kg	4

Sample: 332627 - T1 (AH-6) 0'

Param	Flag	Result	Units	RL
Chloride		10700	mg/Kg	4

Sample: 332628 - T1 (AH-6) 2'

Param	Flag	Result	Units	RL
Chloride		5810	mg/Kg	4

Sample: 332629 - T1 (AH-6) 4'

Param	Flag	Result	Units	RL
Chloride		1560	mg/Kg	4

Sample: 332630 - T1 (AH-6) 6'

Param	Flag	Result	Units	RL
Chloride		204	mg/Kg	4

Sample: 332631 - T1 (AH-6) 8'

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

Sample: 332632 - T1 (AH-6) 10'

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

Sample: 332633 - T1 (AH-6) 12'

Param	Flag	Result	Units	RL
Chloride		97.2	mg/Kg	4

Sample: 332634 - T2 (AH-7) 0'

Param	Flag	Result	Units	RL
Chloride		6400	mg/Kg	4

Sample: 332635 - T2 (AH-7) 2'

Param	Flag	Result	Units	RL
Chloride		2410	mg/Kg	4

Sample: 332636 - T2 (AH-7) 4'

Param	Flag	Result	Units	RL
Chloride		1040	mg/Kg	4

Sample: 332637 - T2 (AH-7) 6'

Param	Flag	Result	Units	RL
Chloride		194	mg/Kg	4

Sample: 332638 - T2 (AH-7) 8'

Param	Flag	Result	Units	RL
Chloride		77.4	mg/Kg	4

Sample: 332639 - T2 (AH-7) 10'

Param	Flag	Result	Units	RL
Chloride		82.2	mg/Kg	4

Sample: 332640 - T2 (AH-7) 12'

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

Summary Report

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

Report Date: March 26, 2013

Work Order: 13031824



Project Location: Eddy Co., NM
Project Name: COG/SRO SWD #104
Project Number: 112C05076

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
323794	Background 0-1'	soil	2013-03-14	00:00	2013-03-18
323795	Background 1-1.5'	soil	2013-03-14	00:00	2013-03-18
323796	Background 2-2.5'	soil	2013-03-14	00:00	2013-03-18
323797	Background 3-3.5'	soil	2013-03-14	00:00	2013-03-18
323798	AH-1 0-1'	soil	2013-03-14	00:00	2013-03-18
323799	AH-1 1-1.5'	soil	2013-03-14	00:00	2013-03-18
323800	AH-1 2-2.5'	soil	2013-03-14	00:00	2013-03-18
323801	AH-1 3-3.5'	soil	2013-03-14	00:00	2013-03-18
323802	AH-2 0-1'	soil	2013-03-14	00:00	2013-03-18
323803	AH-2 1-1.5'	soil	2013-03-14	00:00	2013-03-18
323804	AH-2 2-2.5'	soil	2013-03-14	00:00	2013-03-18
323805	AH-2 3-3.5'	soil	2013-03-14	00:00	2013-03-18
323806	AH-3 0-1'	soil	2013-03-14	00:00	2013-03-18
323807	AH-3 1-1.5'	soil	2013-03-14	00:00	2013-03-18
323808	AH-3 2-2.5'	soil	2013-03-14	00:00	2013-03-18
323809	AH-3 3-3.5'	soil	2013-03-14	00:00	2013-03-18
323810	AH-4 0-1'	soil	2013-03-14	00:00	2013-03-18
323811	AH-4 1-1.5'	soil	2013-03-14	00:00	2013-03-18
323812	AH-4 2-2.5'	soil	2013-03-14	00:00	2013-03-18
323813	AH-4 3-3.5'	soil	2013-03-14	00:00	2013-03-18
323814	AH-5 0-1'	soil	2013-03-14	00:00	2013-03-18
323815	AH-5 1-1.5'	soil	2013-03-14	00:00	2013-03-18
323816	AH-5 2-2.5'	soil	2013-03-14	00:00	2013-03-18
323817	AH-5 3-3.5'	soil	2013-03-14	00:00	2013-03-18
323818	AH-6 0-1'	soil	2013-03-14	00:00	2013-03-18
323819	AH-6 1-1.5'	soil	2013-03-14	00:00	2013-03-18
323820	AH-6 2-2.5'	soil	2013-03-14	00:00	2013-03-18
323821	AH-6 3-3.5'	soil	2013-03-14	00:00	2013-03-18
323822	AH-7 0-1'	soil	2013-03-14	00:00	2013-03-18
323823	AH-7 1-1.5'	soil	2013-03-14	00:00	2013-03-18

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
323824	AH-7 2-2.5'	soil	2013-03-14	00:00	2013-03-18
323825	AH-7 3-3.5'	soil	2013-03-14	00:00	2013-03-18
323826	AH-8 0-1' Reserve Pit	soil	2013-03-14	00:00	2013-03-18
323828	AH-9 0-1' Reserve Pit	soil	2013-03-14	00:00	2013-03-18
323830	AH-10 0-1' Reserve Pit	soil	2013-03-14	00:00	2013-03-18
323832	AH-11 0-1' Reserve Pit	soil	2013-03-14	00:00	2013-03-18
323834	AH-12 0-1' Reserve Pit	soil	2013-03-14	00:00	2013-03-18

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)
323798 - AH-1 0-1'	<0.0200 Qs	<0.0200 Qs	<0.0200 Qs	<0.0200 Qs	<50.0	<4.00
323802 - AH-2 0-1'	<0.0200 Qs	<0.0200 Qs	<0.0200 Qs	<0.0200 Qs	<50.0	<4.00
323806 - AH-3 0-1'	<0.0200 Qs	<0.0200 Qs	<0.0200 Qs	<0.0200 Qs	<50.0	<4.00 Qs
323810 - AH-4 0-1'	<0.0200 Qs	<0.0200 Qs	<0.0200 Qs	<0.0200 Qs	<50.0	<4.00
323814 - AH-5 0-1'	<0.0200 Qs	<0.0200 Qs	<0.0200 Qs	<0.0200 Qs	<50.0	<4.00
323818 - AH-6 0-1'	<0.0200 Qs	<0.0200 Qs	<0.0200 Qs	<0.0200 Qs	<50.0	<4.00
323822 - AH-7 0-1'	<0.0200 Qs	<0.0200 Qs	<0.0200 Qs	<0.0200 Qs	<50.0	<4.00
323826 - AH-8 0-1' Reserve Pit	<0.0200 Qs	<0.0200 Qs	<0.0200 Qs	<0.0200 Qs	<50.0	<4.00
323828 - AH-9 0-1' Reserve Pit	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr,Qs	<0.0200 Qr,Qs	<50.0	<4.00 Qs
323830 - AH-10 0-1' Reserve Pit	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr,Qs	<0.0200 Qr,Qs	<50.0	<4.00 Qs
323832 - AH-11 0-1' Reserve Pit	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr,Qs	<0.0200 Qr,Qs	<50.0	<4.00 Qs
323834 - AH-12 0-1' Reserve Pit	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr,Qs	<0.0200 Qr,Qs	<50.0	<4.00 Qs

Sample: 323794 - Background 0-1'

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

Sample: 323795 - Background 1-1.5'

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

Sample: 323796 - Background 2-2.5'

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

Sample: 323797 - Background 3-3.5'

Param	Flag	Result	Units	RL
Chloride		79.1	mg/Kg	4

Sample: 323798 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		4470	mg/Kg	4

Sample: 323799 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		79.1	mg/Kg	4

Sample: 323800 - AH-1 2-2.5'

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

Sample: 323801 - AH-1 3-3.5'

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

Sample: 323802 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		2040	mg/Kg	4

Sample: 323803 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		440	mg/Kg	4

Sample: 323804 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		480	mg/Kg	4

Sample: 323805 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		549	mg/Kg	4

Sample: 323806 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		6570	mg/Kg	4

Sample: 323807 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		384	mg/Kg	4

Sample: 323808 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		1090	mg/Kg	4

Sample: 323809 - AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		314	mg/Kg	4

Sample: 323810 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		1080	mg/Kg	4

Sample: 323811 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		379	mg/Kg	4

Sample: 323812 - AH-4 2-2.5'

Param	Flag	Result	Units	RL
Chloride		538	mg/Kg	4

Sample: 323813 - AH-4 3-3.5'

Param	Flag	Result	Units	RL
Chloride		558	mg/Kg	4

Sample: 323814 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		2620	mg/Kg	4

Sample: 323815 - AH-5 1-1.5'

Param	Flag	Result	Units	RL
Chloride		917	mg/Kg	4

Sample: 323816 - AH-5 2-2.5'

Param	Flag	Result	Units	RL
Chloride		765	mg/Kg	4

Sample: 323817 - AH-5 3-3.5'

Param	Flag	Result	Units	RL
Chloride		322	mg/Kg	4

Sample: 323818 - AH-6 0-1'

Param	Flag	Result	Units	RL
Chloride		3120	mg/Kg	4

Sample: 323819 - AH-6 1-1.5'

Param	Flag	Result	Units	RL
Chloride		2250	mg/Kg	4

Sample: 323820 - AH-6 2-2.5'

Param	Flag	Result	Units	RL
Chloride		2660	mg/Kg	4

Sample: 323821 - AH-6 3-3.5'

Param	Flag	Result	Units	RL
Chloride		3630	mg/Kg	4

Sample: 323822 - AH-7 0-1'

Param	Flag	Result	Units	RL
Chloride		9150	mg/Kg	4

Sample: 323823 - AH-7 1-1.5'

Param	Flag	Result	Units	RL
Chloride		3310	mg/Kg	4

Sample: 323824 - AH-7 2-2.5'

Param	Flag	Result	Units	RL
Chloride		1580	mg/Kg	4

Sample: 323825 - AH-7 3-3.5'

Param	Flag	Result	Units	RL
Chloride		2160	mg/Kg	4



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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: June 25, 2013

Work Order: 13061839



Project Location: Eddy Co., NM
Project Name: COG/SRO SWD #104
Project Number: 112C05076

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
332623	CS 1 BH (AH-7) 4-4.5'	soil	2013-06-11	00:00	2013-06-18
332624	CS 2 BH (AH-6) 3-3.5'	soil	2013-06-11	00:00	2013-06-18
332627	T1 (AH-6) 0'	soil	2013-06-11	00:00	2013-06-18
332628	T1 (AH-6) 2'	soil	2013-06-11	00:00	2013-06-18
332629	T1 (AH-6) 4'	soil	2013-06-11	00:00	2013-06-18
332630	T1 (AH-6) 6'	soil	2013-06-11	00:00	2013-06-18
332631	T1 (AH-6) 8'	soil	2013-06-11	00:00	2013-06-18
332632	T1 (AH-6) 10'	soil	2013-06-11	00:00	2013-06-18
332633	T1 (AH-6) 12'	soil	2013-06-11	00:00	2013-06-18
332634	T2 (AH-7) 0'	soil	2013-06-11	00:00	2013-06-18
332635	T2 (AH-7) 2'	soil	2013-06-11	00:00	2013-06-18
332636	T2 (AH-7) 4'	soil	2013-06-11	00:00	2013-06-18
332637	T2 (AH-7) 6'	soil	2013-06-11	00:00	2013-06-18
332638	T2 (AH-7) 8'	soil	2013-06-11	00:00	2013-06-18
332639	T2 (AH-7) 10'	soil	2013-06-11	00:00	2013-06-18
332640	T2 (AH-7) 12'	soil	2013-06-11	00:00	2013-06-18

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch

basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 17 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

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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Sample 332630 (T1 (AH-6) 6')	6
Sample 332631 (T1 (AH-6) 8')	6
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Sample 332634 (T2 (AH-7) 0')	7
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Case Narrative

Samples for project COG/SRO SWD #104 were received by TraceAnalysis, Inc. on 2013-06-18 and assigned to work order 13061839. Samples for work order 13061839 were received intact at a temperature of 11.3 C. Samples were not on ice when received.

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	86840	2013-06-21 at 13:49	102556	2013-06-24 at 12:41
Chloride (Titration)	SM 4500-Cl B	86840	2013-06-21 at 13:49	102587	2013-06-24 at 15:06
Chloride (Titration)	SM 4500-Cl B	86840	2013-06-21 at 13:49	102588	2013-06-24 at 16:07

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 13061839 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: June 25, 2013
112C05076

Work Order: 13061839
COG/SRO SWD #104

Page Number: 5 of 17
Eddy Co., NM

Analytical Report

Sample: 332623 - CS 1 BH (AH-7) 4-4.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-06-24	Analyzed By:	AR
QC Batch:	102556	Sample Preparation:	2013-06-21	Prepared By:	AR
Prep Batch:	86840				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			691	mg/Kg	5	4.00

Sample: 332624 - CS 2 BH (AH-6) 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-06-24	Analyzed By:	AR
QC Batch:	102556	Sample Preparation:	2013-06-21	Prepared By:	AR
Prep Batch:	86840				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1380	mg/Kg	5	4.00

Sample: 332627 - T1 (AH-6) 0'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-06-24	Analyzed By:	AR
QC Batch:	102587	Sample Preparation:	2013-06-21	Prepared By:	AR
Prep Batch:	86840				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			10700	mg/Kg	10	4.00

Report Date: June 25, 2013
112C05076

Work Order: 13061839
COG/SRO SWD #104

Page Number: 6 of 17
Eddy Co., NM

Sample: 332628 - T1 (AH-6) 2'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	102587	Date Analyzed:	2013-06-24
Prep Batch:	86840	Sample Preparation:	2013-06-21
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			5810	mg/Kg	10	4.00

Sample: 332629 - T1 (AH-6) 4'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	102587	Date Analyzed:	2013-06-24
Prep Batch:	86840	Sample Preparation:	2013-06-21
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1560	mg/Kg	10	4.00

Sample: 332630 - T1 (AH-6) 6'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	102587	Date Analyzed:	2013-06-24
Prep Batch:	86840	Sample Preparation:	2013-06-21
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			204	mg/Kg	5	4.00

Sample: 332631 - T1 (AH-6) 8'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	102587	Date Analyzed:	2013-06-24
Prep Batch:	86840	Sample Preparation:	2013-06-21
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Report Date: June 25, 2013
112C05076

Work Order: 13061839
COG/SRO SWD #104

Page Number: 7 of 17
Eddy Co., NM

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

Sample: 332632 - T1 (AH-6) 10'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 102587 Date Analyzed: 2013-06-24 Analyzed By: AR
Prep Batch: 86840 Sample Preparation: 2013-06-21 Prepared By: AR

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

Sample: 332633 - T1 (AH-6) 12'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 102587 Date Analyzed: 2013-06-24 Analyzed By: AR
Prep Batch: 86840 Sample Preparation: 2013-06-21 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			97.2	mg/Kg	5	4.00

Sample: 332634 - T2 (AH-7) 0'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 102587 Date Analyzed: 2013-06-24 Analyzed By: AR
Prep Batch: 86840 Sample Preparation: 2013-06-21 Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			6400	mg/Kg	10	4.00

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112C05076

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Eddy Co., NM

Sample: 332635 - T2 (AH-7) 2'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-06-24	Analyzed By:	AR
QC Batch:	102587	Sample Preparation:	2013-06-21	Prepared By:	AR
Prep Batch:	86840				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			2410	mg/Kg	10	4.00

Sample: 332636 - T2 (AH-7) 4'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-06-24	Analyzed By:	AR
QC Batch:	102587	Sample Preparation:	2013-06-21	Prepared By:	AR
Prep Batch:	86840				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			1040	mg/Kg	10	4.00

Sample: 332637 - T2 (AH-7) 6'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-06-24	Analyzed By:	AR
QC Batch:	102588	Sample Preparation:	2013-06-21	Prepared By:	AR
Prep Batch:	86840				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			194	mg/Kg	5	4.00

Sample: 332638 - T2 (AH-7) 8'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-06-24	Analyzed By:	AR
QC Batch:	102588	Sample Preparation:	2013-06-21	Prepared By:	AR
Prep Batch:	86840				

Report Date: June 25, 2013
112C05076

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Eddy Co., NM

Parameter	Flag	Cert.	RL Result	Units	Dilution	RL
Chloride			77.4	mg/Kg	5	4.00

Sample: 332639 - T2 (AH-7) 10'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 102588

Prep Batch: 86840

Analytical Method: SM 4500-Cl B

Date Analyzed: 2013-06-24

Sample Preparation: 2013-06-21

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert.	RL Result	Units	Dilution	RL
Chloride			82.2	mg/Kg	5	4.00

Sample: 332640 - T2 (AH-7) 12'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 102588

Prep Batch: 86840

Analytical Method: SM 4500-Cl B

Date Analyzed: 2013-06-24

Sample Preparation: 2013-06-21

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

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

Report Date: June 25, 2013
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Eddy Co., NM

Method Blanks

Method Blank (1) QC Batch: 102556

QC Batch: 102556 Date Analyzed: 2013-06-24 Analyzed By: AR
Prep Batch: 86840 QC Preparation: 2013-06-21 Prepared By: AR

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

Method Blank (1) QC Batch: 102587

QC Batch: 102587 Date Analyzed: 2013-06-24 Analyzed By: AR
Prep Batch: 86840 QC Preparation: 2013-06-21 Prepared By: AR

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

Method Blank (1) QC Batch: 102588

QC Batch: 102588 Date Analyzed: 2013-06-24 Analyzed By: AR
Prep Batch: 86840 QC Preparation: 2013-06-21 Prepared By: AR

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

Report Date: June 25, 2013
112C05076

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COG/SRO SWD #104

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Eddy Co., NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 102556
Prep Batch: 86840

Date Analyzed: 2013-06-24
QC Preparation: 2013-06-21

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2720	mg/Kg	1	2500	<3.85	109	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			2630	mg/Kg	1	2500	<3.85	105	85 - 115	3	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 102587
Prep Batch: 86840

Date Analyzed: 2013-06-24
QC Preparation: 2013-06-21

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2630	mg/Kg	1	2500	<3.85	105	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2520	mg/Kg	1	2500	<3.85	101	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: 102588
Prep Batch: 86840

Date Analyzed: 2013-06-24
QC Preparation: 2013-06-21

Analyzed By: AR
Prepared By: AR

Report Date: June 25, 2013
112C05076

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Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2470	mg/Kg	1	2500	<3.85	99	85 - 115

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2600	mg/Kg	1	2500	<3.85	104	85 - 115	5	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: 332624

QC Batch: 102556
Prep Batch: 86840

Date Analyzed: 2013-06-24
QC Preparation: 2013-06-21

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			3920	mg/Kg	5	2500	1380	102	78.9 - 121

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			3790	mg/Kg	5	2500	1380	96	78.9 - 121	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: 332636

QC Batch: 102587
Prep Batch: 86840

Date Analyzed: 2013-06-24
QC Preparation: 2013-06-21

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			3250	mg/Kg	10	2500	1040	88	78.9 - 121

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			3500	mg/Kg	10	2500	1040	98	78.9 - 121	7	20

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

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112C05076

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Matrix Spike (MS-1) Spiked Sample: 332838

QC Batch: 102588
Prep Batch: 86840

Date Analyzed: 2013-06-24
QC Preparation: 2013-06-21

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2760	mg/Kg	5	2500	<19.2	110	78.9 - 121

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2870	mg/Kg	5	2500	<19.2	115	78.9 - 121	4	20

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

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112C05076

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Eddy Co., NM

Calibration Standards

Standard (CCV-1)

QC Batch: 102556

Date Analyzed: 2013-06-24

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.3	99	85 - 115	2013-06-24

Standard (CCV-2)

QC Batch: 102556

Date Analyzed: 2013-06-24

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2013-06-24

Standard (CCV-1)

QC Batch: 102587

Date Analyzed: 2013-06-24

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.8	100	85 - 115	2013-06-24

Standard (CCV-2)

QC Batch: 102587

Date Analyzed: 2013-06-24

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2013-06-24

Report Date: June 25, 2013
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Eddy Co., NM

Standard (CCV-1)

QC Batch: 102588

Date Analyzed: 2013-06-24

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.8	100	85 - 115	2013-06-24

Standard (CCV-2)

QC Batch: 102588

Date Analyzed: 2013-06-24

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2013-06-24

Appendix

Report Definitions

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

Laboratory Certifications

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

Standard Flags

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

Attachments

Report Date: June 25, 2013
112C05076

Work Order: 13061839
COG/SRO SWD #104

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

13061839

Analysis Request of Chain of Custody Record

PAGE:

OF: 2

**TETRA TECH**

1910 N. Big Spring St.

Midland, Texas 79705

(432) 682-4559 • Fax (432) 682-3946

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:

COG

SITE MANAGER:

Ike Tovar

PROJECT NO.:

112105076

PROJECT NAME:

COG/SKO 104 SWD

LAB I.D.
NUMBER

DATE

TIME

MATRIX

COMP

GRAB

SAMPLE IDENTIFICATION

Eddy Co, NM

NUMBER OF CONTAINERS
FILTERED (Y/N)PRESERVATIVE
METHOD

HCL

HNO3

ICE

NONE

BTX 8021B

TPH 8015 MOD. TX1005 (Ext. to C35)

PAH 8270

PCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCPL Metals Ag As Ba Cd Cr Pb Hg Se

TCPL Volatiles

TCPL Semi Volatiles

RC1

GC/MS Vol. 8240/8260/624

GC/MS Semi. Vol. 8270/625

PCB's 8080/608

Pest. 809/608

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

623

6/10

S

X

CS 1 BH (AH 7) 4-4.5'

1

624

6/11

S

X

CS 2 BH (AH 6) 3-3.5'

1

625

S

X

CS 3 BH (AH 3) 1'

1

626

S

X

CS 4 BH (AH 4) 0'

1

627

S

X

T1 (AH 6) 0'

1

628

S

X

2'

1

629

S

X

4'

1

630

S

X

6'

1

631

S

X

8'

1

632

S

X

10'

1

RELINQUISHED BY: (Signature)

BDR

Date: 6/11/13

Time: 12:00

RECEIVED BY: (Signature)

Ch Gonzalez

Date: 6-11-13

Time: 12:00

SAMPLED BY: (Print & Initial)

R

Date: _____

Time: _____

RELINQUISHED BY: (Signature)

Ch Gonzalez

Date: 6-11-13

Time: 12:00

RECEIVED BY: (Signature)

Ch Gonzalez

Date: 6-11-13

Time: 12:00

SAMPLE SHIPPED BY: (Circle)

FEDEX BUS

AIRBILL #: _____

RELINQUISHED BY: (Signature)

Ch Gonzalez

Date: 6-11-13

Time: 12:00

RECEIVED BY: (Signature)

Ch Gonzalez

Date: 6-11-13

Time: 12:00

TETRA TECH CONTACT PERSON:

Ike Tovar

Results by:

RUSH Charges

Authorized:

Yes No

RECEIVING LABORATORY:

ADDRESS:

CITY: Midland STATE: _____ ZIP: _____

CONTACT: _____ PHONE: _____ DATE: _____ TIME: _____

SAMPLE CONDITION WHEN RECEIVED:

113°

REMARKS:

Midland - all

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

13061839

Analysis Request of Chain of Custody Record

**TETRA TECH**

1910 N. Big Spring St.

Midland, Texas 79705

(432) 682-4559 • Fax (432) 682-3946

PAGE: 2 OF: 2ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:

106

SITE MANAGER:

Ike Tavares

PROJECT NO.:

12605076

PROJECT NAME:

106 / SRO 104 SAND

EPA, C, NM

LAB I.D.
NUMBER

DATE

TIME

MATRIX

COMP

GRAB

SAMPLE IDENTIFICATION

NUMBER OF CONTAINERS

FILTERED (Y/N)

HCL

HNO3

ICE

NONE

PRESERVATIVE
METHOD

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. 8240/8260/624

GC/MS Semi. Vol. 8270/625

PCB's 8080/608

Pest. 808/608

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

RELINQUISHED BY: (Signature)

Date:

6/11/13

Time:

1:30

RECEIVED BY: (Signature)

Date:

6-11-13

Time:

1:30

SAMPLED BY: (Print & Initial)

Date:

Time:

RELINQUISHED BY: (Signature)

Date:

6-18-13

Time:

16:24

RECEIVED BY: (Signature)

Date:

6-18-13

Time:

16:24

SAMPLE SHIPPED BY: (Circle)

FEDEX

BUS

AIRBILL #:

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

TETRA TECH CONTACT PERSON:

Results by:

RECEIVING LABORATORY:

Trace

RECEIVED BY: (Signature)

ADDRESS:

CITY: Midland

STATE:

ZIP:

CONTACT:

PHONE:

DATE:

TIME:

SAMPLE CONDITION WHEN RECEIVED:

REMARKS:

11.3°

Added CS-5 - rec but not listed

Ike Tavares

RUSH Charges
Authorized:

Yes

No

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