



TETRA TECH

RECEIVED

MAR 16 2012

NMOCD ARTESIA

February 17, 2012

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

**Re: Closure Report for SM Energy Company
Geronimo Federal Injection Station
Fiberglass Injection Line Release,
Unit G, Section 24, Township 18 South, Range 31 East
Eddy County, New Mexico**

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by SM Energy Company (SM Energy) to assess a fiberglass injection line release at the Geronimo Federal Injection Station located in Unit G, Section 24, Township 18 South, Range 31 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.73376°, W 103.82179°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on December 13, 2009. Approximately 475 barrels of produced water were released from a 2-3/8 inch fiberglass injection line. Approximately 440 barrels of produced water were recovered. The fiberglass line was repaired with new connections. The final C-141 is enclosed in Appendix A.

Hydrology

The New Mexico Office of the State Engineers (OSE) Website listed two water wells within 2 miles of the site. The closest well (identified by the OSE as CP 00896) did not have any information available. The second closest well (identified by the OSE as CP 00672) had a total depth of 540 feet and a depth to water of 460 feet. The Geology and Ground-Water Resources of Eddy County, New Mexico (Report 3) showed the closest well to be in Section 34 of Township 17 South and Range 31 East. This well is over 4 miles from the site, is reported to be over 271 in depth with a pumping rate of approximately 3.5 gallons per minute. Depth to water for this well is not available. The New Mexico Oil Conservation Division (OCD) regional groundwater gradient map for Eddy County shows the depth to groundwater in this section at approximately 280 feet.

According to the Geology and Ground-Water Resources of Eddy County, New Mexico (Report 3), the Santa Rosa Sandstone (Dockum Group) is present in a belt 10 to

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559 Fax 432.682.3946 www.tetrattech.com



20 miles wide along the east border of Eddy County. The Santa Rosa Sandstone consists of fine to coarse grain sands with minor shale layers generally red in coloration.

Regulatory

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

Soil Assessment and Results

On February 18, 2010, Tetra Tech personnel collected soils samples from up to 5.5 feet bgs utilizing a hand auger at seven locations within the spill area. The spill area was estimated to cover approximately 7,200 square feet. Soil sampling stopped in each location when auger refusal occurred. Soil samples were submitted for laboratory analysis of TPH by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. The laboratory analytical data indicated that the soil samples did not have BTEX or TPH concentrations above their detection limits. Chloride concentrations did however exceed 1,000 mg/kg.

On May 17, 2010, Tetra Tech personnel remobilized to the site with a drilling rig to advance soil borings in the areas previously assessed with a hand auger. SB-1 and SB-2 were advanced to 50 feet below ground surface (bgs), SB-3 was advanced to 40 feet bgs, SB-4 was advanced to 15 feet bgs and SB-5 was advanced to 13 feet bgs. Soil samples from the borings were submitted for laboratory analysis to evaluate the chloride concentration. The bottom sample in each boring did not exhibit chloride concentrations above the laboratory detection limits.

Referring to Table 1, all of the samples analyzed were below the RRAL for both BTEX and TPH. Analytical results indicate the maximum extent of chloride impact greater than 1,000 mg/kg extending to 40 feet (SB-1), 25 feet (SB-2), 20 feet (SB-3), 6 feet (SB-4) and 3 feet (SB-5). All sample locations had chloride concentrations that decreased with depth. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix B. The results of the sampling are summarized in Table 1. The borehole locations are shown on Figure 3.

Remediation and Closure Activities

A work plan that was dated April 26, 2011 was submitted and approved by the NMOCD. Tetra Tech personnel were on site September 6, 2011 through October 25, 2011 to oversee the removal of impacted material as discussed in the approved work plan. The proposed depths were not able to be reached in the areas of AH-1 through AH-4 due to numerous underground electrical lines and personal safety issues. The area was excavated to a depth of 1' bgs. The areas of AH-6 and AH-7 were excavated to a



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depth of 3' bgs, and field screening was used to ensure the area was properly excavated. Approximately 1,250 cubic yards of impacted soil were transported offsite for disposal at Lea Land, Inc. of Hobbs, New Mexico. Based on the results, the excavation north of the tank battery was backfilled with clean material to surface grade, ripped and seeded with a BLM #2 seed mix. The area on the pad was backfilled with clean material to surface grade and a 2.5' dike was constructed along the north end to prevent any further impact into the native areas.

Based on the remediation performed, SM Energy requests closure of the site. 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, INC.

Aaron M. Hale
Senior Project Manager

cc: Chad McNeely – SM Energy Company
Don Riggs – SM Energy Company
Mark Bondy – SM Energy Company
BLM – Jim Amos

FIGURES

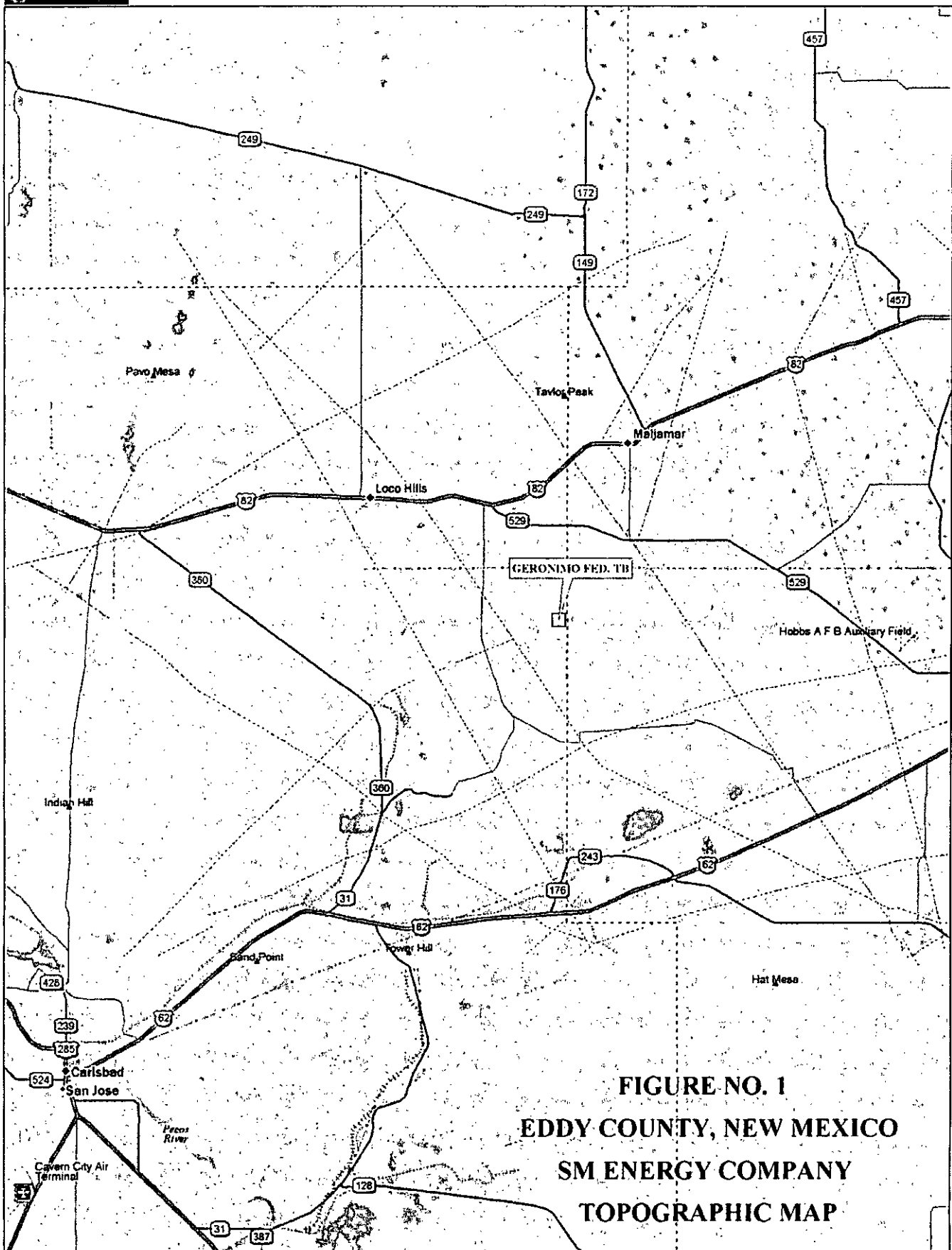
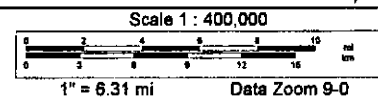


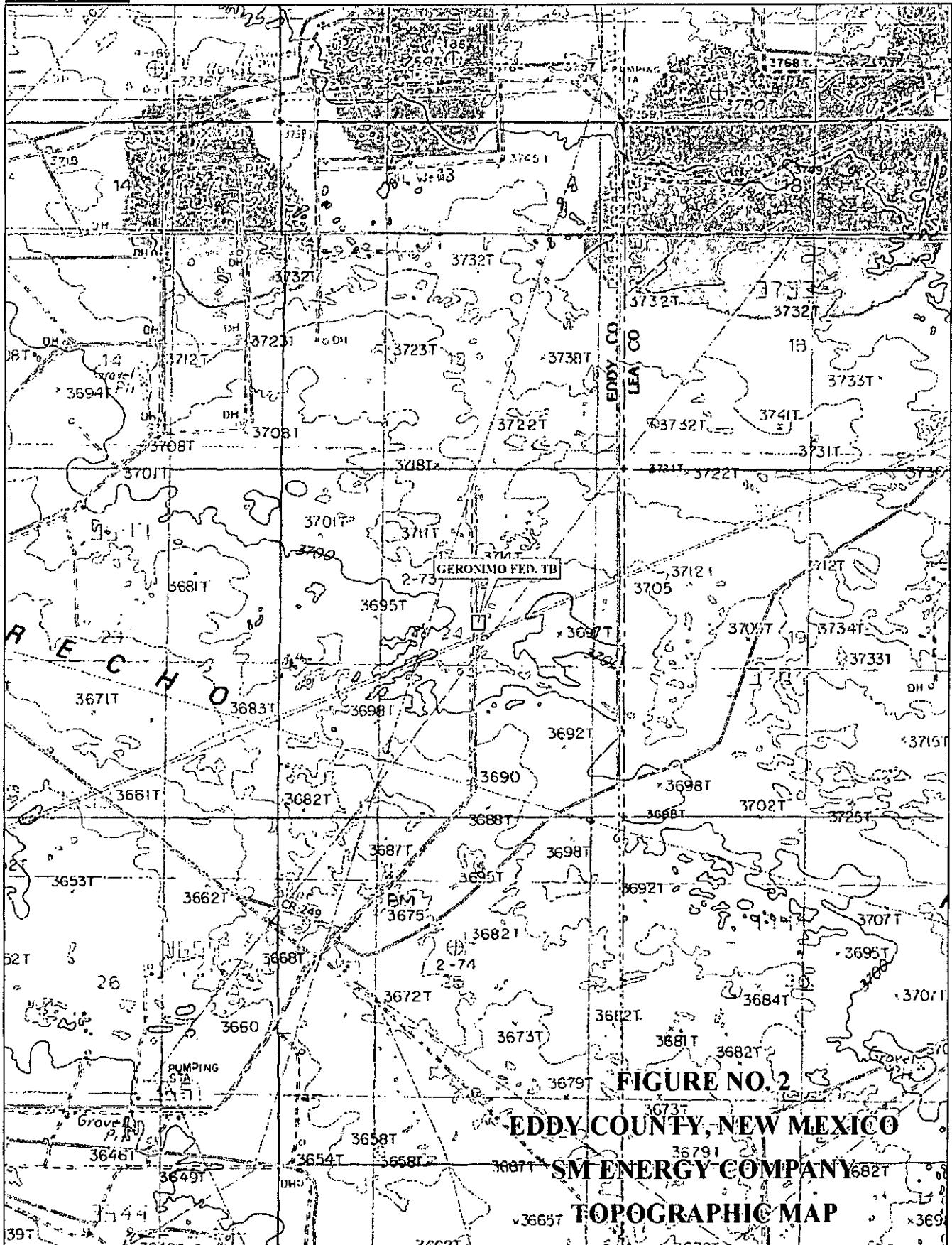
FIGURE NO. 1
EDDY COUNTY, NEW MEXICO
SM ENERGY COMPANY
TOPOGRAPHIC MAP

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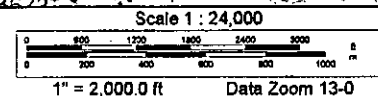




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NOT TO SCALE

TABLES

Table 1
St Mary Land & Exploration Co.
Geronimo Federal Injection Station
Eddy County, New Mexico

[illegible]

Table 1
St Mary Land & Exploration Co.
Geronimo Federal Injection Station
Eddy County, New Mexico

[illegible]

Table 1
St Mary Land & Exploration Co.
Geronimo Federal Injection Station
Eddy County, New Mexico

Sample ID	Date Sampled	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX	Chloride (mg/kg)
			In-Situ	Removed	DRO	GRO	Total						
AH-5	2/18/2010	0-1	X		<50.0	<1.00	<50.0	<0.01	<0.01	<0.01	<0.01	<0.01	<200
		1-1.5	X		-	-	-	-	-	-	-	-	<200
		2-2.5	X		-	-	-	-	-	-	-	-	<200
AH-6	2/18/2010	0-1		X	<50.0	<1.0	<50.0	-	-	-	-	-	5,900
		1-1.5		X	-	-	-	-	-	-	-	-	6,060
		1.5-2		X	-	-	-	-	-	-	-	-	5,240
SB-4	5/17/2010	1' 3'BEB		X	-	-	-	-	-	-	-	-	554
		3' 3'BEB		X	-	-	-	-	-	-	-	-	2,730
		5' 3'BEB	X		-	-	-	-	-	-	-	-	<200
		7' 3'BEB	X		-	-	-	-	-	-	-	-	<200
		10' 3'BEB	X		-	-	-	-	-	-	-	-	345
		15' 3'BEB	X		-	-	-	-	-	-	-	-	<200
AH-7	2/18/2010	0-1		X	<50.0	<1.00	<50.0	<0.01	<0.01	<0.01	<0.01	<0.01	2,330
		1-1.5		X	-	-	-	-	-	-	-	-	2,020
		2-2.5		X	-	-	-	-	-	-	-	-	4,380
SB-5	5/17/2010	1' 3'BEB		X	-	-	-	-	-	-	-	-	2,630
		3' 3'BEB		X	-	-	-	-	-	-	-	-	3,540
		5' 3'BEB	X		-	-	-	-	-	-	-	-	287
		7' 3'BEB	X		-	-	-	-	-	-	-	-	211
		10' 3'BEB	X		-	-	-	-	-	-	-	-	<200

(-) Not Analyzed

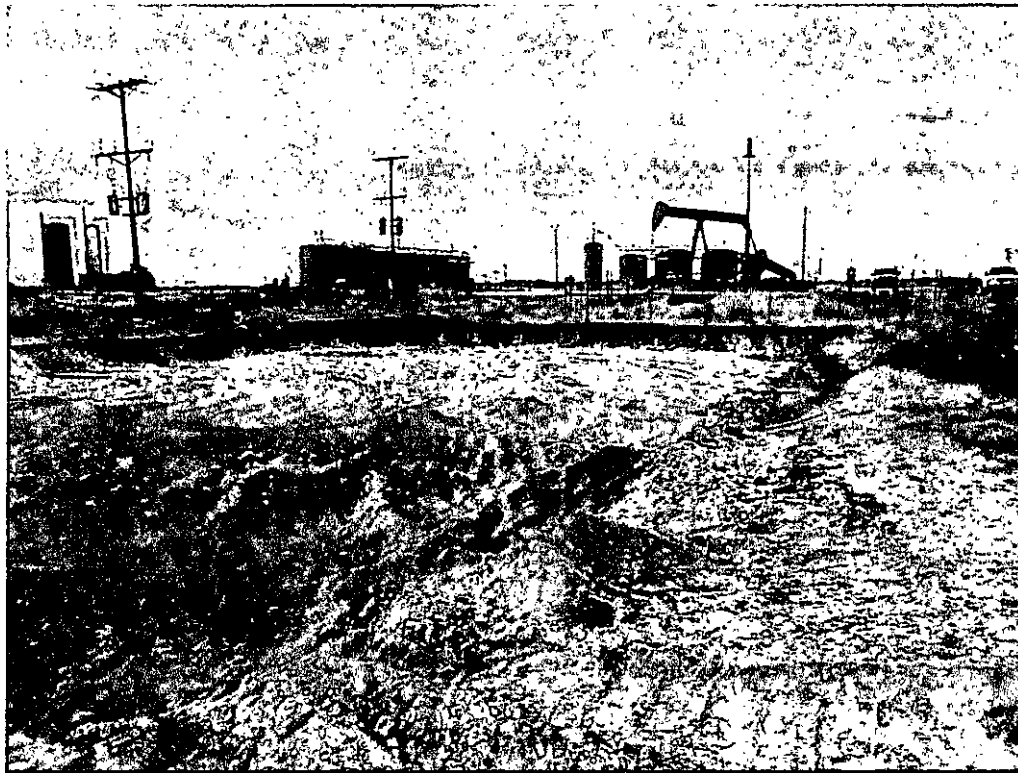
☐ Excavated Material

PHOTOGRAPHS

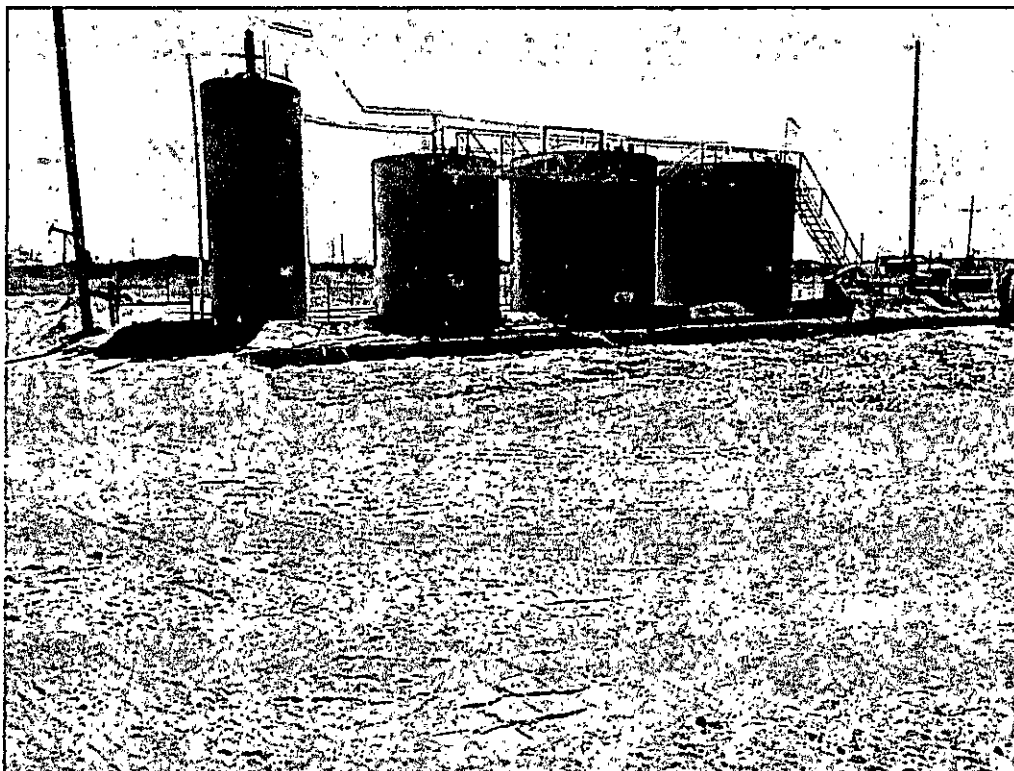
St. Mary Land &
Exploration
Geronimo Fed Inj Station
Eddy County, New Mexico



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View South – AH-6 and 7

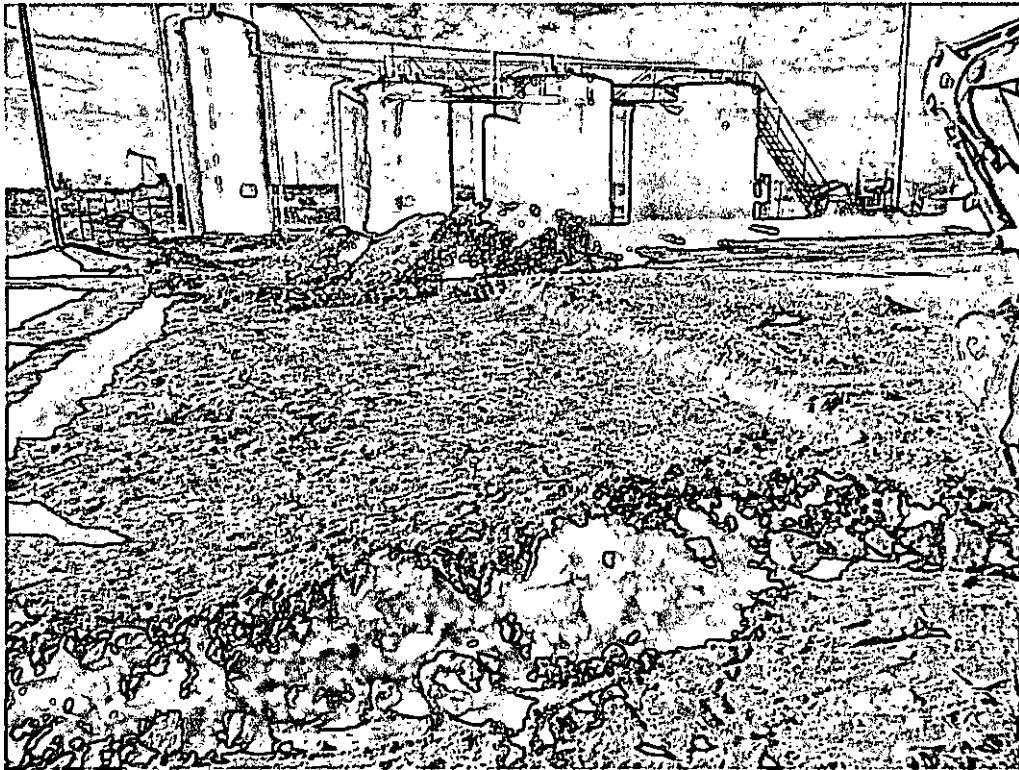


View South – AH-1,2 and 3

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Geronimo Fed Inj Station
Eddy County, New Mexico



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View South – AH-4

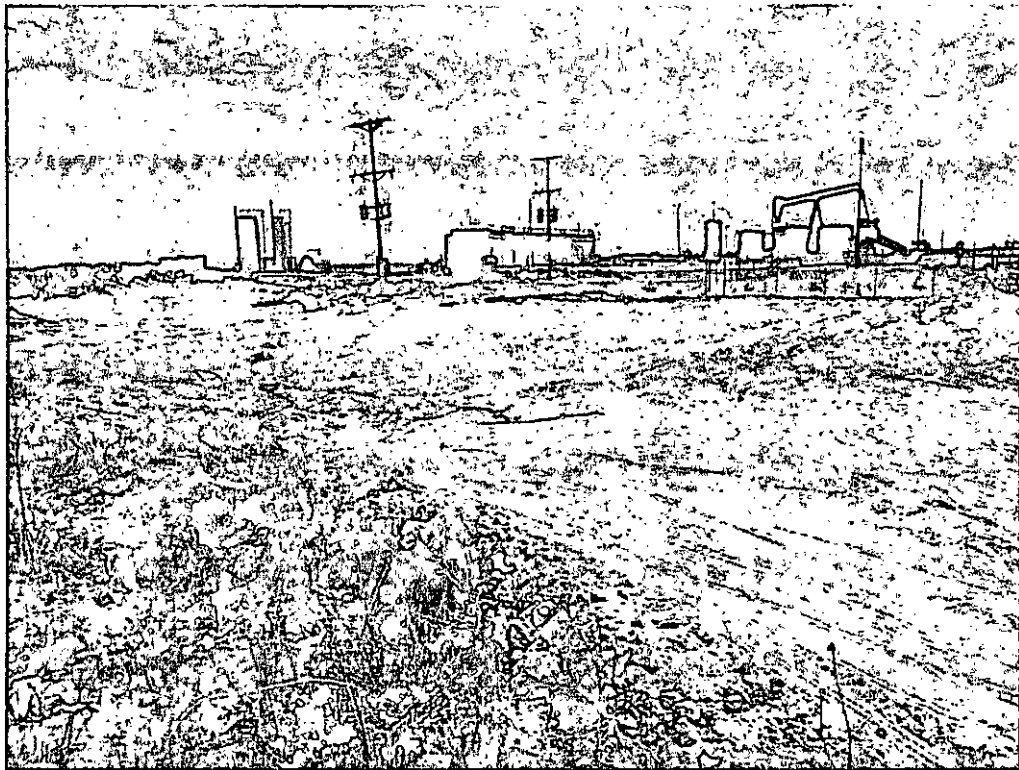


View South – AH-4

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View South - Backfill



View South - Backfill

APPENDIX A

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	St. Mary Land & Exploration Co.	Contact	Donna Huddleston
Address	3300 N. A Street, Bldg. 7, Ste. 200 Midland, Tx	Telephone No.	(432) 688-1789
Facility Name	Geronimo Federal Injection Station	Facility Type	Injection Station
Surface Owner: BLM	Mineral Owner: BLM	Lease No. NM 0467931	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	24	18S	31E					Eddy

Latitude N 32.73376° Longitude W 103.82179°

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release 475 bbls	Volume Recovered 440 bbls
Source of Release: Changeover at Triplex pump discharge line	Date and Hour of Occurrence 12/13/09	Date and Hour of Discovery 12/13/09 8:00 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom?	
By Whom? Bill Hearne	Date and Hour 12/13/09 10:30 a.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	
If a Watercourse was Impacted, Describe Fully.* N/A		
Describe Cause of Problem and Remedial Action Taken.* A fiberglass changeover from 2 3/8" Centron fiberglass injection line and 2 3/8" steel IPC pipe. Picked up 440 bbl water and repaired leak at changover.		
Describe Area Affected and Cleanup Action Taken.* Tetra Tech inspected site and collected samples to define spills extent. Soil that exceeded RRAL was removed and hauled away for proper disposal. Site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD for review.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		
Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Aaron Hale agent for SM Energy	Approved by District Supervisor:	
Title: Project Manager	Approval Date:	Expiration Date:
E-mail Address: aaron.hale@tetrattech.com	Conditions of Approval:	Attached ☐
Date:	Phone: (432) 682-4559	

Attach Additional Sheets If Necessary

APPENDIX B



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

Certifications

WBENC: 237019

HUB: 1752439743100-86536
NCTRCA WFWB38444Y0909

DBE: VN 20657

NELAP Certifications

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

El Paso: T104704221-08-TX
LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

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

Report Date: May 21, 2010

Work Order: 10051818



Project Location: Eddy County, NM
Project Name: St. Mary/Geronimo TB
Project Number: 114-6400431

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
232132	SB-1 3'	soil	2010-05-17	00:00	2010-05-18
232133	SB-1 5'	soil	2010-05-17	00:00	2010-05-18
232134	SB-1 7'	soil	2010-05-17	00:00	2010-05-18
232135	SB-1 10'	soil	2010-05-17	00:00	2010-05-18
232136	SB-1 15'	soil	2010-05-17	00:00	2010-05-18
232137	SB-1 20'	soil	2010-05-17	00:00	2010-05-18
232142	SB-2 3'	soil	2010-05-17	00:00	2010-05-18
232143	SB-2 5'	soil	2010-05-17	00:00	2010-05-18
232144	SB-2 7'	soil	2010-05-17	00:00	2010-05-18
232145	SB-2 10'	soil	2010-05-17	00:00	2010-05-18

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
232146	SB-2 15'	soil	2010-05-17	00:00	2010-05-18
232147	SB-2 20'	soil	2010-05-17	00:00	2010-05-18
232148	SB-2 25'	soil	2010-05-17	00:00	2010-05-18
232149	SB-2 30'	soil	2010-05-17	00:00	2010-05-18
232150	SB-2 40'	soil	2010-05-17	00:00	2010-05-18
232151	SB-2 50'	soil	2010-05-17	00:00	2010-05-18
232152	SB-3 3'	soil	2010-05-17	00:00	2010-05-18
232153	SB-3 5'	soil	2010-05-17	00:00	2010-05-18
232154	SB-3 7'	soil	2010-05-17	00:00	2010-05-18
232155	SB-3 10'	soil	2010-05-17	00:00	2010-05-18
232156	SB-3 15'	soil	2010-05-17	00:00	2010-05-18
232157	SB-3 20'	soil	2010-05-17	00:00	2010-05-18
232158	SB-3 25'	soil	2010-05-17	00:00	2010-05-18
232159	SB-3 30'	soil	2010-05-17	00:00	2010-05-18
232160	SB-3 40'	soil	2010-05-17	00:00	2010-05-18
232161	SB-4 1' 3' BEB	soil	2010-05-17	00:00	2010-05-18
232162	SB-4 3' 3' BEB	soil	2010-05-17	00:00	2010-05-18
232163	SB-4 5' 3' BEB	soil	2010-05-17	00:00	2010-05-18
232164	SB-4 7' 3' BEB	soil	2010-05-17	00:00	2010-05-18
232165	SB-4 10' 3' BEB	soil	2010-05-17	00:00	2010-05-18
232166	SB-4 15' 3' BEB	soil	2010-05-17	00:00	2010-05-18
232167	SB-5 1' 3' BEB	soil	2010-05-17	00:00	2010-05-18
232168	SB-5 3' 3' BEB	soil	2010-05-17	00:00	2010-05-18
232169	SB-5 5' 3' BEB	soil	2010-05-17	00:00	2010-05-18
232170	SB-5 7' 3' BEB	soil	2010-05-17	00:00	2010-05-18
232171	SB-5 10' 3' BEB	soil	2010-05-17	00:00	2010-05-18

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



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

Standard Flags

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

Case Narrative

Samples for project St. Mary/Geronimo TB were received by TraceAnalysis, Inc. on 2010-05-18 and assigned to work order 10051818. Samples for work order 10051818 were received intact at a temperature of 20.3 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	60079	2010-05-19 at 08:31	70229	2010-05-20 at 16:47
Chloride (Titration)	SM 4500-Cl B	60119	2010-05-20 at 08:43	70230	2010-05-20 at 16:48
Chloride (Titration)	SM 4500-Cl B	60120	2010-05-20 at 08:44	70232	2010-05-20 at 16:49
Chloride (Titration)	SM 4500-Cl B	60121	2010-05-20 at 08:45	70261	2010-05-21 at 11:12
Chloride (Titration)	SM 4500-Cl B	60122	2010-05-20 at 08:54	70262	2010-05-21 at 11:13

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 10051818 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: May 21, 2010
114-6400431

Work Order: 10051818
St. Mary/Geronimo TB

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Eddy County, NM

Analytical Report

Sample: 232132 - SB-1 3'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-05-20	Analyzed By:	AR
QC Batch:	70229	Sample Preparation:	2010-05-20	Prepared By:	AR
Prep Batch:	60079				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2740	mg/Kg	100	4.00

Sample: 232133 - SB-1 5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-05-20	Analyzed By:	AR
QC Batch:	70229	Sample Preparation:	2010-05-20	Prepared By:	AR
Prep Batch:	60079				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1870	mg/Kg	100	4.00

Sample: 232134 - SB-1 7'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-05-20	Analyzed By:	AR
QC Batch:	70229	Sample Preparation:	2010-05-20	Prepared By:	AR
Prep Batch:	60079				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2450	mg/Kg	100	4.00

Sample: 232135 - SB-1 10'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-05-20	Analyzed By:	AR
QC Batch:	70229	Sample Preparation:	2010-05-20	Prepared By:	AR
Prep Batch:	60079				

continued ...

Report Date: May 21, 2010
114-6400431

Work Order: 10051818
St. Mary/Geronimo TB

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Eddy County, NM

sample 232135 continued...

Parameter	Flag	RL Result	Units	Dilution	RL
Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1800	mg/Kg	100	4.00

Sample: 232136 - SB-1 15'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 70230 Date Analyzed: 2010-05-20 Analyzed By: AR
Prep Batch: 60119 Sample Preparation: 2010-05-20 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		569	mg/Kg	50	4.00

Sample: 232137 - SB-1 20'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 70230 Date Analyzed: 2010-05-20 Analyzed By: AR
Prep Batch: 60119 Sample Preparation: 2010-05-20 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		945	mg/Kg	50	4.00

Sample: 232142 - SB-2 3'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 70230 Date Analyzed: 2010-05-20 Analyzed By: AR
Prep Batch: 60119 Sample Preparation: 2010-05-20 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2920	mg/Kg	100	4.00

Report Date: May 21, 2010
114-6400431

Work Order: 10051818
St. Mary/Geronimo TB

Page Number: 6 of 19
Eddy County, NM

Sample: 232143 - SB-2 5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-05-20	Analyzed By:	AR
QC Batch:	70230	Sample Preparation:	2010-05-20	Prepared By:	AR
Prep Batch:	60119				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		9800	mg/Kg	100	4.00

Sample: 232144 - SB-2 7'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-05-20	Analyzed By:	AR
QC Batch:	70230	Sample Preparation:	2010-05-20	Prepared By:	AR
Prep Batch:	60119				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		6320	mg/Kg	100	4.00

Sample: 232145 - SB-2 10'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-05-20	Analyzed By:	AR
QC Batch:	70230	Sample Preparation:	2010-05-20	Prepared By:	AR
Prep Batch:	60119				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		3600	mg/Kg	100	4.00

Sample: 232146 - SB-2 15'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-05-20	Analyzed By:	AR
QC Batch:	70230	Sample Preparation:	2010-05-20	Prepared By:	AR
Prep Batch:	60119				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2860	mg/Kg	100	4.00

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Sample: 232147 - SB-2 20'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 70230 Date Analyzed: 2010-05-20 Analyzed By: AR
Prep Batch: 60119 Sample Preparation: 2010-05-20 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2240	mg/Kg	100	4.00

Sample: 232148 - SB-2 25'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 70230 Date Analyzed: 2010-05-20 Analyzed By: AR
Prep Batch: 60119 Sample Preparation: 2010-05-20 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1130	mg/Kg	50	4.00

Sample: 232149 - SB-2 30'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 70230 Date Analyzed: 2010-05-20 Analyzed By: AR
Prep Batch: 60119 Sample Preparation: 2010-05-20 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		853	mg/Kg	50	4.00

Sample: 232150 - SB-2 40'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 70232 Date Analyzed: 2010-05-20 Analyzed By: AR
Prep Batch: 60120 Sample Preparation: 2010-05-20 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		768	mg/Kg	50	4.00

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Sample: 232151 - SB-2 50'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-05-20	Analyzed By:	AR
QC Batch:	70232	Sample Preparation:	2010-05-20	Prepared By:	AR
Prep Batch:	60120				

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

Sample: 232152 - SB-3 3'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-05-20	Analyzed By:	AR
QC Batch:	70232	Sample Preparation:	2010-05-20	Prepared By:	AR
Prep Batch:	60120				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2540	mg/Kg	100	4.00

Sample: 232153 - SB-3 5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-05-20	Analyzed By:	AR
QC Batch:	70232	Sample Preparation:	2010-05-20	Prepared By:	AR
Prep Batch:	60120				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2360	mg/Kg	100	4.00

Sample: 232154 - SB-3 7'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-05-20	Analyzed By:	AR
QC Batch:	70232	Sample Preparation:	2010-05-20	Prepared By:	AR
Prep Batch:	60120				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2080	mg/Kg	100	4.00

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Sample: 232155 - SB-3 10'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-05-20	Analyzed By:	AR
QC Batch:	70232	Sample Preparation:	2010-05-20	Prepared By:	AR
Prep Batch:	60120				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		3400	mg/Kg	100	4.00

Sample: 232156 - SB-3 15'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-05-20	Analyzed By:	AR
QC Batch:	70232	Sample Preparation:	2010-05-20	Prepared By:	AR
Prep Batch:	60120				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1490	mg/Kg	50	4.00

Sample: 232157 - SB-3 20'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-05-20	Analyzed By:	AR
QC Batch:	70232	Sample Preparation:	2010-05-20	Prepared By:	AR
Prep Batch:	60120				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1630	mg/Kg	50	4.00

Sample: 232158 - SB-3 25'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-05-20	Analyzed By:	AR
QC Batch:	70232	Sample Preparation:	2010-05-20	Prepared By:	AR
Prep Batch:	60120				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		943	mg/Kg	50	4.00

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Sample: 232159 - SB-3 30'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 70232 Date Analyzed: 2010-05-20 Analyzed By: AR
Prep Batch: 60120 Sample Preparation: 2010-05-20 Prepared By: AR

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

Sample: 232160 - SB-3 40'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 70261 Date Analyzed: 2010-05-21 Analyzed By: AR
Prep Batch: 60121 Sample Preparation: 2010-05-20 Prepared By: AR

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

Sample: 232161 - SB-4 1' 3' BEB

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 70261 Date Analyzed: 2010-05-21 Analyzed By: AR
Prep Batch: 60121 Sample Preparation: 2010-05-20 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		554	mg/Kg	50	4.00

Sample: 232162 - SB-4 3' 3' BEB

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 70261 Date Analyzed: 2010-05-21 Analyzed By: AR
Prep Batch: 60121 Sample Preparation: 2010-05-20 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2730	mg/Kg	100	4.00

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Sample: 232163 - SB-4 5' 3' BEB

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 70261 Date Analyzed: 2010-05-21 Analyzed By: AR
Prep Batch: 60121 Sample Preparation: 2010-05-20 Prepared By: AR

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

Sample: 232164 - SB-4 7' 3' BEB

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 70261 Date Analyzed: 2010-05-21 Analyzed By: AR
Prep Batch: 60121 Sample Preparation: 2010-05-20 Prepared By: AR

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

Sample: 232165 - SB-4 10' 3' BEB

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 70261 Date Analyzed: 2010-05-21 Analyzed By: AR
Prep Batch: 60121 Sample Preparation: 2010-05-20 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		345	mg/Kg	50	4.00

Sample: 232166 - SB-4 15' 3' BEB

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 70261 Date Analyzed: 2010-05-21 Analyzed By: AR
Prep Batch: 60121 Sample Preparation: 2010-05-20 Prepared By: AR

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

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Sample: 232167 - SB-5 1' 3' BEB

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-05-21	Analyzed By:	AR
QC Batch:	70261	Sample Preparation:	2010-05-20	Prepared By:	AR
Prep Batch:	60121				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2630	mg/Kg	100	4.00

Sample: 232168 - SB-5 3' 3' BEB

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-05-21	Analyzed By:	AR
QC Batch:	70261	Sample Preparation:	2010-05-20	Prepared By:	AR
Prep Batch:	60121				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		3540	mg/Kg	100	4.00

Sample: 232169 - SB-5 5' 3' BEB

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-05-21	Analyzed By:	AR
QC Batch:	70261	Sample Preparation:	2010-05-20	Prepared By:	AR
Prep Batch:	60121				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		287	mg/Kg	50	4.00

Sample: 232170 - SB-5 7' 3' BEB

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-05-21	Analyzed By:	AR
QC Batch:	70262	Sample Preparation:	2010-05-20	Prepared By:	AR
Prep Batch:	60122				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		211	mg/Kg	50	4.00

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Sample: 232171 - SB-5 10' 3' BEB

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 70262

Prep Batch: 60122

Analytical Method: SM 4500-Cl B

Date Analyzed: 2010-05-21

Sample Preparation: 2010-05-20

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

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

Method Blank (1) QC Batch: 70229

QC Batch: 70229

Prep Batch: 60079

Date Analyzed: 2010-05-20

QC Preparation: 2010-05-19

Analyzed By: AR

Prepared By: AR

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

Method Blank (1) QC Batch: 70230

QC Batch: 70230

Prep Batch: 60119

Date Analyzed: 2010-05-20

QC Preparation: 2010-05-20

Analyzed By: AR

Prepared By: AR

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

Method Blank (1) QC Batch: 70232

QC Batch: 70232

Prep Batch: 60120

Date Analyzed: 2010-05-20

QC Preparation: 2010-05-20

Analyzed By: AR

Prepared By: AR

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

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Method Blank (1) QC Batch: 70261

QC Batch: 70261
Prep Batch: 60121

Date Analyzed: 2010-05-21
QC Preparation: 2010-05-20

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 70262

QC Batch: 70262
Prep Batch: 60122

Date Analyzed: 2010-05-21
QC Preparation: 2010-05-20

Analyzed By: AR
Prepared By: AR

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

Laboratory Control Spike (LCS-1)

QC Batch: 70229
Prep Batch: 60079

Date Analyzed: 2010-05-20
QC Preparation: 2010-05-19

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.9	mg/Kg	1	100	<2.18	99	85 - 115

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

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	101	mg/Kg	1	100	<2.18	101	85 - 115	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 70230
Prep Batch: 60119

Date Analyzed: 2010-05-20
QC Preparation: 2010-05-20

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.9	mg/Kg	1	100	<2.18	99	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	102	mg/Kg	1	100	<2.18	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: 70232
Prep Batch: 60120

Date Analyzed: 2010-05-20
QC Preparation: 2010-05-20

Analyzed By: AR
Prepared By: AR

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

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	103	mg/Kg	1	100	<2.18	103	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: 70261
Prep Batch: 60121

Date Analyzed: 2010-05-21
QC Preparation: 2010-05-20

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	99.0	mg/Kg	1	100	<2.18	99	85 - 115

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

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

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

Laboratory Control Spike (LCS-1)

QC Batch: 70262
Prep Batch: 60122

Date Analyzed: 2010-05-21
QC Preparation: 2010-05-20

Analyzed By: AR
Prepared By: AR

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Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.4	mg/Kg	1	100	<2.18	98	85 - 115

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

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

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

Matrix Spike (MS-1) Spiked Sample: 232135

QC Batch: 70229
Prep Batch: 60079

Date Analyzed: 2010-05-20
QC Preparation: 2010-05-19

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	11800	mg/Kg	100	10000	1800	100	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	12000	mg/Kg	100	10000	1800	102	85 - 115	2	20

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

Matrix Spike (MS-1) Spiked Sample: 232149

QC Batch: 70230
Prep Batch: 60119

Date Analyzed: 2010-05-20
QC Preparation: 2010-05-20

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10900	mg/Kg	100	10000	853	100	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	11100	mg/Kg	100	10000	853	102	85 - 115	2	20

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

Matrix Spike (MS-1) Spiked Sample: 232159

QC Batch: 70232
Prep Batch: 60120

Date Analyzed: 2010-05-20
QC Preparation: 2010-05-20

Analyzed By: AR
Prepared By: AR

Report Date: May 21, 2010
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Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	11800	mg/Kg	100	10000	709	111	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	12000	mg/Kg	100	10000	709	113	85 - 115	2	20

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

Matrix Spike (MS-1) Spiked Sample: 232169

QC Batch: 70261
Prep Batch: 60121

Date Analyzed: 2010-05-21
QC Preparation: 2010-05-20

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10400	mg/Kg	100	10000	287	101	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10500	mg/Kg	100	10000	287	102	85 - 115	1	20

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

Matrix Spike (MS-1) Spiked Sample: 232171

QC Batch: 70262
Prep Batch: 60122

Date Analyzed: 2010-05-21
QC Preparation: 2010-05-20

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	9700	mg/Kg	100	10000	<218	96	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	9880	mg/Kg	100	10000	<218	97	85 - 115	2	20

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

Standard (ICV-1)

QC Batch: 70229

Date Analyzed: 2010-05-20

Analyzed By: AR

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Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.9	98	85 - 115	2010-05-20

Standard (CCV-1)

QC Batch: 70229

Date Analyzed: 2010-05-20

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	102	102	85 - 115	2010-05-20

Standard (ICV-1)

QC Batch: 70230

Date Analyzed: 2010-05-20

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	103	103	85 - 115	2010-05-20

Standard (CCV-1)

QC Batch: 70230

Date Analyzed: 2010-05-20

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.3	97	85 - 115	2010-05-20

Standard (ICV-1)

QC Batch: 70232

Date Analyzed: 2010-05-20

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.2	98	85 - 115	2010-05-20

Standard (CCV-1)

QC Batch: 70232

Date Analyzed: 2010-05-20

Analyzed By: AR

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	102	102	85 - 115	2010-05-20

Standard (ICV-1)

QC Batch: 70261

Date Analyzed: 2010-05-21

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	102	102	85 - 115	2010-05-21

Standard (CCV-1)

QC Batch: 70261

Date Analyzed: 2010-05-21

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.3	98	85 - 115	2010-05-21

Standard (ICV-1)

QC Batch: 70262

Date Analyzed: 2010-05-21

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.1	99	85 - 115	2010-05-21

Standard (CCV-1)

QC Batch: 70262

Date Analyzed: 2010-05-21

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-05-21

Analysis Request of Chain of Custody Record

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ANALYSIS REQUEST
(Circle or Specify Method No.)



TETRA TECH

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

CLIENT NAME: <i>St Mary</i>		SITE MANAGER: <i>Ike Tovar</i>	
PROJECT NO.: <i>114-6400431</i>		PROJECT NAME: <i>St Mary / Gerardo Federal TB</i>	
LAB I.D. NUMBER	DATE	TIME	MATRIX
<i>232132</i>	<i>5/17</i>		<i>S</i>
<i>133</i>			<i>X</i>
<i>134</i>			<i>X</i>
<i>135</i>			<i>X</i>
<i>136</i>			<i>X</i>
<i>137</i>			<i>X</i>
<i>138</i>			<i>X</i>
<i>139</i>			<i>X</i>
<i>140</i>			<i>X</i>
<i>141</i>			<i>X</i>

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)
RECEIVING LABORATORY: <i>Tetra</i>	RECEIVED BY: (Signature)
ADDRESS:	
CITY: <i>Midland</i>	STATE: <i>TX</i>
CONTACT:	PHONE: <i>504 5807</i>
REMARKS: <i>20.3°C intact</i>	

BTEX 6021B	TPH 8015 MOD, TX1006 (Ext. to C95)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	PCI	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
------------	------------------------------------	----------	-------------------------------------	-------------------------------------	----------------	---------------------	-----	--------------------------	---------------------------	----------------	---------------	----------	-------------	------------------	----------------	-------------------------------

SAMPLED BY: (Print & Initial)	Date: <i>5-17-06</i>
SAMPLE SHIPPED BY: (Circle)	AIRBILL #:
FEDEX	OTHER:
GRAND DELIVERED	BUS
TETRA TECH CONTACT PERSON:	UPS
<i>Ike Tovar</i>	
Results by:	
RUSH Charges	Yes
Authorized:	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.

Order # 10057818

Analysis Request of Chain of Custody Record



TETRA TECH

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

CLIENT NAME: <i>St Mary</i>		SITE MANAGER: <i>Elle Tovar</i>	
PROJECT NO.: 114-6400431		PROJECT NAME: <i>St Mary / Geographic Federal TB</i>	
LAB I.D. NUMBER	DATE	TIME	SAMPLE IDENTIFICATION
232162	5/17		5 SB-4 3' 3' BEB
163			SB-4 5' 3' BEB
164			SB-4 7' 3' BEB
165			SB-4 10' 3' BEB
166			SB-4 15' 3' BEB
167			SB-5 1' 3' BEB
168			SB-5 3' 3' BEB
169			SB-5 5' 3' BEB
170			SB-5 7' 3' BEB
171			SB-5 10' 3' BEB

RELINQUISHED BY: (Signature)	Date: <i>5/18/10</i>	Time: <i>1:30</i>	RECEIVED BY: (Signature)	Date: <i>5/18/10</i>	Time: <i>1:30</i>
RELINQUISHED BY: (Signature)	Date: _____	Time: _____	RECEIVED BY: (Signature)	Date: _____	Time: _____
RELINQUISHED BY: (Signature)	Date: _____	Time: _____	RECEIVED BY: (Signature)	Date: _____	Time: _____
RECEIVING LABORATORY: <i>10044</i>	RECEIVED BY: (Signature)				

ADDRESS: *Midland* STATE: *TX* PHONE: _____ DATE: _____

CITY: *Midland* ZIP: _____

REMARKS: *20.3° c. intact*

ANALYSIS REQUEST (Circle or Specify Method No.)

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 Sampl. Vol. 8270/625	
PCB's 8080/608	
Post. 808/608	
Chloride	X
Gamma Spec.	X
Alpha Beta (Air)	X
PLM (Asbestos)	X
Major Anions/Cations, pH, TDS	X

SAMPLED BY: (Print & Initial) *Kim* Date: *5-17-10* Time: _____

SAMPLE SHIPPED BY: (Circle) FEDEX AIRBILL #: _____

HAND DELIVERED BUS OTHER: _____

TETRA TECH CONTACT PERSON: *Elle Tovar* Results by: _____

RUSH Charges Authorized: Yes No



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

Certifications

WBENC: 237019

HUB: 1752439743100-86536
NCTRCA WFWB38444Y0909

DBE: VN 20657

NELAP Certifications

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

El Paso: T104704221-08-TX
LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

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

Report Date: February 26, 2010

Work Order: 10022207



Project Location: Eddy County, NM
Project Name: St. Mary/Geronimo, TB
Project Number: 114-6400431

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
223273	AH-1 0-1'	soil	2010-02-18	00:00	2010-02-19
223274	AH-1 1-1.5'	soil	2010-02-18	00:00	2010-02-19
223275	AH-1 2-2.5'	soil	2010-02-18	00:00	2010-02-19
223276	AH-1 3-3.5'	soil	2010-02-18	00:00	2010-02-19
223277	AH-1 4-4.5'	soil	2010-02-18	00:00	2010-02-19
223278	AH-1 4.5-5'	soil	2010-02-18	00:00	2010-02-19
223279	AH-2 0-1'	soil	2010-02-18	00:00	2010-02-19
223280	AH-2 1-1.5'	soil	2010-02-18	00:00	2010-02-19
223281	AH-2 2-2.5'	soil	2010-02-18	00:00	2010-02-19
223282	AH-2 3-3.5'	soil	2010-02-18	00:00	2010-02-19

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
223283	AH-3 0-1'	soil	2010-02-18	00:00	2010-02-19
223284	AH-3 1-1.5'	soil	2010-02-18	00:00	2010-02-19
223285	AH-3 2-2.5'	soil	2010-02-18	00:00	2010-02-19
223286	AH-3 3-3.5'	soil	2010-02-18	00:00	2010-02-19
223287	AH-4 0-1'	soil	2010-02-18	00:00	2010-02-19
223288	AH-4 1-1.5'	soil	2010-02-18	00:00	2010-02-19
223289	AH-4 2-2.5'	soil	2010-02-18	00:00	2010-02-19
223290	AH-4 3-3.5'	soil	2010-02-18	00:00	2010-02-19
223291	AH-5 0-1'	soil	2010-02-18	00:00	2010-02-19
223292	AH-5 1-1.5'	soil	2010-02-18	00:00	2010-02-19
223293	AH-5 2-2.5'	soil	2010-02-18	00:00	2010-02-19
223294	AH-6 0-1'	soil	2010-02-18	00:00	2010-02-19
223295	AH-6 1-1.5'	soil	2010-02-18	00:00	2010-02-19
223296	AH-6 1.5-2'	soil	2010-02-18	00:00	2010-02-19
223297	AH-7 0-1'	soil	2010-02-18	00:00	2010-02-19
223298	AH-7 1-1.5'	soil	2010-02-18	00:00	2010-02-19
223299	AH-7 2-2.5'	soil	2010-02-18	00:00	2010-02-19

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



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

Standard Flags

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

Case Narrative

Samples for project St. Mary/Geronimo TB were received by TraceAnalysis, Inc. on 2010-02-19 and assigned to work order 10022207. Samples for work order 10022207 were received intact at a temperature of 6.0 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	57955	2010-02-23 at 08:44	67760	2010-02-23 at 12:42
Chloride (Titration)	SM 4500-Cl B	57956	2010-02-23 at 08:44	67762	2010-02-23 at 12:43
Chloride (Titration)	SM 4500-Cl B	57957	2010-02-23 at 08:45	67763	2010-02-23 at 12:44
Chloride (Titration)	SM 4500-Cl B	58020	2010-02-25 at 09:40	67827	2010-02-25 at 11:40
TPH DRO - NEW	Mod. 8015B	57953	2010-02-22 at 10:28	67741	2010-02-22 at 10:28
TPH GRO	S 8015B	58010	2010-02-24 at 16:30	67816	2010-02-25 at 04:52

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 10022207 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Report Date: February 26, 2010
114-6400431

Work Order: 10022207
St. Mary/Geronimo TB

Page Number: 4 of 24
Eddy County, NM

Analytical Report

Sample: 223273 - AH-1 0-1'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 67760
Prep Batch: 57955

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-02-23
Sample Preparation: 2010-02-23

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		3630	mg/Kg	100	4.00

Sample: 223273 - AH-1 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 67741
Prep Batch: 57953

Analytical Method: Mod. 8015B
Date Analyzed: 2010-02-22
Sample Preparation: 2010-02-22

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

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

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

Sample: 223273 - AH-1 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 67816
Prep Batch: 58010

Analytical Method: S 8015B
Date Analyzed: 2010-02-25
Sample Preparation: 2010-02-24

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.39	mg/Kg	1	2.00	120	65.3 - 145
4-Bromofluorobenzene (4-BFB)		2.24	mg/Kg	1	2.00	112	61.7 - 131.1

¹High surrogate recovery. Sample non-detect, result bias high.

Report Date: February 26, 2010
114-6400431

Work Order: 10022207
St. Mary/Geronimo TB

Page Number: 5 of 24
Eddy County, NM

Sample: 223274 - AH-1 1-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-02-23	Analyzed By:	AR
QC Batch:	67760	Sample Preparation:	2010-02-23	Prepared By:	AR
Prep Batch:	57955				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1650	mg/Kg	50	4.00

Sample: 223275 - AH-1 2-2.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-02-23	Analyzed By:	AR
QC Batch:	67760	Sample Preparation:	2010-02-23	Prepared By:	AR
Prep Batch:	57955				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1360	mg/Kg	50	4.00

Sample: 223276 - AH-1 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-02-23	Analyzed By:	AR
QC Batch:	67760	Sample Preparation:	2010-02-23	Prepared By:	AR
Prep Batch:	57955				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		817	mg/Kg	50	4.00

Sample: 223277 - AH-1 4-4.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-02-23	Analyzed By:	AR
QC Batch:	67760	Sample Preparation:	2010-02-23	Prepared By:	AR
Prep Batch:	57955				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2390	mg/Kg	100	4.00

Report Date: February 26, 2010
114-6400431

Work Order: 10022207
St. Mary/Geronimo TB

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Eddy County, NM

Sample: 223278 - AH-1 4.5-5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 67760 Date Analyzed: 2010-02-23 Analyzed By: AR
Prep Batch: 57955 Sample Preparation: 2010-02-23 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2580	mg/Kg	100	4.00

Sample: 223279 - AH-2 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 67760 Date Analyzed: 2010-02-23 Analyzed By: AR
Prep Batch: 57955 Sample Preparation: 2010-02-23 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		7320	mg/Kg	100	4.00

Sample: 223279 - AH-2 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: Mod. 8015B Prep Method: N/A
QC Batch: 67741 Date Analyzed: 2010-02-22 Analyzed By: kg
Prep Batch: 57953 Sample Preparation: 2010-02-22 Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		117	mg/Kg	1	100	117	70 - 130

Sample: 223279 - AH-2 0-1'

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035
QC Batch: 67816 Date Analyzed: 2010-02-25 Analyzed By: AG
Prep Batch: 58010 Sample Preparation: 2010-02-24 Prepared By: AG

Report Date: February 26, 2010
114-6400431

Work Order: 10022207
St. Mary/Geronimo TB

Page Number: 7 of 24
Eddy County, NM

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.74	mg/Kg	1	2.00	87	65.3 - 145
4-Bromofluorobenzene (4-BFB)		1.67	mg/Kg	1	2.00	84	61.7 - 131.1

Sample: 223280 - AH-2 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 67760 Date Analyzed: 2010-02-23 Analyzed By: AR
Prep Batch: 57955 Sample Preparation: 2010-02-23 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1370	mg/Kg	50	4.00

Sample: 223281 - AH-2 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 67760 Date Analyzed: 2010-02-23 Analyzed By: AR
Prep Batch: 57955 Sample Preparation: 2010-02-23 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2290	mg/Kg	100	4.00

Sample: 223282 - AH-2 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 67760 Date Analyzed: 2010-02-23 Analyzed By: AR
Prep Batch: 57955 Sample Preparation: 2010-02-23 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2240	mg/Kg	100	4.00

Report Date: February 26, 2010
114-6400431

Work Order: 10022207
St. Mary/Geronimo TB

Page Number: 8 of 24
Eddy County, NM

Sample: 223283 - AH-3 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 67762 Date Analyzed: 2010-02-23 Analyzed By: AR
Prep Batch: 57956 Sample Preparation: 2010-02-23 Prepared By: AR

Parameter	Flag	RL	Units	Dilution	RL
		Result			
Chloride		18100	mg/Kg	100	4.00

Sample: 223283 - AH-3 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: Mod. 8015B Prep Method: N/A
QC Batch: 67741 Date Analyzed: 2010-02-22 Analyzed By: kg
Prep Batch: 57953 Sample Preparation: 2010-02-22 Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		116	mg/Kg	1	100	116	70 - 130

Sample: 223283 - AH-3 0-1'

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035
QC Batch: 67816 Date Analyzed: 2010-02-25 Analyzed By: AG
Prep Batch: 58010 Sample Preparation: 2010-02-24 Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.75	mg/Kg	1	2.00	88	65.3 - 145
4-Bromofluorobenzene (4-BFB)		1.67	mg/Kg	1	2.00	84	61.7 - 131.1

Report Date: February 26, 2010
114-6400431

Work Order: 10022207
St. Mary/Geronimo TB

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Eddy County, NM

Sample: 223284 - AH-3 1-1.5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	67762	Date Analyzed:	2010-02-23
Prep Batch:	57956	Sample Preparation:	2010-02-23
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		4800	mg/Kg	100	4.00

Sample: 223285 - AH-3 2-2.5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	67762	Date Analyzed:	2010-02-23
Prep Batch:	57956	Sample Preparation:	2010-02-23
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		627	mg/Kg	50	4.00

Sample: 223286 - AH-3 3-3.5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	67762	Date Analyzed:	2010-02-23
Prep Batch:	57956	Sample Preparation:	2010-02-23
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		673	mg/Kg	50	4.00

Sample: 223287 - AH-4 0-1'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	67762	Date Analyzed:	2010-02-23
Prep Batch:	57956	Sample Preparation:	2010-02-23
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		4740	mg/Kg	100	4.00

Report Date: February 26, 2010
114-6400431

Work Order: 10022207
St. Mary/Geronimo TB

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Eddy County, NM

Sample: 223287 - AH-4 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 67741

Prep Batch: 57953

Analytical Method: Mod. 8015B

Date Analyzed: 2010-02-22

Sample Preparation: 2010-02-22

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

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

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

Sample: 223287 - AH-4 0-1'

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 67816

Prep Batch: 58010

Analytical Method: S 8015B

Date Analyzed: 2010-02-25

Sample Preparation: 2010-02-24

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.04	mg/Kg	1	2.00	102	65.3 - 145
4-Bromofluorobenzene (4-BFB)		1.95	mg/Kg	1	2.00	98	61.7 - 131.1

Sample: 223288 - AH-4 1-1.5'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 67762

Prep Batch: 57956

Analytical Method: SM 4500-Cl B

Date Analyzed: 2010-02-23

Sample Preparation: 2010-02-23

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1160	mg/Kg	50	4.00

Report Date: February 26, 2010
114-6400431

Work Order: 10022207
St. Mary/Geronimo TB

Page Number: 11 of 24
Eddy County, NM

Sample: 223289 - AH-4 2-2.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-02-23	Analyzed By:	AR
QC Batch:	67762	Sample Preparation:	2010-02-23	Prepared By:	AR
Prep Batch:	57956				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1730	mg/Kg	50	4.00

Sample: 223290 - AH-4 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-02-23	Analyzed By:	AR
QC Batch:	67762	Sample Preparation:	2010-02-23	Prepared By:	AR
Prep Batch:	57956				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2280	mg/Kg	100	4.00

Sample: 223291 - AH-5 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-02-23	Analyzed By:	AR
QC Batch:	67762	Sample Preparation:	2010-02-23	Prepared By:	AR
Prep Batch:	57956				

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

Sample: 223291 - AH-5 0-1'

Laboratory:	Midland	Analytical Method:	Mod. 8015B	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2010-02-22	Analyzed By:	kg
QC Batch:	67741	Sample Preparation:	2010-02-22	Prepared By:	kg
Prep Batch:	57953				

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

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Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		117	mg/Kg	1	100	117	70 - 130

Sample: 223291 - AH-5 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 67816
Prep Batch: 58010

Analytical Method: S 8015B
Date Analyzed: 2010-02-25
Sample Preparation: 2010-02-24

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.36	mg/Kg	1	2.00	118	65.3 - 145
4-Bromofluorobenzene (4-BFB)		2.24	mg/Kg	1	2.00	112	61.7 - 131.1

Sample: 223292 - AH-5 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 67762
Prep Batch: 57956

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-02-23
Sample Preparation: 2010-02-23

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

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

Sample: 223293 - AH-5 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 67763
Prep Batch: 57957

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-02-23
Sample Preparation: 2010-02-23

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

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

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Sample: 223294 - AH-6 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-02-25	Analyzed By:	AR
QC Batch:	67827	Sample Preparation:	2010-02-25	Prepared By:	AR
Prep Batch:	58020				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		5900	mg/Kg	100	4.00

Sample: 223294 - AH-6 0-1'

Laboratory:	Midland	Analytical Method:	Mod. 8015B	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2010-02-22	Analyzed By:	kg
QC Batch:	67741	Sample Preparation:	2010-02-22	Prepared By:	kg
Prep Batch:	57953				

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

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

Sample: 223294 - AH-6 0-1'

Laboratory:	Midland	Analytical Method:	S 8015B	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2010-02-25	Analyzed By:	AG
QC Batch:	67816	Sample Preparation:	2010-02-24	Prepared By:	AG
Prep Batch:	58010				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.53	mg/Kg	1	2.00	126	65.3 - 145
4-Bromofluorobenzene (4-BFB)		2.40	mg/Kg	1	2.00	120	61.7 - 131.1

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Sample: 223295 - AH-6 1-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-02-23	Analyzed By:	AR
QC Batch:	67763	Sample Preparation:	2010-02-23	Prepared By:	AR
Prep Batch:	57957				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		6060	mg/Kg	100	4.00

Sample: 223296 - AH-6 1.5-2'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-02-23	Analyzed By:	AR
QC Batch:	67763	Sample Preparation:	2010-02-23	Prepared By:	AR
Prep Batch:	57957				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		5240	mg/Kg	100	4.00

Sample: 223297 - AH-7 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2010-02-23	Analyzed By:	AR
QC Batch:	67763	Sample Preparation:	2010-02-23	Prepared By:	AR
Prep Batch:	57957				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2330	mg/Kg	100	4.00

Sample: 223297 - AH-7 0-1'

Laboratory:	Midland	Analytical Method:	Mod. 8015B	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2010-02-22	Analyzed By:	kg
QC Batch:	67741	Sample Preparation:	2010-02-22	Prepared By:	kg
Prep Batch:	57953				

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

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

Sample: 223297 - AH-7 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 67816
Prep Batch: 58010

Analytical Method: S 8015B
Date Analyzed: 2010-02-25
Sample Preparation: 2010-02-24

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.40	mg/Kg	1	2.00	120	65.3 - 145
4-Bromofluorobenzene (4-BFB)		2.22	mg/Kg	1	2.00	111	61.7 - 131.1

Sample: 223298 - AH-7 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 67763
Prep Batch: 57957

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-02-23
Sample Preparation: 2010-02-23

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2020	mg/Kg	100	4.00

Sample: 223299 - AH-7 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 67763
Prep Batch: 57957

Analytical Method: SM 4500-Cl B
Date Analyzed: 2010-02-23
Sample Preparation: 2010-02-23

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

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		4380	mg/Kg	100	4.00

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Method Blank (1) QC Batch: 67741

QC Batch: 67741
Prep Batch: 57953

Date Analyzed: 2010-02-22
QC Preparation: 2010-02-22

Analyzed By: kg
Prepared By: kg

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

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

Method Blank (1) QC Batch: 67760

QC Batch: 67760
Prep Batch: 57955

Date Analyzed: 2010-02-23
QC Preparation: 2010-02-23

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 67762

QC Batch: 67762
Prep Batch: 57956

Date Analyzed: 2010-02-23
QC Preparation: 2010-02-23

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 67763

QC Batch: 67763
Prep Batch: 57957

Date Analyzed: 2010-02-23
QC Preparation: 2010-02-23

Analyzed By: AR
Prepared By: AR

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

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Method Blank (1) QC Batch: 67816

QC Batch: 67816
Prep Batch: 58010

Date Analyzed: 2010-02-25
QC Preparation: 2010-02-24

Analyzed By: AG
Prepared By: AG

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.39	mg/Kg	1	2.00	120	66.2 - 145
4-Bromofluorobenzene (4-BFB)		1.79	mg/Kg	1	2.00	90	62 - 120.5

Method Blank (1) QC Batch: 67827

QC Batch: 67827
Prep Batch: 58020

Date Analyzed: 2010-02-25
QC Preparation: 2010-02-25

Analyzed By: AR
Prepared By: AR

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

Laboratory Control Spike (LCS-1)

QC Batch: 67741
Prep Batch: 57953

Date Analyzed: 2010-02-22
QC Preparation: 2010-02-22

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	265	mg/Kg	1	250	<5.86	106	57.4 - 133.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	285	mg/Kg	1	250	<5.86	114	57.4 - 133.4	7	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	120	126	mg/Kg	1	100	120	126	70 - 130

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Laboratory Control Spike (LCS-1)

QC Batch: 67760
Prep Batch: 57955

Date Analyzed: 2010-02-23
QC Preparation: 2010-02-23

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.5	mg/Kg	1	100	<2.18	98	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	99.8	mg/Kg	1	100	<2.18	100	85 - 115	1	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 67762
Prep Batch: 57956

Date Analyzed: 2010-02-23
QC Preparation: 2010-02-23

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	99.2	mg/Kg	1	100	<2.18	99	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	101	mg/Kg	1	100	<2.18	101	85 - 115	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 67763
Prep Batch: 57957

Date Analyzed: 2010-02-23
QC Preparation: 2010-02-23

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	99.3	mg/Kg	1	100	<2.18	99	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	101	mg/Kg	1	100	<2.18	101	85 - 115	2	20

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

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Laboratory Control Spike (LCS-1)

QC Batch: 67816
Prep Batch: 58010

Date Analyzed: 2010-02-25
QC Preparation: 2010-02-24

Analyzed By: AG
Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	15.9	mg/Kg	1	20.0	<0.396	80	52.5 - 114.3

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	16.5	mg/Kg	1	20.0	<0.396	82	52.5 - 114.3	4	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.15	2.19	mg/Kg	1	2.00	108	110	66.2 - 148.7
4-Bromofluorobenzene (4-BFB)	2.05	2.07	mg/Kg	1	2.00	102	104	64.1 - 127.4

Laboratory Control Spike (LCS-1)

QC Batch: 67827
Prep Batch: 58020

Date Analyzed: 2010-02-25
QC Preparation: 2010-02-25

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	99.3	mg/Kg	1	100	<2.18	99	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	101	mg/Kg	1	100	<2.18	101	85 - 115	2	20

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

Matrix Spike (MS-1) Spiked Sample: 223273

QC Batch: 67741
Prep Batch: 57953

Date Analyzed: 2010-02-22
QC Preparation: 2010-02-22

Analyzed By: kg
Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	320	mg/Kg	1	250	<5.86	128	35.2 - 167.1

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

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Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	344	mg/Kg	1	250	<5.86	138	35.2 - 167.1	7	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	121	126	mg/Kg	1	100	121	126	70 - 130

Matrix Spike (MS-1) Spiked Sample: 223282

QC Batch: 67760
Prep Batch: 57955

Date Analyzed: 2010-02-23
QC Preparation: 2010-02-23

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	11500	mg/Kg	100	10000	2240	93	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	11600	mg/Kg	100	10000	2240	94	85 - 115	1	20

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

Matrix Spike (MS-1) Spiked Sample: 223292

QC Batch: 67762
Prep Batch: 57956

Date Analyzed: 2010-02-23
QC Preparation: 2010-02-23

Analyzed By: AR
Prepared By: AR

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

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10200	mg/Kg	100	10000	<218	102	85 - 115	1	20

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

Matrix Spike (MS-1) Spiked Sample: 223299

QC Batch: 67763
Prep Batch: 57957

Date Analyzed: 2010-02-23
QC Preparation: 2010-02-23

Analyzed By: AR
Prepared By: AR

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Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	14400	mg/Kg	100	10000	4380	100	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	14500	mg/Kg	100	10000	4380	101	85 - 115	1	20

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

Matrix Spike (MS-1) Spiked Sample: 223297

QC Batch: 67816
Prep Batch: 58010

Date Analyzed: 2010-02-25
QC Preparation: 2010-02-24

Analyzed By: AG
Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	16.0	mg/Kg	1	20.0	<0.396	80	10 - 198.3

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	17.0	mg/Kg	1	20.0	<0.396	85	10 - 198.3	6	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.30	2.00	mg/Kg	1	2	115	100	65.5 - 143
4-Bromofluorobenzene (4-BFB)	2.27	1.97	mg/Kg	1	2	114	98	58.6 - 140

Matrix Spike (MS-1) Spiked Sample: 223591

QC Batch: 67827
Prep Batch: 58020

Date Analyzed: 2010-02-25
QC Preparation: 2010-02-25

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	11300	mg/Kg	100	10000	1450	98	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	11400	mg/Kg	100	10000	1450	100	85 - 115	1	20

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

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Standard (CCV-1)

QC Batch: 67741

Date Analyzed: 2010-02-22

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	279	112	80 - 120	2010-02-22

Standard (CCV-2)

QC Batch: 67741

Date Analyzed: 2010-02-22

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	266	106	80 - 120	2010-02-22

Standard (CCV-3)

QC Batch: 67741

Date Analyzed: 2010-02-22

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	258	103	80 - 120	2010-02-22

Standard (ICV-1)

QC Batch: 67760

Date Analyzed: 2010-02-23

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-02-23

Standard (CCV-1)

QC Batch: 67760

Date Analyzed: 2010-02-23

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.7	100	85 - 115	2010-02-23

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Standard (ICV-1)

QC Batch: 67762

Date Analyzed: 2010-02-23

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-02-23

Standard (CCV-1)

QC Batch: 67762

Date Analyzed: 2010-02-23

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.9	100	85 - 115	2010-02-23

Standard (ICV-1)

QC Batch: 67763

Date Analyzed: 2010-02-23

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.0	99	85 - 115	2010-02-23

Standard (CCV-1)

QC Batch: 67763

Date Analyzed: 2010-02-23

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-02-23

Standard (CCV-1)

QC Batch: 67816

Date Analyzed: 2010-02-25

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.933	93	80 - 120	2010-02-25

Report Date: February 26, 2010
114-6400431

Work Order: 10022207
St. Mary/Geronimo TB

Page Number: 24 of 24
Eddy County, NM

Standard (CCV-2)

QC Batch: 67816

Date Analyzed: 2010-02-25

Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.08	108	80 - 120	2010-02-25

Standard (ICV-1)

QC Batch: 67827

Date Analyzed: 2010-02-25

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	102	102	85 - 115	2010-02-25

Standard (CCV-1)

QC Batch: 67827

Date Analyzed: 2010-02-25

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.6	98	85 - 115	2010-02-25

Order #: 10022207

Analysis Request of Chain of Custody Record



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

CLIENT NAME:		PROJECT NAME:		SITE MANAGER:		PRESERVATIVE METHOD		ANALYSIS REQUEST	
ST. Marys		St. Marys / Breckenridge, N.T.B.		The Tavariz				(Circle or Specify Method No.)	
LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP	GRAB	SAMPLE IDENTIFICATION			
22873	2/18	2010	S	X	X	0-1'		TPH 8015 MOD	BTX 8021B
274						1-1.5'			
275						2-2.5'			
276						3-3.5'			
277						4-4.5'			
278						4.5-5'			
279						0-1'			
280						1-1.5'			
281						2-2.5'			
282						3-3.5'			
RELINQUISHED BY: (Signature)		Date: 2-15-10		Time: 10:10		RECEIVED BY: (Signature)		Date: 2-15-10	
RELINQUISHED BY: (Signature)		Date: _____		Time: _____		RECEIVED BY: (Signature)		Date: _____	
RELINQUISHED BY: (Signature)		Date: _____		Time: _____		RECEIVED BY: (Signature)		Date: _____	
RELINQUISHED BY: (Signature)		Date: _____		Time: _____		RECEIVED BY: (Signature)		Date: _____	
RECEIVING LABORATORY:		ADDRESS:		CITY:		STATE:		ZIP:	
CONTACT:		PHONE:		FAX:		E-MAIL:		WEBSITE:	
SAMPLE CONDITION WHEN RECEIVED:		LABORATORY:		ANALYST:		TECHNICIAN:		RESULTS BY:	
600C intact		JL		TPH		1000		19/10/10	

REMARKS: JL TPH 600C 1000 19/10/10

Order # 1002207

Analysis Request of Chain of Custody Record

PAGE: 2 OF: 3



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

CLIENT NAME:		SITE MANAGER:		PROJECT NAME:		PRESERVATIVE METHOD	
PROJECT NO.:		GRAB		COMB		MATRIX	
LAB I.D. NUMBER	DATE	TIME	SAMPLE IDENTIFICATION				
22383	2-18		5	1	1	1	1
284	1						
285	1						
286	1						
287							
288							
289							
290							
291							
292							
RELINQUISHED BY: (Signature)		Date:	Time:	RECEIVED BY: (Signature)		Date:	Time:
RELINQUISHED BY: (Signature)		Date:	Time:	RECEIVED BY: (Signature)		Date:	Time:
RELINQUISHED BY: (Signature)		Date:	Time:	RECEIVED BY: (Signature)		Date:	Time:
RECEIVING LABORATORY:		DATE:		RECEIVED BY: (Signature)		DATE:	
CITY:		STATE:		ZIP:		PHONE:	
CONTACT:		NAME:		DATE:		TIME:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

PAH 8270	TPH 8015 MOD	BTX 80218	PCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8240/8260/824	GC/MS Semi. Vol. 8270/825	PCBs 8080/808	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS	
	X												X				

SAMPLED BY: (Print & Initial)

DATE: 2/19/10

TIME: 10:14

SAMPLE SHIPPED BY: (Circle)

FEDEX

BUS

UPS

OTHER:

RESULTS BY:

Handwritten signature: *Ilk*

Handwritten signature: *Ilk*

RUSH Charges Authorized:

Yes

No

REMARKS: *ILK TPH exceeds 1000 ug/kg no deeper sample*

6.00 intact

Sample Condition When Received:

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

