TE TETRA TECH

April 9, 2009

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

Re: Assessment Report and Closure Request for the St. Mary Land & Exploration Company, Geronimo Federal Injection Station, Unit F, Section 24, Township 18 South, Range 31 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. was contacted by St. Mary Land & Exploration Company (St. Mary) to assess a spill from the Geronimo Federal Injection Station, located in Unit F, Section 24, Township 18 South, Range 31 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32° 44.023', W 103° 49.314'. 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 September 8, 2008. Approximately 200 barrels of produced water and 8 barrels of oil were released, when during a thunder storm, electrical power was lost to the injection pump, causing the tanks to overfill. The spill was contained inside the facility berm. A vacuum truck was utilized to recover a total of 258 barrels of oil, produced water and rainwater. The initial C-141 is enclosed in Appendix A.

Groundwater

Regional groundwater data from various sources indicate the depth to water in this region to average approximately 300' below ground surface. Copies of the groundwater depth information found for this site is included 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,

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



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 September 16, 2008, Tetra Tech personnel inspected and sampled the spill area. A total of five (5) auger holes (AH-1 through AH-5) were installed using a stainless steel hand auger to assess the impacted soils inside the facility berm. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. All of the samples analyzed were below the RRAL for both BTEX and TPH. Chloride concentrations were defined in auger holes AH-4 and AH-5 and were confined to the first 1.0'. Chloride concentrations significantly decreased in AH-1 below 1.0' to less than 1000 mg/kg. Chloride impact in AH-1 and AH-2 were not defined. On October 29, 2009, two soil borings were installed to define the impacts in these areas. BH-1, placed between AH-2 and AH-3 showed impact to be primarily limited to the first 1.0'. BH-2, placed between AH-1 and AH-2, showed chloride concentrations declining below 250 mg/kg at 10'-11', All sampling results are summarized in Table 1. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The spill area and the auger hole locations are shown on Figure 3.

Soil Remediation

Based upon the recommendations discussed with the NMOCD on February 19, 2009, the areas of impact were excavated to depths ranging from 1.0' to 5.0', as shown on the attached Figure 4.

Closure Request

Based upon the remedial work performed and the results of the assessment, St. Mary Land & Exploration Company requests closure of this site. A copy of the Final C-141 is included in Appendix A. If you require any additional information or have any questions or comments concerning this report, please call at (432) 682-4559.

Respectfully submitted, TETRA TECH, Inc.

Tim Reed, P.G.

Sr. Project Manager

cc: Tom Morrow – St. Mary Land Don Riggs – St. Mary Land Jim Amos - BLM

.

.

FIGURES

-

·









. .. .

.

.

.

• •

.

TABLE

• • ------

ate	Sample	Soil S	tatus		rPH (mg/kg		Benzene	Toluene	Ethlybenzene	Xylene	Chloride
_	Depth (ft)	In-Situ	Removed	DRO	GRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
a			~	<50.0	1 04	1 04	1			,	REO
3	- 4 		< >	2.227	5	5					
	0.0E		<>		,						010
	2 2 2		\diamond								
	0-0-0		<;	- †	•	'		•		•	10,200
	3.5-4.0		×	•	•	۱	•	•	-	-	11,200
0	,	Ī	;	¢ ¢		C C					
80	-1-0		×	<50.0	<1.00	<50.0		J	•		1,860
	1-1.5	×		-	•		•	•	-	•	635
	2-2.5	×		ŀ	,	1	•				842
	3-3.5	×								•	9,400
80	0-1	×		74.2	16.4	90.6	<0.0100	<0.0100	<0.0100	0.0882	4.020
	1-1.5	×	-				•				531
	2.25	: >						•		'	582
	2.2.2										
	0.2.5			•	•						404
0	+			1500	106	1 06	<0100	10100	~0.0100	~0.0400	000
20	5	<>		2.000	1.30	4.30	0010.04	20.07	0010.04	2010.04	2,020
	- 1-1 	~ :			,	'	'	•	· ·	١	202
	2-2.5	×		•	,	1	4	ı	•	ł	216
	3-3.5	×		'	•		'	-	-	1	<100
							,				
ğ	0-1	×		<50.0	1.34	1.34	<0.0100	<0.0100	<0.0100	<0.0100	1,920
	1-1.5	×		1	•	-	•	•		-	<100
ŀ	2-2.5	×		,	•	1	-	'	•	,	227
	3-3.5	×		1			•	,	•		<100
008	0-1		×	,	,	-	•			•	5,110
	2-3	×		•	1	•	,	•	F	,	374
	4-5	×					,	-	•	,	118
	6-7	×		1	•		•	1	•	•	219
	<u>8-9</u>	×		•	,	1	•	-	•	•	599
	10-11	×		1	-	,	•	,	•	1	160
	12-13	×		•	,	1	-	1	-	,	150
008	0-1		×	,		1	•	•	•	,	9,660
	2-3	×		,		1	،	1			513
	4-5	×		1	•	,	,	,	,	,	5,780
	6-7	×		1			•		•	.	1,150
	6-8	×		,		1		,		1	610
	10-11	×		,		1	,		•	'	<100
I				t	Ì	Ī					
		>				•••					

St. Mary Land & Exploration Geronimo Federal Injection Station

(-) Not Analyzed

APPENDIX A NMOCD FORM C-141

State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised October 10, 2003

District III (1000 Rio Brazos Road, Aztec, NM 87410 District IV [1220 S. St. Francis Dr., Santa Fe, NM 87505	Oil Conse 1220 Sout Santa F	rvation Di h St. Franc e. NM 875	vision is Dr. 05		Submit 2 District v	Copies to appropriate t Office in accordance vith Rule 116 on back side of form
Release No	tificatio	n and Co	orrective A	ction		
		OPERA	TOR		nitial Report	Final Report
Name of Company St Mary Land & Exploration Co.		Contact Tor	n Morrow		······································	
Address 3300 N. A Street, Bldg #7 Suite 200 Midland, Tex	as 79705	Telephone 1	No. (432) 688-1	773		
Facility Name Geronimo Federal Injection Station		Facility Typ	e Injection Sta	tion		
Surface Owner Federal Min	eral Owner	Federal		Lea	se No. API #	
L	OCATIO	N OF RE	LEASE			
Unit Letter Section Township Range Feet from	the North	n/South Line	Feet from the	East/West Li	ne County	
24 18S 31E					Eddy	
Та ⁴⁴		76 1	-102 20170	L		,
Lau	uue <u>52./55</u>	<u>70</u> Longitud	e <u>103.82179</u>			
	NATURE	COF REL	EASE			
Type of Release Orl and Produced Water		Volume of	Release 200 bbl	s <u>Volu</u>	me Recovered 2	258 bbls
		9/8/08 4:00	AM	9/8/0	8 4:00AM	scovery
Was Immediate Notice Given?		If YES, To	Whom?			
	Not Required	Mike Bra	tcher			
By Whom? Bill Hearne		Date and F	lour 9/8/08 12:25	<u> P.M.</u>		·
Yes No		11165, V	sume impacting	the watercours	с.	
If a Watercourse was Impacted, Describe Fully *			,,	<u></u>		
Describe Cause of Problem and Remedial Action Taken.* During a thunder storm electrical power was lost to the inject berm Will contact Highlander(Tetra Tech) to assess the rele	ction pump, c ase area.	causing the tan	ks to overfill. Us	ed vacuum truc	ks to pickup st	anding fluids inside
Describe Area Affected and Cleanup Action Taken.* The fluids from the release were contained inside the facility vacuum trucks. Any necessary actions will be taken.	y berm. Ther	e was 8 bbls o	f oil and 250 bbl	s of produced	and rain water p	bicked up with
I hereby certify that the information given above is true and regulations all operators are required to report and/or file cer- public health or the environment. The acceptance of a C-14 should their operations have failed to adequately investigate or the environment. In addition, NMOCD acceptance of a C federal, state, or local laws and/or regulations.	complete to rtain release I report by the and remedia C-141 report	the best of my notifications a he NMOCD m ite contaminati does not reliev	knowledge and u nd perform correct arked as "Final R on that pose a the e the operator of	understand that ctive actions fo Report" does no reat to ground y responsibility	pursuant to NM r releases which t relieve the op- vater, surface w `or compliance	1OCD rules and h may endanger erator of liability /ater, human health with any other
1 A m			OIL CON	SERVATI	<u>ON DIVISI</u>	ON
Signature: 1044 Van	•					
Printed Name: 1KE Tawarez		Approved by	District Supervis	sor:	······	
Title: Gadoyist		Approval Da	te:	Expira	ion Date:	
E-mail Address: IKE. Tauarez STehrat	ech, Car	Conditions o	f Approval:		Attache	d 🗋
Date: 9-9-00 Phone: 432)6 Attach Additional Sheets If Necessary	82-455	7				

District II 301 W. Grand Avenue, Artesia, NM 88210	State of Minerals	f New Mexi s and Natural	co Resources	•		Rev] rised Oc	Form C-141 tober 10, 2003
District III Oil 000 Rio Brazos Road, Aztec, NM 87410 District IV District IV 122 220 S. St. Francis Dr., Santa Fe, NM 87505	l Conse 20 Sout Santa I	ervation Div th St. Franc Fe, NM 875	ision s Dr. 05		5	Submit 2 C District (wi	opies t Office i th Rule	o appropriate n accordance 116 on back side of form
Release Notif	ficatio	on and Co	rrective A	ction				
		OPERA'	FOR		Initial	Report	\boxtimes	Final Repo
Address 3300 N A Street Bldg #7 Suite 200 Midland, Texas	79705	Contact I on Telephone N	1 Morrow [0. (432) 688-1	773				
Facility Name Geronimo Federal Injection Station		Facility Typ	e Injection Sta	tion	· · · · ·			
Surface Owner Federal Minera	l Owner	Federal		L	ease No	. API #		
LOC	CATIC	ON OF REI	EASE					
Unit Letter Section Township Range Feet from the 24 18S 31E	e Nort	h/South Line	Feet from the	East/West	Line	County Eddy		
Latitud	le <u>32.73</u>	376 Longitud	e <u>103.82179</u>	1	I,,		_	
NA NA	ATURI	E OF RELI	EASE					
Type of Release Oil and Produced Water		Volume of	Release 200 bbls	s Va	olume Re	covered 2	58 bbls	
		9/8/08 4:00	AM	0e Da 9/8	11e and Fi 3/08 4:00	AM		
Was Immediate Notice Given?	Required	If YES, To	Whom? cher					
By Whom? Bill Hearne		Date and H	our 9/8/08 12:25	P.M.	· · · ·		_	
Was a Watercourse Reached?		If YES, Vo	lume Impacting	the Waterco	urse.			
II a watercourse was impacted, Describe Fully."								
Describe Cause of Problem and Remedial Action Taken.* During a thunder storm electrical power was lost to the injection berm Will contact Highlander (Tetra Tech) to assess the release	on pump, e area.	causing the tan	ss to overfill. Us	ed vacuum t	rucks to p	pickup star	nding fl	uids inside
Describe Cause of Problem and Remedial Action Taken.* During a thunder storm electrical power was lost to the injectic berm Will contact Highlander (Tetra Tech) to assess the release Describe Area Affected and Cleanup Action Taken.* The fluids from the release were contained inside the facility be trucks. A site assessment was completed and the areas of impact	on pump, e area. erm. The ct were e	causing the tan re was 8 bbls of xcavated accord	to overfill. Us oil and 250 bbls ingly to depths r	ed vacuum t s of produced ranging from	rucks to p d and rair 1.0' to 5	pickup star n water pic 5.0'.	nding fl	uids inside with vacuum
Describe Cause of Problem and Remedial Action Taken.* During a thunder storm electrical power was lost to the injectic berm Will contact Highlander (Tetra Tech) to assess the release Describe Area Affected and Cleanup Action Taken.* The fluids from the release were contained inside the facility be trucks. A site assessment was completed and the areas of impact I hereby certify that the information given above is true and cor regulations all operators are required to report and/or file certai public health or the environment. The acceptance of a C-141 m should their operations have failed to adequately investigate an or the environment. In addition, NMOCD acceptance of a C-1 federal, state, or local laws and/or regulations.	on pump, e area. erm. The ct were et in release eport by ind remedi 41 report	causing the tan re was 8 bbls of xcavated accord the best of my notifications at the NMOCD m ate contaminati does not reliev	to overfill. Use oil and 250 bbls ingly to depths r knowledge and to arked as "Final F on that pose a the e the operator of	ed vacuum t s of produced ranging from understand th ctive actions Report" does reat to groun responsibili	rucks to p d and rair 1.0' to 5 nat pursu for relea not relie d water, ty for cor	pickup star n water pic 5.0'. ant to NM4 ises which ve the oper surface wa npliance w	oding fl ked up OCD rn may er rator of iter, hu vith any	with vacuum ules and ndanger liability man health v other
Describe Cause of Problem and Remedial Action Taken.* During a thunder storm electrical power was lost to the injectic berm Will contact Highlander (Tetra Tech) to assess the release Describe Area Affected and Cleanup Action Taken.* The fluids from the release were contained inside the facility be trucks. A site assessment was completed and the areas of impact I hereby certify that the information given above is true and con regulations all operators are required to report and/or file certain public health or the environment. The acceptance of a C-141 m should their operations have failed to adequately investigate an or the environment. In addition, NMOCD acceptance of a C-14 federal, state, or local laws and/or regulations.	on pump, e area. erm. The ct were e in release eport by d remedi 41 report	causing the tan re was 8 bbls of xcavated accord the best of my notifications at the NMOCD m ate contaminati does not reliev	ss to overfill. Use oil and 250 bbls ingly to depths r knowledge and to arked as "Final Fon that pose a the on that pose a the e the operator of OIL CON	ed vacuum t s of produced anging from understand th ctive actions Report" does reat to groun responsibili	rucks to p d and rair 1.0' to 5 nat pursu for relea not relie d water, ty for con <u>FION I</u>	pickup star n water pic 5.0'. ant to NM ises which ve the open surface wa npliance w DIVISIC	oding fl ked up OCD ri may er rator of iter, hu vith any <u>ON</u>	with vacuum ules and idanger liability man health v other
Describe Cause of Problem and Remedial Action Taken.* During a thunder storm electrical power was lost to the injectic berm Will contact Highlander (Tetra Tech) to assess the release Describe Area Affected and Cleanup Action Taken.* The fluids from the release were contained inside the facility be trucks. A site assessment was completed and the areas of impact I hereby certify that the information given above is true and con- regulations all operators are required to report and/or file certai public health or the environment. The acceptance of a C-141 m should their operations have failed to adequately investigate an or the environment. In addition, NMOCD acceptance of a C-14 federal, state, or local laws and/or regulations. Signature: Tim Reed Printed Name: Tim Keet	on pump, e area. erm. The ct were e in release eport by id remedi 41 report	causing the tan re was 8 bbls of xcavated accord the best of my notifications at the NMOCD m ate contaminati does not reliev	ss to overfill. Use oil and 250 bbls ingly to depths r knowledge and u ad perform corre- arked as "Final F on that pose a that e the operator of <u>OIL CON</u> District Supervise	ed vacuum t s of produced anging from understand th ctive actions Report" does reat to groun responsibili	rucks to p 1 and rain 1.0' to 5 nat pursu for relea not relie d water, ty for cou <u>FION I</u>	pickup star n water pic 5.0'. ant to NM ises which ve the oper surface wa npliance w DIVISIC	oding fl ked up OCD ri may er rator of iter, hu vith any	uids inside with vacuum ules and ndanger liability man health y other
Describe Cause of Problem and Remedial Action Taken.* During a thunder storm electrical power was lost to the injectic berm Will contact Highlander (Tetra Tech) to assess the release Describe Area Affected and Cleanup Action Taken.* The fluids from the release were contained inside the facility be trucks. A site assessment was completed and the areas of impact I hereby certify that the information given above is true and con regulations all operators are required to report and/or file certai public health or the environment. The acceptance of a C-141 r should their operations have failed to adequately investigate an or the environment. In addition, NMOCD acceptance of a C-14 federal, state, or local laws and/or regulations. Signature: Tim Reed Printed Name:	on pump, e area. erm. The ct were e in release report by d remedi 41 report	causing the tan re was 8 bbls of xcavated accord the best of my notifications at the NMOCD m ate contaminati does not reliev Approved by	ss to overfill. Use oil and 250 bbls ingly to depths r knowledge and u d perform corre arked as "Final R on that pose a the on that pose a the on that pose a the <u>OIL CON</u> District Supervise e:	ed vacuum t s of produced anging from understand th ctive actions Report" does reat to groun responsibili SERVAT sor:	rucks to p i and rain 1.0' to 5 nat pursu for relea not relie d water, ty for con <u>FION I</u>	pickup star n water pic 5.0'. ant to NM uses which ve the oper surface wa npliance w DIVISIC	oding fl ked up OCD r may er rator of ater, hu vith any	uids inside with vacuum ules and idanger Tiability man health other
Describe Cause of Problem and Remedial Action Taken.* During a thunder storm electrical power was lost to the injectic berm Will contact Highlander (Tetra Tech) to assess the release Describe Area Affected and Cleanup Action Taken.* The fluids from the release were contained inside the facility be trucks. A site assessment was completed and the areas of impact I hereby certify that the information given above is true and cor regulations all operators are required to report and/or file certai public health or the environment. The acceptance of a C-141 r should their operations have failed to adequately investigate an or the environment. In addition, NMOCD acceptance of a C-141 r should their old the analysis and/or regulations. Signature: Tim Reed Printed Name:	on pump, e area. erm. The ct were e mplete to in release eport by d remedi 41 report	causing the tan re was 8 bbls of xcavated accord the best of my notifications at the NMOCD m ate contaminati does not reliev Approved by Approval Dat Conditions of	ss to overfill. Use oil and 250 bbls ingly to depths r ingly to depths r ind perform corre- arked as "Final R on that pose a the e the operator of <u>OIL CON</u> District Supervise e: Approval:	ed vacuum t s of produced anging from understand th ctive actions Report" does reat to groun responsibili SERVAT sor: Exp	rucks to p d and rain 1.0' to 5 nat pursu for relea not relie d water, ty for cou <u>FION I</u>	pickup star n water pic 5.0'. ant to NM ses which ve the oper surface wa npliance w DIVISIC	oCD r may er rator of iter, hu vith any	uids inside with vacuum ules and idanger liability man health y other

APPENDIX B GROUNDWATER DATA

. . .

Water Well Data Average Depth to Groundwater (ft) St. Mary Land & Exploration company Geronimo Federal TB

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

	18 :	South		30 East	<u> </u>
6	5	4	3	2	1
	8	9	10	11	12
18	17	16	15	• 14	13
-	20	21	22	23	24
30	29	28	27	26	25
	32	33	34	35	36

	19	South_		30 East	t	
	5	4	3	2	1	
7	8	9	10	11	12	
	17	16	15	14	13	
46	20	21	22	23	24	
90 90	29.	28	27	26	25	
5	32	33	34	35	36	

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

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

	_ 19 :	South	:	31 East	t
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28 180	27	26	25
31	32	33 10	134	35	36 130

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

_	18 \$	South	3	2 East	
6	5	4 65	3	2	
7 460 82	8	9	10	11	12
18	17	16 84	15	14	13
19	20 1 64	21	22 4 29	23	24
30	29	28	27	26	25
31	32	33	34	35	36

	19 S	South	.3	2 East	:	
6	5	4	3	2	. 1	
7	8 365	9	10	11	12	-
18	17	16	15	14	13	
19 102	20 345	21	22	23	24	
30	29	28	27	26	25	
31	32	33	34 250	35	36	

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)
 Geology and Groundwater Resources of Eddy County, NM (Report 3)

34 NMOCD - Groundwater Data







USGS Home Contact USGS Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category: Ground Water

Geographic Area: New Mexico

GO

News: Recent changes

Ground-water levels for New Mexico

Search Results -- 1 sites found

Search Criteria

Agency code = usgs

site_no list = • 324519103474501

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 324519103474501 18S.32E.07.44233

Lea County, New Mexico			
Latitude 32°45'24",			
Longitude 103°47'55" NAD27 Land-surface elevation	Output formats		
3,759.00 feet above sea level	Table of data		
NGVD29	Tab-separated data		
This well is completed in the	Graph of data		
ALLUVIUM,BOLSON	Reselect period		
DEPOSITS AND OTHER			
SURFACE DEPOSITS			
(110AVMB) local aquifer.			
	Water level,		

Date	Time	feet below land surface	[™] Status
1976-05-26		80.80	
1981-03-12		82.19	
1986-03-25		81.50	
1991-05-14		82.47	
1996-01-30		82.35	

Questions about sites/data? Feedback on this web site

<u>Top</u> <u>Explanation of terms</u> <u>Subscribe to NWISWeb</u> <u>notifications</u>

Automated retrievals

Accessibility FOIA Privacy Policies and Notices

U.S. Department of the Interior | U.S. Geological



<u>Survey</u> Title: Ground water for New Mexico: Water Levels URL: http://waterdata.usgs.gov/nm/nwis/gwlevels?

Page Contact Information: <u>New Mexico NWISWeb Maintainer</u> Page Last Modified: 2008-12-09 17:59:34 EST 1.3 1.3 nadww01



USGS Home Contact USGS Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category: Ground Water

Geographic Area: New Mexico

GO

News: Recent changes

Ground-water levels for New Mexico

Search Results -- 1 sites found

Search Criteria

Agency code = usgs

site_no list = • 324458103454301

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 324458103454301 18S.32E.16.22433

Lea County, New Mexico Latitude 32°45'05", Longitude 103°45'51" NAD27 Land-surface elevation **Output formats** 3,796.00 feet above sea level Table of data NGVD29 The depth of the well is 100 Tab-separated data feet below land surface. Graph of data This well is completed in the Reselect period ALLUVIUM, BOLSON DEPOSITS AND OTHER SURFACE DEPOSITS (110AVMB) local aquifer. F

http://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?site_no=324458103454301&agency_cd... 12/9/2008

Date	Time	Water level, feet below land surface	^ℤ Status
1968-03-18		84.18	

Questions about sites/data? Feedback on this web site

<u>Top</u> Explanation of terms Subscribe to NWISWeb notifications

Automated retrievals

Accessibility	FOIA	Privacy	Policies and	Notices	
<u>U.S. Departme</u> Survey	nt of the l	Interior U.S	5. Geological	USA gov	
Title: Ground water for New Mexico: Water Levels URL: http://waterdata.usgs.gov/nm/nwis/gwlevels?					
Daga Cantact I	n formatio	n. Nou Movi		Asimtainau	

Page Contact Information: <u>New Mexico NWISWeb Maintainer</u> Page Last Modified: 2008-12-09 18:07:32 EST 1.32 1.31 nadww01 New Mexico Office of the State Engineer

Page	1	of	1
		· ·	-

	<i>New Mexico Offi</i> POD Repor	<i>ce of the St</i> ts and Dov	<i>ate Engineer</i> vnloads		
Townshi	p: 188 Range: 32E	Sections:			
NAD27 X:	Y:	Zone:	Search Ra	adius:	
County:	Basin:		Number:	Suffix:	
Owner Name: (First)	(Last)		ONon-Domes	tic ODomestic	⊛All
Are and POD / Surface	Data Report	Depth to Water	Report Water	Column Report	
	Clear Form	iWATERS	Help		
	·				
AVERAGE	DEPTH OF WATER R	EPORT 12/	/09/2008		

							(Depth	Water in	Feet)
Bsn	Tws	Rng Sec	Zone	x	Y	Wells	Min	Max	Avg
СР	185	32E 04				1	65	65	65
СР	185	32E 07				1	460	460	460

e.

.

Record Count: 2

.

New Mexico Office of the State Engineer

Page	1	of	1
	_		_

· .				Nен	v Mexic POD	<i>co Offi</i> Repoi	<i>ce of th</i> ts and	he Sta Dov	<i>ate Eng</i> vnload	gineer s				
	J	Fow	nship:	195	Range	;: 32E	Secti	ions:] .			;		
	NAD	27	X: -		Y: :	• •	Zone			Search R	adius:			
Count	ty:			Basi	n:				Numb	ber:	Suff	īx:		
Owner N	ame:	(Fir	st)	<u></u>	((Last)[ONG	on-Dome	stic O	Dom	estic	All
	<u>PC</u>	DD/S	urface D	ata Repo	ort(Avg	Depth to \	Nater f	Report	Wate	er Column F	eport		
					Clear F	iorm	IWATEF	RS Mer	iu , He	elp				
										·	· · · · · · · · · · · · · · · · · · ·			
	AV	ÆRA	AGE D	EPTH	OF WA	ATER R	EPORT	12/	09/20	08				·
									·	(Depth	Water	in	Feet	:)
Bsn I	'ws F	նոց	Sec	Zone	÷	х	•	YW	Tells	Min	Ma	x	Av	g
CP 1	.9s 3	32E	19						1	102	10	2	10	2

.

1

345

345

345

Record Count: 2

32E 20

19S

СΡ

12/9/2008

New Mexico Office of the State Engineer

Page	1	of	1
		· ·	-

	New Mexico Office of POD Reports	of the State Eng and Downloads	gineer		
Township:	19S Range: 31E S	Sections:			
NAD27 X:	Y: Z	one:	Search Radiu	IS:	
County:	Basin:	🗌 Numb	er: S	Suffix:	
Owner Name: (First)	(Last)	ONO	on-Domestic	ODomestic	⊚All
POD / Surface Data	a Report	th to Water Report	Water Colu	umn Report	
	Clear Form	ATERS Menu He	lp		
		, 			
AVERAGE DE	PTH OF WATER REP	ORT 12/09/200	08		
		,,	(Depth Wa	ter in Feet	=)
Bsn Tws Rng Sec	Zone X	Y Wells	Min	Max Av	′g
CP 19S 31E 36		1	130	130 13	30
Record Count: 1				·	

APPENDIX C SUMMARY REPORT September 22, 2008

Summary Report

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

Report Date: September 22, 2008

Work Order: 8091729

Project Location:	Eddy Co., NM
Project Name:	St. Mary/Geronimo Federal Inj. Station
Project Number:	115-6403593

			Date	\mathbf{Time}	\mathbf{Date}
Sample	Description	Matrix	Taken	Taken	Received
173691	AH-1 0-1'	soil	2008-09-16	00:00	2008-09-17
173692	AH-1 1'-1.5'	soil	2008-09-16	00:00	2008-09-17
173693	AH-1 2'-2.5'	soil	2008-09-16	00:00	2008-09-17
173694	AH-1 3'-3.5'	soil	2008-09-16	00:00	2008-09-17
173695	AH-1 3.5'-4.0'	soil	2008-09-16	00:00	2008-09-17
173696	AH-2 0-1'	soil	2008-09-16	00:00	2008-09-17
173697	AH-2 1'-1.5'	soil	2008-09-16	00:00	2008-09-17
173698	AH-2 2'-2.5'	soil	2008-09-16	00:00	2008-09-17
173699	AH-2 3'-3.5'	soil	2008-09-16	00:00	2008-09-17
173700	AH-3 0-1'	soil	2008-09-16	00:00	2008-09-17
173701	AH-3 1'-1.5'	soil	2008-09-16	00:00	2008-09-17
173702	AH-3 2'-2.5'	soil	2008-09-16	00:00	2008-09-17
173703	AH-3 3'-3.5'	soil	2008-09-16	00:00	2008-09-17
173704	AH-4 0-1'	soil	2008-09-16	00:00	2008-09-17
173705	AH-4 1'-1.5'	soil	2008-09-16	00:00	2008-09-17
173706	AH-4 2'-2.5'	soil	2008-09-16	00:00	2008-09-17
173707	AH-4 3'-3.5'	soil	2008-09-16	00:00	2008-09-17
173708	AH-5 0-1'	soil	2008-09-16	00:00	2008-09-17
173709	AH-5 1'-1.5'	soil	2008-09-16	00:00	2008-09-17
173710	AH-5 2'-2.5	soil .	2008-09-16	00:00	2008-09-17
173711	AH-5 3'-3.5'	soil	2008-09-16	00:00	2008-09-17

]	BTEX		TPH DRO	TPH GRO
	Benzene	Toluene	Ethylbenzene	Xylene	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
173691 - AH-1 0-1'					<50.0	1.04
173696 - AH-2 0-1'					<50.0	<1.00
173700 - AH-3 0-1'	< 0.0100	< 0.0100	< 0.0100	0.0882	74.2	16.4
173704 - AH-4 0-1'	<0.0100	<0.0100	< 0.0100	<0.0100	<50.0	4.96

continued ...

Report Date:	September 22, 2008
115-6403593	1

... continued

			BTEX		TPH DRO	TPH GRO
	Benzene	Toluene	Ethylbenzene	Xylene	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
1/3/08 - An-5 0-1	<0.0100	<0.0100	<0.0100		<50.0	1.34
Sample: 173691 - AH	-1 0-1'					
Param	Flag		Result		Units	RI
Chloride			650	n	ng/Kg	2.00
Sample: 173692 - AH	[-1 1'-1.5'					
Param	Flag		Result		Units	RI
Chloride			<100	n	ng/Kg	2.00
Sample: 173693 - AH	[-1 2'-2.5'		,			
Param	Flag		Result		Units	R
Chloride		······	313	n	ng/Kg	2.0
Sample: 173694 - AH	[-1 3'-3.5'					
Param	Flag	_ <u>.</u>	Result		Units	R
Chloride			10200	n	ng/Kg	2.0
, Sample: 173695 - AH	I-1 3.5'-4.0'					
Param	Flag		Result		Units	R
Chloride			11200	I.	ng/Kg	2.0
Sample: 173696 - AH	I-2 0-1'					
Param	Flag		Result	······	Units	R
~			1860	٣	ng/Kg	2.0

continued ...

Report Date: September 22, 2008 115-6403593		Work Order: 809175 St. Mary/Geronimo Federal I	Page Number: 3 of 4 Eddy Co., NM	
sample 173697 cont	inued			
Param	Flag	Result	Units	RL
Param	Flag	Result	Units	RL
Chloride		635	mg/Kg	2.00
Sample: 173698 -	- AH-2 2'-2.5'			
Param	\mathbf{Flag}	Result	Units	RL
Chloride		842	mg/Kg	2.00
Sample: 173699	- AH-2 3'-3.5'			
Param	Flag	Result	Units	RL
Chloride		9400	mg/Kg	2.00
		· · · ·		
Sample: 173700	- AH-3 0-1'			
Sample: 173700 Param	- AH-3 0-1'	Result	Units	RL
Sample: 173700 Param Chloride	- AH-3 0-1' Flag	Result 4020	Units mg/Kg	RL 2.00
Sample: 173700 Param Chloride Sample: 173701	- AH-3 0-1' Flag - AH-3 1'-1.5'	Result 4020	Units mg/Kg	RL 2.00
Sample: 173700 Param Chloride Sample: 173701 Param	- AH-3 0-1' Flag - AH-3 1'-1.5' Flag	Result 4020 Result	Units mg/Kg Units	RL 2.00 RL
Sample: 173700 Param Chloride Sample: 173701 Param Chloride	- AH-3 0-1' Flag - AH-3 1'-1.5' Flag	Result 4020 Result · 531	Units mg/Kg Units mg/Kg	RL 2.00 RL 2.00
Sample: 173700 Param Chloride Sample: 173701 Param Chloride Sample: 173702	- AH-3 0-1' Flag - AH-3 1'-1.5' Flag - AH-3 2'-2.5'	Result 4020 Result · 531	Units mg/Kg Units mg/Kg	RL 2.00 RL 2.00
Sample: 173700 Param Chloride Sample: 173701 Param Chloride Sample: 173702 Param	- AH-3 0-1' Flag - AH-3 1'-1.5' Flag - AH-3 2'-2.5' Flag	Result 4020 Result 531 Result	Units Units Units	RL 2.00
Sample: 173700 Param Chloride Sample: 173701 Param Chloride Sample: 173702 Param Chloride	- AH-3 0-1' Flag - AH-3 1'-1.5' Flag - AH-3 2'-2.5' Flag	Result 4020 Result 531 Result 588	Units mg/Kg Units mg/Kg Units mg/Kg	RL 2.00 RL 2.00 RL 2.00
Sample: 173700 Param Chloride Sample: 173701 Param Chloride Sample: 173702 Param Chloride Sample: 173703	- AH-3 0-1' Flag - AH-3 1'-1.5' Flag - AH-3 2'-2.5' Flag - AH-3 3'-3.5'	Result 4020 Result 531 Result 588	Units mg/Kg Units mg/Kg Units mg/Kg	RL 2.00 RL 2.00 RL 2.00
Sample: 173700 Param Chloride Sample: 173701 Param Chloride Sample: 173702 Param Chloride Sample: 173703 Param	- AH-3 0-1' Flag - AH-3 1'-1.5' Flag - AH-3 2'-2.5' Flag - AH-3 3'-3.5' Flag	Result 4020 Result 531 Result 588	Units mg/Kg Units mg/Kg Units mg/Kg	RL 2.00 RL 2.00 RL 2.00 RL

Sample: 173704 - AH-4 0-1'

Report Date: Septer 115-6403593	mber 22, 2008	Work Order: 809172 St. Mary/Geronimo Federal 1	Page Number: 4 of 4 Eddy Co., NM	
Param	Flag	Result	Units	RL
Chloride	· · · ·	2820	mg/Kg	2.00
Sample: 173705 -	AH-4 1'-1.5'			
Param	Flag	Result	Units	* RL
Chloride		268	mg/Kg	2.00
Sample: 173706 -	AH-4 2'-2.5'			
Param	Flag	Result	Units	RL
Chloride		216	mg/Kg	2.00
_				
Sample: 173707 -	AH-4 3'-3.5'			
Param	Flag	Result	Units	\mathbf{RL}
Chloride		<100	mg/Kg	2.00
Sample: 173708 - Param	AH-5 0-1' Flag	Result	Units	RL
<u>C</u> hloride		1920	mg/Kg	2.00
Sample: 173709 -	- AH-5 1'-1.5'			
Param Chloride	Flag	Result	Units mg/Kg	
Sample: 173710 -	• AH-5 2'-2.5	L. C.		
Param	Flag	Result	Units	RL
Chloride		227	mg/Kg	2.00
Sample: 173711 -	- AH-5 3'-3.5'			
Param	Flag	Result	Units	RL
Chloride		<100	mg/Kg	2.00

6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1 6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132

Lubbock, Texas 79424 El Paso, Texas 79922 Midland, Texas 79703 E-Mail: lab@traceanalysis.com

NCTRCA

808+378+1296 806 • 794 • 1296 888 • 588 • 3443 915+585+3443 432 • 689 • 6301 817 • 201 • 5260

FAX 806 • 794 • 1298 FAX 915 • 585 • 4944 FAX 432+689+6313

WBENC: 237019

Certifications HUB: 1752439743100-86536

DBE: VN 20657

NELAP Certifications

Lubbock:

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

El Paso: T104704221-08-TX LELAP-02002

WFWB38444Y0909

Midland: T104704392-08-TX

Analytical and Quality Control Report

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

Report Date: September 22, 2008

Work Order: 8091729

Project Location: Eddy Co., NM St. Mary/Geronimo Federal Inj. Station **Project Name: Project Number:** 115-6403593

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
173691	AH-1 0-1'	soil	2008-09-16	00:00	2008-09-17
173692	AH-1 1'-1.5'	soil	2008-09-16	00:00	2008-09-17
173693	AH-1 2'-2.5'	soil	2008-09-16	00:00	2008-09-17
173694	AH-1 3'-3.5'	\mathbf{soil}	2008-09-16	00:00	2008-09-17
173695	AH-1 3.5'-4.0'	soil	2008-09-16	00:00	2008-09-17
173696	AH-2 0-1'	soil	2008-09-16	00:00	2008-09-17

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
173697	AH-2 1'-1.5'	soil	2008-09-16	00:00	2008-09-17
173698	AH-2 2'-2.5'	soil	2008-09-16	00:00	2008-09-17
173699	AH-2 3'-3.5'	soil	2008-09-16	00:00	2008-09-17
173700	AH-3 0-1'	soil	2008-09-16	00:00	2008-09-17
173701	AH-3 1'-1.5'	soil	2008-09-16	00:00	2008-09-17
173702	AH-3 2'-2.5'	soil	2008-09-16	00:00	2008-09-17
173703	AH-3 3'-3.5'	soil	2008-09-16	00:00	2008-09-17
173704	AH-4 0-1'	soil	2008-09-16	00:00	2008-09-17
173705	AH-4 1'-1.5'	soil	2008-09-16	00:00	2008-09-17
173706	AH-4 2'-2.5'	soil	2008-09-16	00:00	2008-09-17
173707	AH-4 3'-3.5'	soil	2008-09-16	00:00	2008-09-17
173708	AH-5 0-1'	soil	2008-09-16	00:00	2008-09-17
173709	AH-5 1'-1.5'	soil	2008-09-16	00:00	2008-09-17
173710	AH-5 2'-2.5	soil	2008-09-16	00:00	2008-09-17
173711	AH-5 3'-3.5'	soil	2008-09-16	00:00	2008-09-17

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

Michael abril

Dr. Blair Leftwich, Director

Standard Flags

 ${\bf B}\,$ - The sample contains less than ten times the concentration found in the method blank.

Case Narrative

Samples for project St. Mary/Geronimo Federal Inj. Station were received by TraceAnalysis, Inc. on 2008-09-17 and assigned to work order 8091729. Samples for work order 8091729 were received intact at a temperature of 3.7 deg. C.

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

Test	Method
BTEX	S 8021B
Chloride (Titration)	SM 4500-Cl B
TPH DRO	Mod. 8015B
TPH GRO	S 8015B

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 8091729 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: September 22, 2008 115-6403593

•

.

Analytical Report

Sample: 173691 - AH-1 0-1'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 52542 45030	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2008-09-19 2008-09-19	Prep Method: Analyzed By: Prepared By:	N/A AR AR
		\mathbf{RL}			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		650	mg/Kg	50	2.00

Sample: 173691 - AH-1 0-1'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH DRO 52479 44990		Analytical M Date Analyz Sample Prep	1ethod: Mod. 8 ed: 2008-09 paration: 2008-09	9015B 9-18 9-18	Prep M Analyz Prepar	Aethod: N/A aed By: LD ed By: LD
			RL				
Parameter		Flag	Result	Uni	ts	Dilution	\mathbf{RL}
DRO			<50.0	mg/k	g	1	50.0
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontan	e	184	mg/Kg	1	100	184	10 - 250.4

Sample: 173691 - AH-1 0-1'

Laboratory: Midland Analysis: TPH GRO QC Batch: 52503 Prep Batch: 45007			Analytica Date Ana Sample P	l Method: lyzed: reparation:	S 8015B 2008-09-18 2008-09-18		Prep Me Analyzec Preparec	Prep Method: S 5035 Analyzed By: DC Prepared By: DC	
Baramatar	Flor		RL Bogult		Tinita		Dilution	DI	
Farameter									
GRO			1.04		mg/Kg		1		
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits	
Trifluorotolu	ene (TFT)		1.01	mg/Kg	1	1.00	101	67.5 - 135.2	
4-Bromofluor	robenzene (4-BFB)		1.03	mg/Kg	1	1.00	103	63.8 - 141	

Report Date: September 22, 2008	Work Order: 8091729	Page Number: 5 of 23
115-6403593	St. Mary/Geronimo Federal Inj. Station	Eddy Co., NM

Sample: 173692 - AH-1 1'-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	52542	Date Analyzed:	2008-09-19	Analyzed By:	AR
Prep Batch:	45030	Sample Preparation:	2008-09-19	Prepared By:	AR
		DI			
		RD			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		<100	mg/Kg	50	2.00

Sample: 173693 - AH-1 2'-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	52542	Date Analyzed:	2008-09-19	Analyzed By:	AR
Prep Batch:	45030	Sample Preparation:	2008-09-19	Prepared By:	AR
				•	
		\mathbf{RL}			
Farameter	\mathbf{Flag}	Result	Units	Dilution	\mathbf{RL}
Chloride		313	mg/Kg	50	2.00

Sample: 173694 - AH-1 3'-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	52542	Date Analyzed:	2008-09-19	Analyzed By:	AR
Prep Batch:	45030	Sample Preparation:	2008-09-19	Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		10200	mg/Kg	50	2.00

Sample: 173695 - AH-1 3.5'-4.0'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Meth	od: SM 4500-Cl B	Prep Method:	N/A
QC Batch:	52542	Date Analyzed:	2008-09-19	Analyzed By:	AR
Prep Batch:	45030	Sample Prepara	tion: 2008-09-19	Prepared By:	AR
		DI			
		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		11200	mg/Kg	50	2.00

Report Date 115-6403593	:: September 22, 20		Work Order: 8091729 St. Mary/Geronimo Federal Inj. Station		Page Nu	mber: 6 of 23 Eddy Co., NM	
Sample: 17	3696 - AH-2 0-1'						
Laboratory:	Midland			-			
Analysis:	Chloride (Titratio	m)	Analytical	Method: SM 4	4500-Cl B	Prep M	lethod: N/A
QC Batch:	52542		Date Analy	yzed: 2008	-09-19	Analyz	ed By: AR
Prep Batch:	45030		Sample Pre	eparation: 2008	-09-19	Prepar	ed By: AR
			RL				
Parameter	Flag		Result	Units	3	Dilution	\mathbf{RL}
Chloride			1860	mg/K _l	5	50	2.00
Sample: 17	'3696 - AH-2 0-1'	,					
Laboratory:	Midland						
Analysis:	TPH DRO		Analytical Me	thod: Mod. 80	15B	Prep M	fethod: N/A
QC Batch:	52479		Date Analyzed	l: 2008-09-	-18	Analyz	ed By: LD
Prep Batch:	44990		Sample Prepar	ration: 2008-09-	-18	Prepar	ed By: LD
			RL				
Parameter	\mathbf{F} lag		Result	Unit	S .	Dilution	\mathbf{RL}
DRO			<50.0	mg/K	g	1	50.0
					Sniko	Porcent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
n-Triacontar	1ê	156	mg/Kg	1	100	156	10 - 250.4
Sample: 17	/3696 - AH-2 0-1	,				, <u>, , , , , , , , , , , , , , , , , , </u>	
- Laboratoru:	Midland				•		
Analysis	TPH GRO		Analytical Me	thod S 8015B	1	Pren Ma	thod \$ 5035
QC Batch:	52503		Date Analyzed	1: 2008-09	-18	Analyze	Bv: DC
Prep Batch:	45007		Sample Prepa	ration: 2008-09	-18	Prepareo	i By: DC
			RL				
Parameter	Flag		Result	Unit	S	Dilution	\mathbf{RL}

GRO		<1.00		mg/Kg		1	1.00
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.935	mg/Kg	1	1.00	94	67.5 - 135.2
4-Bromofluorobenzene (4-BFB)		0.944	mg/Kg	1	1.00	94	63.8 - 141

Sample: 173697 - AH-2 1'-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	52542	Date Analyzed:	2008-09-19	Analyzed By:	AR
Prep Batch:	45030	Sample Preparation:	2008-09-19	Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		635	mg/Kg	50	2.00

Sample: 173698 - AH-2 2'-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	52542	Date Analyzed:	2008-09-19	Analyzed By:	AR .
Prep Batch:	45030	Sample Preparation:	2008-09-19	Prepared By:	AR
		זמ			
	•	RL	•		
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		842	mg/Kg	50	2.00

Sample: 173699 - AH-2 3'-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	52542	Date Analyzed:	2008-09-19	Analyzed By:	AR
Prep Batch:	45030	Sample Preparation:	2008-09-19	Prepared By:	AR
		Į			
_		1612			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		9400	mg/Kg	50	2.00

Sample: 173700 - AH-3 0-1'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 52533 45007		Analytical Method: Date Analyzed: Sample Preparation:	S 8021B 2008-09-18 2008-09-18	Prep Method: Analyzed By: Prepared By:	S 5035 DC DC
_		-	RL			
Parameter		Flag	Result	Units	Dilution	RL
Benzene			<0.0100	mg/Kg	1	0.0100
Toluene			<0.0100	mg/Kg	· 1	0.0100
					continued	

sample 173700 continued ...

			\mathbf{RL}					
Parameter	Flag		Result		Units	Di	lution	\mathbf{RL}
Ethylbenzene			< 0.0100	, , 	mg/Kg		1	0.0100
Xylene			0.0882		mg/Kg		1	0.0100
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			0.921	mg/Kg	1	1.00	92	68 - 136.9
4-Bromofluorobenzene (4-B	FB)		0.981	mg/Kg	1	1.00	98	48.2 - 155

Sample: 173700 - AH-3 0-1'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 52542 45030	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2008-09-19 2008-09-19	Prep Method: Analyzed By: Prepared By:	N/A AR AR
		RL			
Parameter	\mathbf{Flag}	\mathbf{Result}	Units	Dilution	\mathbf{RL}
Chloride		4020	mg/Kg	50	2.00

Sample: 173700 - AH-3 0-1'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland TPH DRO 52479 44990		Analytical Mé Date Analyze Sample Prepa	ethod: d: ration:	Mod. 8 2008-09 2008-09	015B -18 ⊢18	Prep M Analyz Prepar	lethod: M ed By: I ed By: I	N/A LD LD
Parameter	F	د. م	RL Besult		Unit	- q	Dilution		RL.
DRO	*		74.2		mg/K	<u> </u>	1		50.0
Surrogate	Flag	Result	Units	Dilu	tion	Spike Amount	Percent Recovery	Recov Limi	very its
n-Triacontan	e	141	mg/Kg		1	100	141	10 - 2	50.4

Sample: 173700 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	52503	Date Analyzed:	2008-09-18	Analyzed By:	DC
Prep Batch:	45007	Sample Preparation:	2008-09-18	Prepared By:	DC

RL Units Dilution GRO 16.4 mg/Kg 1 Surrogate Flag Result Units Dilution Amount Recovery Lim Trifluorotoluene (TFT) 0.944 mg/Kg 1 1.00 94 67.5 - 4-Bromofluorobenzene (4-BFB) 0.904 mg/Kg 1 1.00 90 63.8 - Sample: 173701 - AH-3 1'-1.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prep Method: RL Result Units Dilution Chloride 50 Sample: 173702 - AH-3 2'-2.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analysed By: Prep Method: QC Batch: 52543 Date Analyzed:	eport Date: 5-6403593	September 22, 2008	St. Ma	Work Order: 8091729 St. Mary/Geronimo Federal Inj. Station				Page Number: 9 of 23 Eddy Co., NM		
Parameter Flag Result Units Dilution GRO 16.4 mg/Kg 1 Surrogate Flag Result Units Dilution Amount Recovery Lim Trifluorotoluene (TFT) 0.944 mg/Kg 1 1.00 94 67.5 - 4-Bromofluorobenzene (4-BFB) 0.904 mg/Kg 1 1.00 94 67.5 - 4-Bromofluorobenzene (4-BFB) 0.904 mg/Kg 1 1.00 94 67.5 - 4-Bromofluorobenzene (4-BFB) 0.904 mg/Kg 1 1.00 94 67.5 - 4-Bromofluorobenzene (4-BFB) 0.904 mg/Kg 1 1.00 94 67.5 - 4-Bromofluorobenzene (4-BFB) 0.904 mg/Kg 1 1.00 90 63.8 - Sample: 173701 - AH-3 1'-1.5' Laboratory: Midland Analyzed 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prepared By: RL Parameter Flag Result Units Dilution Chloride 531 mg/Kg 50 Sample: 173702 - AH-3 2'-2.5' Laboratory: Midland Analysis: Choride (Titration)			RL							
GRO 16.4 mg/Kg 1 Surrogate Flag Result Units Dilution Amount Recovery Lim Trifluorotoluene (TFT) 0.944 mg/Kg 1 1.00 94 67.5 - 4-Bromofluorobenzene (4-BFB) 0.904 mg/Kg 1 1.00 90 63.8 - Sample: 173701 - AH-3 1'-1.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Analyzed By: Parameter Flag Result Units Dilution Chloride 531 mg/Kg 50 Sample: 173702 - AH-3 2'-2.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Analyzed B	rameter	Flag	Result		Units		Dilution		\underline{RL}	
Surrogate Flag Result Units Dilution Amount Recovery Lim Trifliorotoluene (TFT) 0.944 ng/Kg 1 1.00 94 67.5 - 4-Bromoffluorobenzene (4-BFB) 0.904 ng/Kg 1 1.00 90 63.8 - Sample: 173701 - AH-3 1'-1.5' Laboratory: Midland Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prepared By: Parameter Flag Result Units Dilution Chloride 531 mg/Kg 50 Sample: 173702 - AH-3 2'-2.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prepared By: Prep Batch: 45032 Sample Preparation: 2008-09-19	10		16.4		mg/Kg		1	· .	1.00	
Surrogate Flag Result Units Dilution Amount Recovery Lim Trifluorotoluene (TFT) 0.944 mg/Kg 1 1.00 94 67.5 - 4-Bromofluorobenzene (4-BFB) 0.904 mg/Kg 1 1.00 90 63.8 - Sample: 173701 - AH-3 1'-1.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prepared By: RL Parameter Flag Result Units Dilution Chloride 531 mg/Kg 50 Sample: 173702 - AH-3 2'-2.5' Laboratory: Midland Analyzical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparati						Spike	Percent	Reco	verv ·	
Trifluorotoluene (TFT) 0.944 mg/Kg 1 1.00 94 67.5 - 4-Bromofluorobenzene (4-BFB) 0.904 mg/Kg 1 1.00 90 63.8 - Sample: 173701 - AH-3 1'-1.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prepared By: Parameter Flag Result Units Dilution Chloride 531 mg/Kg 50 Sample: 173702 - AH-3 2'-2.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prepared By: Prep Batch: 52543 Date Analyzed: 2008-09-19 Prepared By: Parameter Flag Re	rrogate		Flag Result	Units	Dilution	Amount	Recovery	Lin	nits	
4-Bromofluorobenzene (4-BFB) 0.904 mg/Kg 1 1.00 90 63.8 - Sample: 173701 - AH-3 1'-1.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prepared By: Parameter Flag Result Units Dilution Chloride 531 mg/Kg 50 Sample: 173702 - AH-3 2'-2.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prepared By: RL Result Units Dilution	ifluorotolue	ne (TFT)	0.944	mg/Kg	· 1	1.00	94	67.5 -	135.2	
Sample: 173701 - AH-3 1'-1.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prep Method: Parameter Flag Result Units Dilution Chloride 531 mg/Kg 50 Sample: 173702 - AH-3 2'-2.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prepared By: Manalysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Prepared By: Prep Batch: 45032 Sample Preparation: 2008-09-19 </td <td>Bromofluoro</td> <td>bbenzene (4-BFB)</td> <td>0.904</td> <td>mg/Kg</td> <td>1</td> <td>1.00</td> <td>90</td> <td>63.8</td> <td>- 141</td>	Bromofluoro	bbenzene (4-BFB)	0.904	mg/Kg	1	1.00	90	63.8	- 141	
Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prepared By: Parameter Flag Result Units Dilution Chloride 531 mg/Kg 50 Sample: 173702 - AH-3 2'-2.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 5032 Sample Preparation: 2008-09-19 Prepared By: Parameter Flag Result Units Dilution Chloride 588 mg/Kg 50 Sample: 173703 - AH-3 3'-3.5' Laboratory: Midland	mple: 173	3701 - AH-3 1'-1.5'	,							
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prepared By: Parameter Flag Result Units Dilution Chloride 531 mg/Kg 50 Sample: 173702 - AH-3 2'-2.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prepared By: RL Parameter Flag Result Units Dilution Chloride 588 mg/Kg 50 Sample: 173703 - AH-3 3'-3.5' Laboratory Midland	boratory:	Midland								
QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prepared By: Parameter Flag Result Units Dilution Chloride 531 mg/Kg 50 Sample: 173702 - AH-3 2'-2.5' Laboratory: Midland Analysis: Chloride (Titration) QC Batch: 52543 Prep Method: Sample: 173702 Analyzed: 2008-09-19 Analyzed By: Prep Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Analyzed By: Sample: 173703 - AH-3 3'-3.5' KL Units Dilution Sample: 173703 - AH-3 3'-3.5' Laboratory: Midland	1alysis:	Chloride (Titration)	Anal	ytical Method:	SM 4500)-Cl B	Prep	Method:	N/A	
Prep Batch: 45032 Sample Preparation: 2008-09-19 Prepared By: RL RL Dilution Chloride 531 mg/Kg 50 Sample: 173702 - AH-3 2'-2.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prepared By: Midland Sample: 173703 - AH-3 3'-3.5' Laboratory Midland Sample: 173703 - AH-3 3'-3.5' Laboratory Midland	C Batch:	52543	Date	Analyzed:	2008-09	-19	Analy	zed By:	AR	
RL Dilution Chloride 531 mg/Kg 50 Sample: 173702 - AH-3 2'-2.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prepared By: RL RL Parameter Flag Result Units Dilution Sample: 173703 - AH-3 3'-3.5' Laboratory: Midland	ep Batch:	45032	Sam	ple Preparation	n: 2008-09-	-19	Ргера	red By:	AR	
Parameter Flag Result Units Dilution Chloride 531 mg/Kg 50 Sample: 173702 - AH-3 2'-2.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prepared By: RL Parameter Flag Result Units Dilution Chloride 588 mg/Kg 50 Sample: 173703 - AH-3 3'-3.5' Laboratory: Midland			RL							
Chloride 531 mg/Kg 50 Sample: 173702 - AH-3 2'-2.5' Laboratory: Midland Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prepared By: RL Parameter Flag Result Units Dilution Chloride 588 mg/Kg 50	rameter	Flag	Result		Units		Dilution		\mathbf{RL}	
Sample: 173702 - AH-3 2'-2.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: Prep Batch: 45032 Sample Preparation: 2008-09-19 Prepared By: RL Parameter Flag Result Units Dilution Chloride 588 mg/Kg 50 Sample: 173703 - AH-3 3'-3.5' Laboratory: Midland	nloride		531		mg/Kg	·	50		2.00	
Parameter Flag Result Units Dilution Chloride 588 mg/Kg 50	ample: 173 aboratory: nalysis: C Batch: rep Batch:	3702 - AH-3 2'-2.5' Midland Chloride (Titration) 52543 45032	, Anal Date Samj BL	ytical Method Analyzed: ple Preparation	SM 450 2008-09 a: 2008-09	0-Cl B -19 -19	Prep Analy Prepa	Method: zed By: red By:	N/A AR AR	
Chloride 588 mg/Kg 50 Sample: 173703 - AH-3 3'-3.5' Isheratory Midland	trameter	Flag	Result		Units		Dilution		\mathbf{RL}	
Sample: 173703 - AH-3 3'-3.5'	nloride		588		mg/Kg		50		2.00	
Laboratory:MinimuAnalysis:Chloride (Titration)Analytical Method:SM 4500-Cl BPrep Method:QC Batch:52543Date Analyzed:2008-09-19Analyzed By:Prep Batch:45032Sample Preparation:2008-09-19Prepared By:	ample: 173 aboratory: nalysis: C Batch: cep Batch:	3703 - AH-3 3'-3.5' Midland Chloride (Titration) 52543 45032	, Ana Date Sam	lytical Method Analyzed: ple Preparatio	: SM 450 2008-09 n: 2008-09	0-Cl B -19 -19	Prep Analy Prepa	Method: /zed By: ared By:	N/A AR AR	
RL Parameter Flag Result Units Dilution	arameter	Flag	RL Result		Unite		Dilution		RĬ.	
Chloride 964 mg/Kg 50	hloride	1 1005	964		mø/Kø		50	<u> </u>	2 00	

.

. .

,

Report Date: September 22, 2008	Work Order: 8091729	Page Number: 10 of 23
115-6403593	St. Mary/Geronimo Federal Inj. Station	Eddy Co., NM

.

Sample: 173704 - AH-4 0-1'

۳

Laboratory:	Midland					•		
Analysis:	BTEX		Analytical I	Method:	S 8021B		Prep Meth	nod: S 5035
QC Batch:	52533		Date Analy	zed:	2008-09-18		Analyzed	By: DC
Prep Batch:	45007		Sample Pre	paration:	2008-09-18		Prepared	By: DC
			\mathbf{RL}					
Parameter	Flag		Result		Units	Di	lution	RL
Benzene			< 0.0100		mg/Kg		1	0.0100
Toluene			<0.0100		mg/Kg		1	0.0100
Ethylbenzene	9		< 0.0100		mg/Kg		1	0.0100
Xylene			< 0.0100		mg/Kg		1	0.0100
-	,					<u> </u>		
						Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotolu	ene (TFT)		0.968	mg/Kg	1	1.00	97	68 - 136.9
4-Bromofluor	robenzene (4-BFB)		1.01	Mg	1	1.00	101	48.2 - 155
- ,					· .			
					•			
Sample: 17	'3704 - AH-4 0-1'				,			
Laboratory:	Midland							
Analysis:	Chloride (Titration)		Analy	tical Meth	od: SM 4500-	Cl B	Prep M	ethod: N/A
QC Batch:	52543		Date .	Analyzed:	2008-09-1	9	Analyze	ed By: AR
Prep Batch:	45032		Sampl	e Prepara	tion: 2008-09-1	9	Prepare	d By: AR

• • • F = • • • • • • •	_	······································			
		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		2820	mg/Kg	50	2.00

.

Sample: 173704 - AH-4 0-1'

•

.

Laboratory:	Midland						
Analysis:	TPH DRO		Analytical Me	thod: Mod. 8	015B	Prep M	fethod: N/A
QC Batch:	52479		Date Analyze	d: 2008-09	-18	Analyz	ed By: LD
Prep Batch:	44990		Sample Prepa	ration: 2008-09	-18	Prepar	ed By: LD
			RL				
Parameter	\mathbf{F}_{i}	lag	Result	Unit	ts	Dilution	\mathbf{RL}
DRO			<50.0	mg/K	g	1	50.0
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontan	ee	156	mg/Kg	1	100	156	10 - 250.4
			0				

Sample: 173704 - AH-4 0-1'Laboratory:MidlandAnalysis:TPH GROAnalytical Method:S 8015BQC Batch:52503Date Analyzed:2008-09-18Prep Batch:45007Sample Preparation:2008-09-18Prep Batch:45007Sample Method:DilutionRLRLRLGROHH4.96mg/Kg1	Page Number: 11 of Eddy Co., N		
Laboratory: Midland Analysis: TPH GRO Analytical Method: S 8015B Pre QC Batch: 52503 Date Analyzed: 2008-09-18 An Prep Batch: 45007 Sample Preparation: 2008-09-18 Pre RL <u>RL</u> <u>RL</u> <u>RL</u> <u>RL</u> <u>RL</u> <u>RL</u> <u>RL</u> <u></u>			
Analysis:TPH GROAnalytical Method:S 8015BPreQC Batch:52503Date Analyzed:2008-09-18AnPrep Batch:45007Sample Preparation:2008-09-18PreRLRLParameterFlagResultUnitsDilutionGROB4.96mg/Kg1			
QC Batch:52503Date Analyzed:2008-09-18AnPrep Batch:45007Sample Preparation:2008-09-18PreRLRLRLInitsDilutionGROB4.96mg/Kg1	ep Method: S	5035	
Prep Batch:45007Sample Preparation:2008-09-18PreRL ParameterRL FlagUnitsDilutionGROB4.96mg/Kg1	alyzed By: D	C	
RLParameterFlagResultUnitsDilutionGROB4.96mg/Kg1	epared By: D	ю	
ParameterFlagResultUnitsDilutionGROB4.96mg/Kg1			
GRO B 4.96 mg/Kg 1		\mathbf{RL}	
	<u></u>	1.00	
Spike Perce	ent Reco	very	
Surrogate Flag Result Units Dilution Amount Recov	very Lim	iits	
Trifluorotoluene (TFT) 1.01 mg/Kg 1 1.00 101	1 67.5 -	135.2	
4-Bromofluorobenzene (4-BFB) 1.04 mg/Kg 1 1.00 104	4 63.8 -	· 141	
Sample: 173705 - AH-4 1'-1.5'Laboratory:MidlandAnalysis:Chloride (Titration)QC Batch:52543Prep Batch:45032Date Analyzed:2008-09-19Prep Batch:45032	Prep Method: Analyzed By: Prepared By:	N/A AR AR	
RL Parameter Flag Result Units Dilution		RĪ.	
TarantesetTagTassattOnissDiffusionChloride268mg/Kg50		2.00	
Sample: 173706 - AH-4 2'-2.5'Laboratory: MidlandAnalysis: Chloride (Titration)QC Batch: 52543Prep Batch: 45032Sample Preparation: 2008-09-19	Prep Method: Analyzed By: Prepared By:	N/A AR AR	
DI	- •		
Parameter Flag Result Units Dilution	L	\mathbf{RL}	

Sample: 173707 - AH-4 3'-3.5'

Chloride

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	52543	Date Analyzed:	2008-09-19	Analyzed By:	AR
Prep Batch:	45032	Sample Preparation:	2008-09-19	Prepared By:	AR

216

mg/Kg

2.00

Report Date: September 22, 2008 115-6403593			Work Order: 8091729 St. Mary/Geronimo Federal Inj. Station				Page Number: 12 of 2 Eddy Co., NM	
			RI.					
Parameter	Flag		Result		Units		Dilution	BI
Chloride	I lug		<100	· · ·	mg/Kg	·	50	2.00
	,,				<u> </u>	<u></u>		
Sample: 173	3708 - AH-5 0-1'							
Laboratory:	Midland							
Analysis:	BTEX		Analytical M	lethod:	S 8021B		Prep Meth	od: S 5035
QC Batch:	52533		Date Analyz	ed:	2008-09-18		Analyzed H	By: DC
Prep Batch:	45007		Sample Prep	aration:	2008-09-18		Prepared E	By: DC
			\mathbf{RL}	•				
Parameter	Flag		Result	<u>_</u>	Units]	Dilution	RL
Benzene			< 0.0100		mg/Kg		1	0.0100
Toluene			< 0.0100		mg/Kg		1	0.0100
Ethylbenzene			< 0.0100		mg/Kg		1	0.0100
Xylene	· · · · · · · · · · · · · · · · · · ·		<0.0100		mg/Kg		<u>1</u>	0.0100
					D .1	Spike	Percent	Recovery
Surrogate	(7)7(7)	Flag	Result	Units	Dilution	Amount	Recovery	Limits
1 Influorotolue	ene (IFI) schemene (4 DED)		0.918	mg/Kg	1	1.00	92	68 - 136.9
4-Bromonuor	obenzene (4-DFD)		0.910	mg/ Kg	1	1.00	91	48.2 - 155
Sample: 17 Laboratory: Analysis: QC Batch: Prep Batch:	3708 - AH-5 0-1' Midland Chloride (Titration) 52543 45032		Analyti Date A Sample	cal Meth nalyzed: Prepara	od: SM 4500-0 2008-09-19 tion: 2008-09-19	Cl B 9 9	Prep Me Analyzec Preparec	thod: N/A l By: AR l By: AR
			· RL					
Parameter	Flag		Result		Units	.*	Dilution	\mathbf{RL}
Chloride			1920		mg/Kg		50	2.00
Sample: 17	3708 - AH-5 0-1'						•	
Laboratory	Midland							
Laporatory:			Analytical	Mathad	Mod PO15D		Drop Ma	thad N/A
Allaysis: OC Batch	59470		Data Anal	wed.	2008_00_18		r rep Me	anou: N/A A Reg I D
Pren Batch	44990		Sample Pro	pocu. Ponaration	2008-09-18		Prepare	1 By LD
TTEP Daten.	11000		Dampie I R	-paramor	a. 2000-0 3 ~10		теране	עם געיי
			\mathbf{RL}					
Parameter	Flag		Result		Units		Dilution	RL
DRO			<50.0		mg/Kg		1	50.0

•

.

•

.

.

. ,

•

Report Date: September 22, 2008 Work Order: 8091729 Page Number: 13 of 23 St. Mary/Geronimo Federal Inj. Station 115-6403593 Eddy Co., NM Spike Percent Recovery Surrogate Result Units Limits Flag Dilution Amount Recovery n-Triacontane 153 mg/Kg 1 100 153 10 - 250.4 Sample: 173708 - AH-5 0-1' Laboratory: Midland Analysis: TPH GRO Analytical Method: S 8015B Prep Method: S 5035 QC Batch: 52503Date Analyzed: 2008-09-18 Analyzed By: DC Prep Batch: 45007 Sample Preparation: DC 2008-09-18 Prepared By: RL Parameter Flag Result Units Dilution \mathbf{RL} GRO В 1.34 mg/Kg 1.00 1 Spike Percent Recovery Surrogate Flag Result Units Dilution Amount Recovery Limits Trifluorotoluene (TFT) 0.967 mg/Kg 1 1.00 97 67.5 - 135.2 4-Bromofluorobenzene (4-BFB) 0.914 mg/Kg 1 1.0091 63.8 - 141 Sample: 173709 - AH-5 1'-1.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: AR Prep Batch: 45032 Sample Preparation: Prepared By: 2008-09-19 AR RL Result Parameter Flag Units Dilution RL <100 mg/Kg Chloride 50 $\overline{2.00}$ Sample: 173710 - AH-5 2'-2.5 Laboratory: Midland

Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-CI B	Prep Method:	N/A
QC Batch:	52543	Date Analyzed:	2008-09-19	Analyzed By:	AR
Prep Batch:	45032	Sample Preparation:	2008-09-19	Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	$\mathbb{R}L$
Chloride		227	mg/Kg	50	2.00

Sample: 173711 - AH-5 3'-3.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Meth QC Batch: 52544 Date Analyzed: 2008-09-19 Analyzed I Prep Batch: 45033 Sample Preparation: 2008-09-19 Prepared E RL Result Units Dilution Chloride <100 mg/Kg 50 Method Blank (1) QC Batch: 52479 Date Analyzed: 2008-09-18 Analyzed QC Batch: 52479 Date Analyzed: 2008-09-18 Prepared Parameter Flag Result Units Prep Batch: 44990 QC Preparation: 2008-09-18 Prepared MDL Prepared Prepared Parameter Flag Result Units DRO <15.8 mg/Kg Snike Percent	bd: N/A y: AR y: AR <u>RL</u> 2.00 By: LD By: LD
Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Meth QC Batch: 52544 Date Analyzed: 2008-09-19 Analyzed I Prep Batch: 45033 Sample Preparation: 2008-09-19 Prepared H RL RL R RL One of the second H One of	bd: N/A y: AR y: AR <u>RL</u> 2.00 By: LD By: LD
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Meth QC Batch: 52544 Date Analyzed: 2008-09-19 Analyzed I Prep Batch: 45033 Sample Preparation: 2008-09-19 Prepared I RL Parameter Flag Result Units Dilution Chloride <100 mg/Kg 50 Method Blank (1) QC Batch: 52479 Date Analyzed: 2008-09-18 Analyzed QC Batch: 52479 Date Analyzed: 2008-09-18 Analyzed Prep Batch: 44990 QC Preparation: 2008-09-18 Prepared MDL Prepared MDL Prepared Prepared Parameter Flag Result Units Prepared MDL 2008-09-18 MDL Prepared Parameter Flag Result Units DRO <15.8 mg/Kg Snike Percent	bd: N/A y: AR y: AR <u>RL</u> 2.00 By: LD By: LD
QC Batch: 52544 Date Analyzed: 2008-09-19 Analyzed I Prep Batch: 45033 Sample Preparation: 2008-09-19 Prepared H RL RL RL Chloride Chloride Chloride 50 Method Blank (1) QC Batch: 52479 Date Analyzed: 2008-09-18 Analyzed QC Batch: 52479 Date Analyzed: 2008-09-18 Analyzed Prep Batch: 44990 QC Preparation: 2008-09-18 Prepared Parameter Flag Result Units Prepared Prep Batch: 44990 QC Preparation: 2008-09-18 Prepared MDL Prepared MDL Prepared Prepared Parameter Flag Result Units DRO <15.8	y: AR y: AR <u>RL</u> 2.00 By: LD By: LD
Prep Batch: 45033 Sample Preparation: 2008-09-19 Prepared P Parameter Flag Result Units Dilution Chloride <100	y: AR RL 2.00 By: LD By: LD
RL Units Dilution Chloride <100	RL 2.00 By: LD By: LD
Parameter Flag Result Units Dilution Chloride <100	RL 2.00 By: LD By: LD
Chloride <100 mg/Kg 50 Method Blank (1) QC Batch: 52479 Date Analyzed: 2008-09-18 Analyzed QC Batch: 52479 Date Analyzed: 2008-09-18 Analyzed Prep Batch: 44990 QC Preparation: 2008-09-18 Prepared Parameter Flag Result Units DRO <15.8	2.00 By: LD By: LD
Method Blank (1)QC Batch: 52479Date Analyzed: 2008-09-18AnalyzedQC Batch: 52479Date Analyzed: 2008-09-18AnalyzedPrep Batch: 44990QC Preparation: 2008-09-18PreparedMDLParameterFlagResultUnitsDRO<15.8	By: LD By: LD
Parameter Flag Result Units DRO <15.8 mg/Kg Spike Percent	
DRO <15.8 mg/Kg Spike Percent	RL
Spike Percent	50
ADUNE LEUPID	
Surrogate Flag Result Units Dilution Amount Recovery	Limits
n-Triacontane 70.5 mg/Kg 1 100 70 3).9 - 146.4
Method Blank (1) QC Batch: 52503 QC Batch: 52503 Date Analyzed: 2008-09-18 Analyzed Prep Batch: 45007 QC Preparation: 2008-09-18 Prepared MDL	By: DC By: DC
Parameter Flag Result Units	RI
<u>GRO</u> 0.922 mg/Kg	1
Surrogate Flag Result Units Dilution Amount Recovery	Recovery Limits
Trifluorotoluene (TFT)0.974mg/Kg11.00973	
4-Bromofluorobenzene (4-BFB) 0.923 mg/Kg 1 1.00 92 1	9.2 - 135.2

Method Blank (1)	QC Batch: 52533	
		n

QC Batch:	52533	Date Analyzed:	2008-09-18	Analyzed By:	DC
Prep Batch:	45007	QC Preparation:	2008-09-18	Prepared By:	DC

Report Date: Septer 115-6403593	mber 22, 2008	St. Mar	Work O y/Geronin	rder: 8091729 no Federal Inj.	Station	Page Nu	mber: 15 Eddy Co	of 23 ., NM
Doromotor	Flor] P	MDL	Un	:+-		ĎТ
Parameter	r tag	<u></u>	<u> </u>	0580	01	ILS /V~		
Toluono			<0.0	0000	mg/	/Kg /Ka		0.01
Toluciic Ethylbonyono			.07	0470	mg/	/Kg		0.01
Xvlene			<0.0 <0	0136	mg/	/Kg		0.01
			`					
					Spike	Percent	Reco	very
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Lin	<u>its</u>
Trifluorotoluene (TF	T)	0.961	mg/K	g 1	1.00	96	48.3 -	132.5
4-Bromofluorobenzer	ne (4-BFB)	0.940	mg/K	<u>g 1</u>	1.00	94	37.7	128.9
·								
Method Blank (1)	QC Batch: 52542							
QC Batch: 52542		Date An	alyzed:	2008-09-19		Anal	yzed By:	AR
Prep Batch: 45030		QC Pre	paration:	2008-09-19		Prep	ared By:	AR
-						1	č	
· ·	-1		M	DL		. , · ·		. -
Parameter	Flag		Res	ult	Un	its		<u> </u>
	······		<0.	500	mg/	Kg		
Method Blank (1)) QC Batch: 52543							
OC Bataha 50542		Data Ar	olurod.	9009 00 10		A	and Dev	٨D
QU Datch: 52545 Prep Batch: 45032		OC Prei	naration	2008-09-19 2008-09-19		Anal Pron	yzeu By: ared By	AR AR
1 50p Daton. 10002			por cororri	2000 00-10		ricp	mou Dy.	
			М	DL				
Parameter	Flag		Res	sult	Un	its		RL
Chloride			<0.	500	mg/	Kg		2
Method Blank (1)) QC Batch: 52544							
QC Batch: 52544		Date Ar	nalyzed:	2008-09-19		Anal	yzed By:	AR
Prep Batch: 45033		QC Pre	paration:	2008-09-19		Prep	ared By:	AR
			ЪЛ	זת				
Parameter	Flag		IVI Ref	sult	IIn	ite		BI
Chloride	<u> </u>			500		/Ko		<u> </u>
				000	<u> </u>	<u>116</u>		

I

.

Report Date: September 22, 2008 Work Order: 8091729 Page Number: 16 of 23 115-6403593 St. Mary/Geronimo Federal Inj. Station Eddy Co., NM Laboratory Control Spike (LCS-1) QC Batch: 52479 Date Analyzed: 2008-09-18 Analyzed By: LD Prep Batch: 44990 QC Preparation: Prepared By: LD 2008-09-18 LCS Matrix Spike Rec. Result Dil. Param Units Amount Result Limit Rec. 206 DRO mg/Kg 1 250^{-1} <15.8 82 27.8 - 152.1 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. LCSD RPD Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit RPD Limit DRO 198 mg/Kg 79 27.8 - 152.1 1 250<15.8 4 20 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. LCS LCSD Spike LCS LCSD Rec. Surrogate Result Result Units Dil. Amount Rec. Rec. Limit. 128 . 113 n-Triacontane mg/Kg 1 100 128 113 38 - 130.4 Laboratory Control Spike (LCS-1) QC Batch: 52503 Date Analyzed: 2008-09-18 Analyzed By: DC Prep Batch: 45007 QC Preparation: Prepared By: DC 2008-09-18 LCS Spike Matrix Rec. Result Units Param Dil. Amount Result Rec. Limit 8.79 57.5 - 106.4 GRO mg/Kg 10.00.92279 1 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. RPD LCSD Spike Matrix Rec. Result Units Dil. Amount Result Limit RPD Limit Param Rec. 9.40 GRO mg/Kg 1 10.0 0.922 85 57.5 - 106.4 7 20 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. LCS LCSD LCS LCSD Spike Rec. Result Result Units Dil. Amount Limit Surrogate Rec. Rec. Trifluorotoluene (TFT) 1.00 0.966 100 97 63.8 - 134.3 mg/Kg 1 1.00 4-Bromofluorobenzene (4-BFB) 0.958 0.936 mg/Kg 1 1.0096 94 53.3 - 123.6 Laboratory Control Spike (LCS-1) QC Batch: 52533Date Analyzed: 2008-09-18 Analyzed By: DC Prep Batch: 45007 QC Preparation: 2008-09-18 Prepared By: DC

Report Date: September 22, 2008 115-6403593		St. M	Woi ary/Ge	rk Order: 8 ronimo Fed	091729 eral Ir	9 1j. Statio	n]	Page Nı	ımber: Eddy (17 of 23 Co., NM
	LC	3			Sp	ike	Mat	rix		I	Rec.
Param	Resu	ılt	Units	Dil.	Am	ount	Res	ult	Rec.	L	imit
Benzene	0.95	1 1	mg/Kg	1	1.	00	< 0.00)5 <u>80</u>	95	73.3	- 116.6
Toluene	0.94	4 1	mg/Kg	1	1.	00	<0.00	0470	94	78.6	- 115.1
Ethylbenzene	0.92	7 1	mg/Kg	1	1.	.00	<0.00)530	93	77.4	- 114.9
Xylene	2.78	3 1	mg/Kg	1	3.	00	<0.0	136	93	78.2	- 114.7
Percent recovery is based on the sp	oike result.	RPD i	s based	on the spil	ce and	spike du	plicate	e result.			
	LCSD			Spike	M	latrix		Re	ec.		RPD
Param	Result	Units	Dil.	Amount	R	esult	Rec.	Lir	nit	RPD	Limit
Benzene	1.01	mg/Kg	g 1	1.00	_ <0	.00580	101	73.3 -	116.6	6	20
Toluene	1.00	mg/Kg	g 1	1.00	<0	.00470	100	78.6 -	115.1	6	20
Ethylbenzene	1.00	mg/Ka	g 1	1.00	<0	.00530	100	77.4 -	114.9	8	20
Xylene	3.01	mg/Ka	g <u>1</u>	3.00		0.0136	100		114.7	8	20
Percent recovery is based on the sp	oike result	. RPD i	is based	on the spil	ce and	spike di	plicat	e result.			
		S L	CSD			Spil	ce i	LCS	LCSD		Rec.
Surrogate	Resu	ilt R	lesult	Units		Amo	unt	Rec.	Rec.		Jimit
(1) Trifluorotoluene (TFT)	0.92	19 U	J.953	mg/Kg	1	1.0	0	93	95	45	- 124.2
<u>4-Bromofluorobenzene (4-BFB)</u>	0.93	<u>10 (</u>	J.954	mg/Kg	1	1.0	<u> </u>	93	95	47.2	- 130.4
QC Batch: 52542 Prep Batch: 45030		Date QC P	Analyze reparat	ed: 2008- ion: 2008-	09-19 09-19				Anal Prep	yzed By ared By	y: AR y: AR
	\mathbf{L}	CS				Spike	1	Matrix			Rec.
Faram	Re	sult	Unit	s Dil		Amount		Result	Re	с.	Limit
Chloride	98	8.8	mg/H	Kg 1		100		< 0.500	99)	85 - 115
Percent recovery is based on the sp	oike result	. RPD	is based	on the spi	ke and	l spike d	uplicat	e result.			
	LCSD		_	Spil	ke	Matrix	_	F	lec.		RPD
Param	Result	Uni	ts L	Dil. Amo	unt	Result	Red	c. Li	imit	RPD	Limit
Chloride	99.6	mg/	Kg	1 10	0	<0.500	10(0 85	- 115	1	20
Percent recovery is based on the sp Laboratory Control Spike (LC	pike result 28-1)	. RPD	is based	l on the spi	ke and	l spike d	uplicat	e result.	• ,		
QC Batch: 52543		Date	Analyz	ed: 2008-	-09-19				Ana	vzed B	v: AR
Prep Batch: 45032		QC F	reparat	tion: 2008	-09-19				Prep	pared B	y: AR
Param	. L Re	CS	Unit	s Dil		Spike		Matrix Result	Ra	C.	Rec. Limit
Chloride	1	00		ζσ 1	•	100		<0 500	10	<u>0.</u>	85 - 115
				-0 1				20.000	10	<u> </u>	<u> </u>

-

.

.

Report Date: September 115-6403593	22, 2008		St. Mar	Work O y/Geronin	rder: 809172 mo Federal I	29 inj. Station	n	Page N	umber: Eddy (18 of 23 Co., NM
Percent recovery is based	on the sp	ike result.	RPD is b	ased on t	the spike and	l spike du	plicate re	sult.		
		LCSD			Spike	Matrix		Rec.		RPD -
Param	• 	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		102	mg/Kg	1	100	< 0.500	102	85 - 115	2	20
Percent recovery is based	on the sp	ike result.	RPD is t	based on t	the spike and	d spike du	plicate re	sult.		
Laboratory Control S	pike (LC	S-1)								
OC Batch: 52544			Date An	alvzed:	2008-09-19	1		Ana	lvzed B	v: AR
Prep Batch: 45033			QC Prep	paration:	2008-09-19	1		Pre	pared B	AR
		\mathbf{LC}	S			Spike	Mat	rix		Rec.
Param	_	Res	ult	Units	Dil.	Amount	Res	ult Re	ec.	Limit
Chloride		99.	.2 1	ng/Kg	1	100	<0.	500 9	9	85 - 115
Percent recovery is based	on the sp	ike result.	RPD is l	based on	the spike an	d spike du	plicate re	esult.		
		LCSD			Snike	Matrix		Bec		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
C hloride		99.6	mg/Kg	1	100	· <0.500	100	85 - 115	0	20
Percent recovery is based	on the sp	ike result.	RPD is l	pased on	the spike an	d spike du	plicate re	esult.		
					-	-	-			
Matrix Spike (MS-1)	Spiked	Sample: 17	73691		7					
QC Batch: 52479			Date Ar	alvzed:	2008-09-18	3		An	alvzed B	v: LD
Prep Batch: 44990			QC Pre	paration:	2008-09-18	3		Pre	pared B	y: LD
-									-	-
		MS	3			Snike	Matr	ix		Rec.
Param		Resi	ult	Units	Dil.	Amount	Resu	ilt Rec		Limit
DRO		28	3 n	ng/Kg	1	250	<15	.8 115	1	3 - 179.5
Percent recovery is based	l on the sp	oike result.	RPD is	based on	the spike an	d spike du	plicate r	esult.		
		MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO		262	mg/Kg	1	250	<15.8	105	18 - 179.5	8	20
Percent recovery is based	l on the sp	oike result.	RPD is	based on	the spike an	d spike du	iplicate r	esult.		
	MS	MSE)			Spike	MS	MST)	Rec
Surrogate	Result	Resul	It U	Units	Dil.	Amount	Rec	. Rec.		Limit
n-Triacontane	122	123	n	lg/Kg	1	100	122	123	3	4.1 - 158

•

,

•

• • •

Report Date: September 22, 2008 Work Order: 8091729 Page Number: 19 of 23 115-6403593 St. Mary/Geronimo Federal Ini. Station Eddy Co., NM Matrix Spike (MS-1) Spiked Sample: 173708 52503 Date Analyzed: 2008-09-18 Analyzed By: DC QC Batch: Prep Batch: 45007 QC Preparation: 2008-09-18 Prepared By: DC MS Rec. Spike Matrix Result Param Units Dil. Amount Result Rec. Limit GRO 10.2mg/Kg 1 10.0 1.338 89 10 - 139.3Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. MSD Spike Matrix Rec. RPD Result Dil. RPD Param Units Result Limit Amount Rec. Limit GRO 20.6 1.338 10 - 139.3 mg/Kg-1 10.019368 $\overline{20}$ Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. MS MSD MSD Rec. Spike MS Surrogate Result Result Limit Units Dil. Amount Rec. Rec. Trifluorotoluene (TFT) 0.966 1.01 mg/Kg 1 1 97 101 21.3 - 119 4-Bromofluorobenzene (4-BFB) 0.9320.989mg/Kg 1 1 93 99 52.5 - 154 Matrix Spike (MS-1) Spiked Sample: 173825 QC Batch: 52533 Date Analyzed: 2008-09-18 Analyzed By: DC Prep Batch: 45007 QC Preparation: Prepared By: DC 2008-09-18 MS Spike Matrix Rec. Result Units Param Dil. Amount Result Rec. Limit Benzene 1.31 mg/Kg 1 1.00< 0.00580131 62.2 - 134.3Toluene 1.31 mg/Kg 1 1.00 < 0.00470 131 62.6 - 145.4 1.30Ethylbenzene mg/Kg 1 1.00< 0.0053013064.6 - 146.4 Xylene 3.90 1 3.00 mg/Kg 0.0272 129 64.3 - 148.8 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. MSD RPD Spike Matrix Rec. Result Dil. Limit Units Result RPD Limit Param Amount Rec. Benzene 0.816mg/Kg 1 1.00 <0.00580 82 62.2 - 134.346 $\overline{20}$ 3 Toluene 0.807 mg/Kg 1 1.00 < 0.0047081 62.6 - 145.4 .48 204 Ethylbenzene 0.818 mg/Kg 1 < 0.00530 82 64.6 - 146.4 20 1.0046 5 2.451 Xylene mg/Kg 3.000.027282 64.3 - 148.8 46 20Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. ¹Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. ²MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

⁴MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control. ⁵MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

³MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

Report Date: September 22, 2008 115-6403593	S	t. Mary/C	Jork Or Geronin	der: 809172 no Federal 1 	29 Inj. Station		Pa		Eddy C	20 of 23 Co., NM
Surrogate	MS Result	MSD Result	Ur	nits Dil	Spike . Amoun	M at Re	IS I ec.	MSD Rec.	F L	Rec. Jimit
frifluorotoluene (TFT)	0.923	0.892	mg	/Kg 1	1	9	2	89	38.8	- 127.5
-Bromofluorobenzene (4-BFB)	0.936	0.895	mg	/Kg 1	1	9	4	90	49.3	- 142.4
Matrix Spike (MS-1) Spiked	Sample: 173'	700								
QC Batch: 52542 Prep Batch: 45030	L C)ate Analy 2C Prepar	vzed: ation:	2008-09-19 2008-09-19)			Analy Prepa	yzed By ared By	: AR : AR
~	MS		•,	D :1	Spike	Mat	rix	Ð		Rec.
faram	Result	t Un		Dil.	Amount	Kes		Rec		Limit
Jnioride	8580	mg,	/Kg	50	000	40	L/	91	E	55 - 115
Percent recovery is based on the sp	oike result. R	PD is bas	ed on t	he spike an	d spike dup	licate re	sult.			
	MSD			Spike	Matrix		Rec			RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Lim	it	RPD	Limit
¹ hloride	8680	mg/Kg	50	5000	4017	93	85 - 1	115	1	20
vercent recovery is based on the spike (MS-1) Spiked	pike result. R Sample: 173	PD is bas	ed on t	he spike an	d spike dup	licate re	sult.			
Percent recovery is based on the sp Matrix Spike (MS-1) Spiked QC Batch: 52543 Prep Batch: 45032	pike result. R Sample: 173 I C	PD is bas 710 Date Analy QC Prepar	yzed: ration:	he spike an 2008-09-19 2008-09-19	d spike dup))	licate re	esult.	Anal Prepa	yzed By ared By	y: AR v: AR
Percent recovery is based on the sp Matrix Spike (MS-1) Spiked QC Batch: 52543 Frep Batch: 45032	pike result. R Sample: 173 I C MS	PD is bas 710 Date Analy QC Prepar	yzed: ration:	he spike an 2008-09-19 2008-09-19	d spike dup)) Spike	licate re Mat	esult.	Anal; Prepa	yzed By ared By	7: AR 7: AR Rec.
Percent recovery is based on the sp Matrix Spike (MS-1) Spiked QC Batch: 52543 Frep Batch: 45032	pike result. R Sample: 173 I C MS Resul	tPD is bas 710 Date Analy QC Prepar t Ur	yzed: ration:	he spike an 2008-09-19 2008-09-19 Dil.	d spike dup)) Spike Amount	licate re Mat Res	esult. trix sult	Anal Prepa Rec	yzed By ared By	7: AR 7: AR Rec. Limit
Percent recovery is based on the sp Matrix Spike (MS-1) Spiked QC Batch: 52543 Prep Batch: 45032 Param Chloride	pike result. R Sample: 173 I C MS Resul 5360	PD is bas 710 Date Analy QC Prepar t Ur mg	yzed: ration: nits /Kg	he spike an 2008-09-19 2008-09-19 Dil. 50	d spike dup)) Spike <u>Amount</u> 5000	licate re Mat <u>Res</u> 22	esult. crix cult 27	Anal Prep Rec 103	yzed By ared By	7: AR 7: AR Rec. Limit 85 - 115
Percent recovery is based on the sp Matrix Spike (MS-1) Spiked QC Batch: 52543 Frep Batch: 45032 Param Chloride Percent recovery is based on the sp	pike result. R Sample: 173 I C MS Resul 5360 pike result. F	PD is bas 710 Date Analy QC Prepar t Ur mg PD is bas	yzed: ration: <u>/Kg</u> sed on t	he spike an 2008-09-19 2008-09-19 Dil. 50 he spike an	d spike dup Spike Amount 5000 d spike dup	Mat Res 22 licate re	esult. trix ult 27 esult.	Anal; Prep: Rec 103	yzed By ared By	7: AR 7: AR Rec. Limit 85 - 115
Percent recovery is based on the sp Matrix Spike (MS-1) Spiked QC Batch: 52543 Prep Batch: 45032 Param Chloride Percent recovery is based on the sp	pike result. R Sample: 173 I C MS Resul 5360 pike result. F MSD	PD is bas 710 Date Analy QC Prepar t Ur t Ur mg RPD is bas	vzed: ration: nits /Kg sed on t	he spike an 2008-09-19 2008-09-19 Dil. 50 the spike an Spike	d spike dup Spike Amount 5000 d spike dup Matrix	Mat Res 22 licate re	esult. trix ult 27 esult. Rec	Anal; Prep: Rec 103	yzed By ared By	7: AR 7: AR Rec. Limit 85 - 115 RPD
Percent recovery is based on the sp Matrix Spike (MS-1) Spiked QC Batch: 52543 Prep Batch: 45032 Param Chloride Percent recovery is based on the sp Param	pike result. R Sample: 173 I C MS Resul 5360 pike result. F MSD Result	PD is bas 710 Date Analy QC Prepar t Ur mg PD is bas Units	vzed: ation: <u>/Kg</u> Sed on t	he spike an 2008-09-19 2008-09-19 Dil. 50 The spike an Spike Amount	d spike dup Spike Amount 5000 d spike dup Matrix Result	Mat Res licate re Rec.	esult. trix sult 27 esult. Rec Lim	Anal; Prep: <u>Rec</u> 103 c.	yzed By ared By 2. 3 t RPD	7: AR 7: AR Rec. Limit 85 - 115 RPD Limit
Percent recovery is based on the sp Matrix Spike (MS-1) Spiked QC Batch: 52543 Prep Batch: 45032 Param Chloride Percent recovery is based on the sp Param Chloride	pike result. R Sample: 173 I C MS Resul 5360 pike result. R MSD Result 5430	PD is bas 710 Date Analy QC Prepar t Ur t Ur tPD is bas Units mg/Kg	vzed: ration: <u>/Kg</u> sed on t <u>Dil.</u> 50	he spike an 2008-09-19 2008-09-19 Dil. 50 he spike an Spike Amount 5000	d spike dup Spike Amount 5000 d spike dup Matrix Result 227	Mat Res 22 licate re Rec. 104	esult. crix cult 27 esult. Rec Lim 85 - 1	Anal Prepa Rec 103 c. ait 115	yzed By ared By 2. 3 2 RPD 1	7: AR 7: AR Rec. Limit 85 - 115 RPD Limit 20
Percent recovery is based on the sp Matrix Spike (MS-1) Spiked QC Batch: 52543 Prep Batch: 45032 Param Chloride Percent recovery is based on the sp Param Chloride Percent recovery is based on the sp Matrix Spike (MS-1) Spiked QC Batch: 52544 Prep Batch: 45033	pike result. R Sample: 173 I MS Resul 5360 pike result. R MSD Result 5430 pike result. F t Sample: 173	PD is bas 710 Date Analy QC Prepar t Urits mg/Kg PD is bas MRD is bas 711 Date Analy QC Prepar	vzed: ration: nits /Kg sed on t 50 sed on t yzed: ration:	he spike an 2008-09-19 2008-09-19 Dil. 50 he spike an Spike Amount 5000 the spike an 2008-09-19 2008-09-19	d spike dup Spike Amount 5000 d spike dup Matrix Result 227 d spike dup	Mat Res 22 licate re <u>Rec.</u> 104 licate re	rix sult. 27 esult. Rec Lim 85 - 1 esult.	Anal Prep Rec 103 c. ait 115 Anal Prep	yzed By ared By 	y: AR Rec. Limit 85 - 115 RPD Limit 20 y: AR y: AR
Percent recovery is based on the sp Matrix Spike (MS-1) Spiked QC Batch: 52543 Prep Batch: 45032 Param Chloride Percent recovery is based on the sp Param Chloride Percent recovery is based on the sp Matrix Spike (MS-1) Spiked QC Batch: 52544 Prep Batch: 45033	pike result. R Sample: 173 I MS Resul 5360 pike result. F MSD Result 5430 pike result. F 1 Sample: 173 I (MS	PD is bas 710 Date Analy QC Prepar t Urits TPD is bas Units mg/Kg PD is bas 5711 Date Analy QC Prepar	vzed: ration: <u>/Kg</u> sed on t <u>50</u> sed on t yzed: ration:	he spike an 2008-09-19 2008-09-19 Dil. 50 he spike an Spike Amount 5000 the spike an 2008-09-19 2008-09-19	d spike dup Spike Amount 5000 d spike dup Matrix Result 227 d spike dup 9 9 9	Mat Res 22 licate re Rec. 104 licate re	rix oult 7 sult. Rec Lim 85 - 1 esult.	Anal Prep Rec 103 c. hit 115 Anal Prep	yzed By ared By 2. 3 { RPD 1 1 syzed By ared By	7: AR Rec. Limit 85 - 115 RPD Limit 20 y: AR y: AR y: AR
Percent recovery is based on the sp Matrix Spike (MS-1) Spiked QC Batch: 52543 Frep Batch: 45032 Param Chloride Percent recovery is based on the sp Param Chloride Percent recovery is based on the sp Matrix Spike (MS-1) Spiked QC Batch: 52544 Prep Batch: 45033 Param	pike result. R Sample: 173 I MS Resul 5360 pike result. R MSD Result 5430 pike result. F I Sample: 173 I MS Resul	PD is bas 710 Date Analy QC Prepar t Urits MPD is bas Units MPD is bas Virits MPD is bas 711 Date Analy QC Prepar 10 11 10 10 10 10 10 10 10 10	vzed: ation: <u>/Kg</u> bed on t <u>Dil.</u> 50 sed on t yzed: ration: nits	he spike an 2008-09-19 2008-09-19 Dil. 50 he spike an Spike Amount 5000 the spike an 2008-09-19 2008-09-19 2008-09-19	d spike dup Spike Amount 5000 d spike dup Matrix Result 227 d spike dup 9 9 9 9 9	Mat Res 22 licate re <u>Rec.</u> 104 licate re Ma Res	rix ult 27 esult. Rec Lim 85 - 1 esult.	Anal Prepa Rec 103 c. nit 115 Anal Prep Rec	yzed By ared By <u>2.</u> <u>3 (1)</u> <u>3 (2)</u> <u>3 (2)</u> <u></u>	y: AR Rec. Limit 85 - 115 RPD Limit 20 y: AR y: AR y: AR Rec. Limit

Report Dat 115-6403593	e: Septembe 3	r 22, 2008	St. Mary	Work O y/Geronii	rder: 80917 mo Federal	29 Inj. Statio	n	Page I	Number: Eddy	21 of 23 Co., NM
Percent reco	overy is base	d on the spike result	. RPD is b	ased on t	the spike an	ld spike du	plicate	result.		
		MSD			Spike	Matrix		Rec.		RPD
Param		Result	Units	Dil	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		5080	mg/Kg	50	5000	<25.0	101	85 - 115	1	20
Percent reco	overy is base	d on the spike result	RPD is b	ased on (the spike an	id spike du	plicate	result.		
Standard ((ICV-1)									
QC Batch:	52479		Date An	alyzed:	2008-09-18			An	alyzed B	y: LD
			ICVs	ICV	√s	ICVs		Percent		
			True	Fou	nd	Percent		Recovery		Date
Param	Flag	Units	Conc.	Cor	nc.	Recovery		Limits	A	nalyzed
DRO		mg/Kg	250	27	8	111		85 - 115	20	08-09-18
	•									
Standard	(CCV-1)							.`.		
QC Batch:	52479		Date An	alyzed:	2008-09-18		•	An	alyzed B	y: LD
			CCVs	CC	Vs	CCVs		Percent		
			True	Fou	ind	Percent		Recovery		Date
Param	Flag	Units	Conc.	Co	nc.	Recovery	_	Limits	Α	nalyzed
DRO		mg/Kg	250	26	54	106		85 - 115	20	08-09-18
Standard	(ICV-1)									
QC Batch:	52503		Date An	alyzed:	2008-09-18			An	alyzed B	y: DC
			ICVs	IC	Vs	ICVs		Percent		
			True	Fou	ind	Percent		Recovery		Date
Param	Flag	\mathbf{Units}	Conc.	Co	nc.	Recovery		Limits	Α	nalyzed
GRO		mg/Kg	1.00	1.0	06	106		85 - 115	20	08-09-18
Standard	(CCV-1)									
QC Batch:	52503		Date Ar	alyzed:	2008-09-18			Ar	alyzed B	y: DC
			CCVs	CC	Vs	CCVs		Percent		
			True	Foi	ınd	Percent		Recovery		Date
Param	Flag	Units	Conc.	Co	nc.	Recovery		Limits	А	nalyzed
GRO		mg/Kg	1.00	1.	14	114		85 - 115	20	08-09-18

.

•

· •

• .

Report Date: 115-6403593	September 22	, 2008	W St. Mary/C	ork Order: 809 Jeronimo Feder	91729 al Inj. Station	Page Nu	umber: 22 of 23 Eddy Co., NM
Standard (IČ	CV-1)						
QC Batch: 5	2533		Date Analy	zed: 2008-09-	18	Anal	yzed By: DC
	•		ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene	······································	mg/Kg	0.100	0.0943	94	85 - 115	2008-09-18
Toluene		mg/Kg	0.100	0.0942	94	85 - 115	2008-09-18
Ethylbenzene		mg/Kg	0.100	0.0931	93	85 - 115	2008-09-18
Xylene	<u></u>	mg/Kg	0.300	0.281	94	85 - 115	2008-09-18
Standard (C	CV-1)						
QC Batch: 5	2533		Date Analy	zed: 2008-09-	18	Anal	yzed By: DC
			COVe	COV	COVA	Doncont	
		•	True	Found	Porcont	Percent	Data
Daram	Flag	Unite	Conc	Conc	Recovery	Limita	Applygod
Banzana	1 lag	mg/Kg	0 100	0.0065			2008 00 18
Taluene		mg/Kg	0.100	0.0900	90 06	85 115 85 115	2008-09-18
Ethylhenzene		mg/Kg	0.100	0.0902	90 07	85 - 115	2008-09-18
Xvlene		mg/Kg	0.100	0.0071 A 901	91 07	85 - 115	2008-09-18
Standard (IG QC Batch: 5	CV-1) 2542		Date Analy	zed: 2008-09-	19	Anal	yzed By: AR
						•	
			ICVs	ICVs	ICVs	Percent	•
5			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	100	103	103	85 - 115	2008-09-19
Standard (C	CV-1)				·		
QC Batch: 5	62542		Date Analy	vzed: 2008-09-	-19	Anal	yzed By: AR
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recoverv	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	100	96.7	97	85 - 115	2008-09-19
Standard (I QC Batch: 5	CV-1) 52543		Date Analy	yzed: 2008-09	-19	Ana	lyzed By: AR

.

$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Report Dat 115-6403593	e: September 3	22, 2008	St. Mary/	Work Order: 80 Geronimo Fede	91729 eral Inj. Station	Page N	umber: 23 of 23 Eddy Co., NM
Standard (CCV-1) QC Batch: 52543 Date Analyzed: 2008-09-19 Analyzed By: AR CCVs CCVs CCVs Percent Param Flag Units Conc. Conc. Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed Choride mg/Kg 100 101 101 85 - 115 2008-09-19 Standard (ICV-1) QC Batch: 52544 Date Analyzed: 2008-09-19 Analyzed By: AF ICVs ICVs ICVs Percent Recovery Date Param Flag Units Conc. Conc. Recovery Date Param Flag Units Conc. Conc. Recovery Date QC Batch: 52544 Date Analyzed: 2008-09-19 Analyzed By: AF CCVs CCVs CCVs Percent QC Batch: 52544 Date Analyzed: 2008-09-19 Analyzed By: AF CCVs CCVs CCVs Percent True Found Percent Recovery Date <	Param Chloride	Flag	Units mg/Kg	ICVs True Conc.	ICVs Found Conc. 98.9	ICVs Percent Recovery 99	Percent Recovery Limits 85 - 115	Date Analyzed 2008-09-19
Standard (CCV-1)QC Batch: 52543Date Analyzed: 2008-09-19Analyzed By: AR $CCVs$ $CCVs$ $CCVs$ PercentParamFlagUnitsConc.Conc.RecoveryLimitsAnalyzedChloridemg/Kg10010110185 - 1152008-09-19Standard (ICV-1)QC Batch:52544Date Analyzed: 2008-09-19Analyzed By: AFICVsICVsICVsPercentRecoveryParamFlagUnitsConc.Conc.RecoveryParamFlagUnitsConc.Conc.RecoveryStandard (CCV-1)QC Batch:52544Date Analyzed: 2008-09-19Analyzed By: AFCloridemg/Kg10099.19985 - 1152008-09-19Standard (CCV-1)QC Batch:52544Date Analyzed: 2008-09-19Analyzed By: AFCCVsCCVsCCVsPercentRecoveryDateParamFlagUnitsConc.Cons.RecoveryDateParamFlagUnitsConc.Cons.RecoveryDateParamFlagUnitsConc.Conc.RecoveryDate			0/0					
QC Batch: 52543 Date Analyzed: $2008-09-19$ Analyzed By:ARParamFlagUnitsCCVsCCVsPercentRecoveryDateParamFlagUnitsConc.Conc.RecoveryLimitsAnalyzedChloridemg/Kg100101101 $85 - 115$ 2008-09-19Standard (ICV-1)QC Batch: 52544 Date Analyzed:2008-09-19Analyzed By:AFTrueFoundPercentRecoveryDateParamFlagUnitsConc.Conc.RecoveryDateChloridemg/Kg10099.199 $85 - 115$ 2008-09-19Standard (CCV-1)QC Batch: 52544 Date Analyzed:2008-09-19Analyzed By:AFQC Batch: 52544 Date Analyzed:2008-09-19Analyzed By:AFParamFlagUnitsConc.CCVsCCVsPercentRecoveryLimitsAnalyzed:2008-09-19Analyzed By:AFParamFlagUnitsConc.CCVsPercentParamFlagUnitsConc.CCVsPercentParamFlagUnitsConc.Conc.RecoveryDateParamFlagUnitsConc.Conc.RecoveryDateParamFlagUnitsConc.Conc.RecoveryDateParamFlagUnitsConc.Conc.Recovery<	Standard ((CCV-1)						
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	QC Batch:	52543		Date Anal	lyzed: 2008-09	-19	Anal	yzed By: AR
ParamFlagUnitsConc.Conc.RecoveryLimitsAnalyzeeChloridemg/Kg10010110185 - 1152008-09-1Standard (ICV-1)QC Batch:52544Date Analyzed:2008-09-19Analyzed By: AFICVsICVsICVsPercentTrueFoundPercentRecoveryDateParamFlagUnitsConc.Conc.RecoveryLimitsChloridemg/Kg10099.19985 - 1152008-09-1Standard (CCV-1)QC Batch:52544Date Analyzed:2008-09-19Analyzed By: AFCCVsCCVsCCVsCCVsPercentRecoveryDateParamFlagUnitsConc.CCVsPercentRecoveryDateParamFlagUnitsConc.CCVsCCVsPercentRecoveryDateParamFlagUnitsConc.Conc.RecoveryLimitsAnalyzee	_		T	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Chiorite Hig/Rg Ho Ho<	Param Chlorido	Flag	Units		Conc.	Recovery	Limits 95 115	Analyzed
ICVsICVsICVsPercentTrueFoundPercentRecoveryDateParamFlagUnitsConc.Conc.RecoveryLimitsAnalyzedChloridemg/Kg10099.19985 - 1152008-09-1Standard (CCV-1)QC Batch:52544Date Analyzed:2008-09-19Analyzed By:AFCCVsCCVsCCVsCCVsPercentRecoveryDateParamFlagUnitsConc.Conc.RecoveryDateParamFlagUnitsConc.Conc.RecoveryDateCDUnitsConc.Conc.RecoveryLimitsAnalyzed	Standard (QC Batch:	(ICV-1) 52544		Date Ana	lyzed: 2008-09)-19	Anal	yzed By: AR
Param Flag Units Conc. Conc. Recovery Limits Analyzed Chloride mg/Kg 100 99.1 99 85 - 115 2008-09-1 Standard (CCV-1) QC Batch: 52544 Date Analyzed: 2008-09-19 Analyzed By: AF CCVs CCVs CCVs Percent Recovery Date Param Flag Units Conc. Conc. Recovery Date Param Flag Units Conc. Conc. Recovery Date				ICVs	ICVs Found	ICVs Percent	Percent	Data
Chloride mg/Kg 100 99.1 99 85 - 115 2008-09-1 Standard (CCV-1) QC Batch: 52544 Date Analyzed: 2008-09-19 Analyzed By: AF QC Batch: 52544 Date Analyzed: 2008-09-19 Analyzed By: AF CCVs CCVs CCVs Percent True Found Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits	Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Standard (CCV-1) Date Analyzed: 2008-09-19 Analyzed By: AF QC Batch: 52544 Date Analyzed: 2008-09-19 Analyzed By: AF CCVs CCVs CCVs Percent True Found Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits Analyzed	Chloride		mg/Kg	100	99.1	99	85 - 115	2008-09-19
QC Batch: 52544 Date Analyzed: 2008-09-19 Analyzed By: AF CCVs CCVs CCVs Percent True Found Percent Recovery Date Param Flag Units Conc. Conc. Recovery Limits	Standard	(CCV-1)						
CCVsCCVsPercentTrueFoundPercentRecoveryDateParamFlagUnitsConc.Conc.RecoveryLimitsAnalyzed	QC Batch:	52544		Date Ana	lyzed: 2008-09	9-19	Ana	lyzed By: AR
r aram r rag Onits Oont. Oont. netovery Dinitis Analyze	Daram	Flag	Unite	CCVs True Conc	CCVs Found Conc	CCVs Percent Becovery	Percent Recovery	Date
Chloride mg/Kg 100 101 101 85 - 115 2008-09-1	Chloride	r.ag	mg/Kg	100	101	101	85 - 115	2008-09-19

.

.

PAGE: 1 OF: 3	ANALYSIS REQUEST (Circle or Specify Mathod No.)	es 6 es 6 es 6 (geo o		> TX100 = BA Cd = B	7 7 7 7 7 7 7 7 7 7 7 7 7 7	ВТЕХ 6021 РЕНУ 6076 РЕНУ 6076 РЕНУ 6076 ПССР Меца ТССР Меца ТССР Меца ТССР 86080 РСЛУ 56080 РСЛУ 60806 РСЛУ 60806 РСЛУ 60806 РСЛУ 86080 РСЛ 97080 РСЛ 97080 <th></th> <th>SampleD Br. (Print & initial) (Initial) Datas 1/1/107</th> <th>SAMPLE SHIPPED BY: (Cimol) AIRBILL #:</th> <th>TETRA TECH CONTACT PERSON: Results by:</th> <th>T/LC TUCAL ANTONCOL</th> <th>ium, Aun 3137EX on history TPH'S All tests</th>											SampleD Br. (Print & initial) (Initial) Datas 1/1/107	SAMPLE SHIPPED BY: (Cimol) AIRBILL #:	TETRA TECH CONTACT PERSON: Results by:	T/LC TUCAL ANTONCOL	ium, Aun 3137EX on history TPH'S All tests
stody Record				VCZ 2 PRESERVATIVE	tion Sketian 08 2	NONE ICE HRO3 HCC KITLEHED (MNWBEH OE											Date: Time:	Dato: Tane:	Calter Cater	1 m 15:00	1000 mether (un doops that
s Request of Chain of Cus		1910 N. Big Spring St.	(432) 682-4559 • Fax (432) 682-3946	od & Exploration SITE MANAGER: I'LLE TUVU.	PROJECT NAME: St Mary/ Geroning Federal Intert	ME RIX CO OR CO OR SAMPLE IDENTIFICATION	1 X AH - 1 0 - 1'	S X AH -1 1-1.5'	5 X AH-1 2'-2.5'	15 X AH-1 3'-3,5'	S X AH - 1 3.5 - 4.0'	5 X AH-2 0-1'	15 X AH-2 1'-1.5'	5 XAH-2 2'-2.5'	5 X AH -2 3'-3.5'	S X AH - 3 0 - 1'	Date: 4/1/1/0.4 RECEIVED BY: (Signature) Time: 3.00	Date:	Date:		TF TPH EXCERTS & ADAI OF
Analysis				CLIENT NAME: St Mary Lan	PROJECT NO.: /15-6403543	LABI.D. DATE TIN NUMBER	173691 81/16/08	692	693	Cq4	CQ5	696	697	867	649	V 00L	RELINQUISHED BY (Signature)	RELINQUISHED BY: (Signature)	RELINQUISHED BY: (Signature)	RECEIVING LABORATORY: ADDRESS: CITA: <u>FU./ (6-2/</u> 51 CONTACT:	SAMPLE CONDITION WHEN RECE

			ľ					2			-	┝					¢.	Ю МОЙ	Ĺ	2	P	ú.	5	Γ
Ī	<u>a</u> <u>y</u>	2	ž	2	2		CITAILI OI CUSIOUS	Ē	บ	<u></u>	5	 				₹ 	ALYS	SIS RE	GUE	ST				
						(-	Circle	or Sp	ecify	Meth	N Po	5			
			,,	2000) 2			RATECH						(9					_	_					
				ε θ	۲ Marine	1910	I. Big Spring St.						• C3i	S D	as B									
						••••••••••••••••••••••••••••••••••••••	ld, lexas /9/U5 ⊵4559 • Fax (432) 682-3946		•				באני נ	H 94										
									•) 50	10 b								SOL		
CLIENT NAM	л У Га	tope	EX	tora	14	SITEA	lanager: Ike Tauurez	SHEN		RESE	THOD) s8 s	0 EG 6	s	220/022 70/054					,Hq ,2n		
PROJECT NC 115-640	35 43		$\mathbb{E}_{\mathcal{N}}$	\vec{S}	P ECI	NAME: 7/ Ocros	ine Federal Inscribe Station		6			4	COM S	A pA al	ser v 6v sr	Volatile	8240/8	809/		90°	(sots)	oiteO\er		
LAB I.D. NUMBER	DATE	TIME	XIATAM	COMP	BARD	Eddy	20. <i>μ</i> Μ SAMPLE IDENTIFICATION	NUMBER OF	HCL	EONH		GTEX 80211	9108 HAF	RIGHA Meta		TCLP Semi	GC.MS 2en	PCB's 8080		de smmsD	BIOG Enqia BodsA) M.I.9	noinA roleM		
173701	116108		$\overline{\sim}$		\times	AH-3	/,-/ [,] 2,				×								\times					
202			5		\times	E- HA	2'-25'				Ϋ́								Х					
202			\sim		\sim	AH - 3	3`_3,5`						[\times					
HOL			\sim		X	AH -4	0 - 1'				X		\times					· ·	Х					
8			\sim		\leq	AH - 4	, -1, 2				Х								Χ					
22			\sim		\geq	AH - 4	2' - 2. 5'			- 	X								χ					
102			\sim		12	AH - 4	3'-3.5'				X								χ					
BOL			\sim		$\left \times \right $	AH - 5	0 - 1'				X		Х	i					\times					
502			$\overline{\sim}$		ĮΥ	AH - S	1, -1, 5'			\sim									X					
OIL	>		\sim		$\left \times \right $	AH - 5	2'-2.5'				X								\times					
HEINDNITH	3Y: (Signatui 7	je je	1]	Date: 21171 Time: 2.cl)	RECEIVED BY: (Signature)			ate: ine:			3	MPLEI 4 4 4	A) (4		litical)	de	S III	.0	Date: Time:	6	e 11	
RELINGUISHED	3Y: (Signatu	ĺ2			1	Date: Time:	RECEIVED BY: (Signature)			tate:			1	AMPLE FIDEX	Iddits	17 BY: (Cincle) BUS			₹.	RBILL			
RELINQUISHED I	Interdic) M	Ê				Date:	RECEIVED BY: (Signature)			io io			<u>~</u>]⊧ .[BUB		UPS Page			۶	E C	4		
RECEIVING LABO	RATORY:		257	Ŋ		Time:	RECEIVED BY: (Signature)	Ţ	1				-	5.	5			(
ADDRESS: H CITN: MITCH CONTACT:	ad -	STATE		¥۴.	HONE		DATE 9-17-08		-	2	2			H	Ke	14u	62	-1			Aut	horized Yes	- -	0
SAMPLE CONDI	JON WHEN	Lecense A		ļ		REMARKS:	All tests Midland																i	
-	Please	fill out a	il co	plas	Ē	aboratory retair	s Yellow copy - Beturn Orginal copy to Ta	tra Tect	-	Pojec	:t Mana	jer reti	ains F	ink o	, Vqo	ACO	ountin	gerec	eives	Gold	cop	k		Ī

Γ

ł

2 71 1 2-1 PAGE: 3 OF: 3	ANALYSIS REQUEST (Circle or Specify Method No.)	SQ1 SQ1 	s Ba Co s Ba Co s Ba Co s Ba Co s Co s Co s Co s Co s Co s Co s Co s	A gA al e9 e9 e9 e9 e9 e9 e9 e9 e9 e1 e0 e1 e0 e1 e0 e1 e0 e1 e0 e1 e0 e1 e0 e1 e0 e1 e0 e1 e0 e1 e0 e1 e0 e1 e9 e9 e9 e9 e9 e9 e9 e9 e9 e9 e9 e9 e9	PAH 82/0 RCRA Meta TCLP Meta TCLP Volati RCI Gamma Spe Gamma Spe G						SAMPLED BY, (PART & MILLA) May Thy Long Denty (Car 116 Time: 4/1/10/	SAMPLE SHIPPED BY: (Circle) AIRBILL #: FEDEX BUS Croven	TERA TECH CONTACT PERSON: Results by:	The Thirt R. ?	Authorized: No Yes No	Pick coov - Accounting receives Gold conv.
Analysis Boardet of Chain of Cristody Booord	Allarysis hequest of vitant of vusious hecolu	TETRA TECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946	CLIENT NAME: St Mury Lund + Exploration SITE MANAGER: I Le TEUE 2 B PRESERVATIVE B	PROJECT NO.: PROJECT NAME: PROJECT NAME: Station 6 1 15-640 3543 54 March 10 Eddera/ In Tection Station 8 2 6	LABILD. DATE TIME RE COMPLETENTIFICATION OF CLAIR RECTION	173711911668 S X AH - 5 3'- 3.5' 11 X					RELINOUGHERD BY (Signature) Date: 211.00 Y RECEIVED BY: (Signature) Date:	RELINQUISHED RY: (Bignature) Date:RECEIVED BY: (Signature) Date:	RELINCUISHED BY: (Signature) Date: Date: RECEIVED BY: (Signature) Date:		CITY: May Thank STATE: 7 PHONE: 219. DATE: 9.17-02 TIME US: CO.	Sample condition when received REMARKS. SAMPLE CONDITION WHEN RECEIVED REMARKS. REMARKS. SAMPLE CONDITION WHEN RECEIVED REPORTS

Summary Report

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

Report Date: November 7, 2008

Work Order: 8103117

Project Location:Eddy Co., NMProject Name:St. Mary/Geronimo Federal Inj. StationProject Number:115-6403593

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
177816	BH-1 0-1'	soil	2008-10-29	00:00	2008-10-31
177817	BH-1 2-3'	soil	2008-10-29	00:00	2008-10-31
177818	BH-1 4-5'	soil	2008-10-29	00:00	2008-10-31
177819	BH-1 6-7'	soil	2008-10-29	00:00	2008-10-31
177820	BH-1 8-9'	soil	2008-10-29	00:00	2008-10-31
177821	BH-1 10-11'	soil	2008-10-29	00:00	2008-10-31
177822	BH-1 12-13'	soil	2008 - 10 - 29	00:00	2008-10-31
177825	BH-2 0-1'	soil	2008-10-29	00:00	2008-10-31
177826	BH-2 2-3'	soil	2008-10-29	00:00	2008-10-31
177827	BH-2 4-5'	soil	2008-10-29	00:00	2008-10-31
177828	BH-2 6-7'	soil	2008-10-29	00:00	2008-10-31
177829	BH-2 8-9'	soil	2008-10-29	00:00	2008-10-31
177830	BH-2 10-11'	soil	2008-10-29	00:00	2008-10-31
177831	BH-2 12-13'	soil	2008-10-29	00:00	2008-10-31

Sample: 177816 - BH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		5110	mg/Kg	2.00

Sample: 177817 - BH-1 2-3'

Param	Flag	Result	Units	RL
Chloride		374	mg/Kg	2.00

Report Date: Noven 115-6403593	nber 7, 2008	Work Order: 8103117 St. Mary/Geronimo Federal In	Page Number: 2 of 3 Eddy Co., NM	
Sample: 177818 -	BH-1 4-5'			
Param	Flag	Result	Units	\mathbf{RL}
Chloride	· · · · · · · · · · · · · · · · · · ·	118	mg/Kg	2.00
		· ·		
Sample: 177819 -	BH-1 6-7'			
Param	\mathbf{Flag}	Result	Units	\mathbf{RL}
Chloride		219	mg/Kg	2.00
Sample: 177820 -	BH-1 8-9'			
Param	Flag	Result	Units	' RL
Chloride		599	mg/Kg	2.00
•				
				:
Sample: 177821 -	BH-1 10-11'			
Param	Flag	Result	Units	RL
Chloride		160	mg/Kg	2.00
Sample: 177822 -	BH-1 12-13'			
Param	Flag	Result	Units	\mathbf{RL}
Chloride	······································	150	mg/Kg	2.00
Sample: 177825 -	BH-2 0-1'			
Param	Flag	Result	Units	RL
Chloride		9660	mg/Kg	2.00
Sample: 177826 -	BH-2 2-3'			
Param	Flag	Result	Units	RL
Chloride	· · · · · · · · · · · · · · · · · · ·	513	mg/Kg	2.00
				
Sample: 177827 -	• ВН-2 4-5'			
Param	Flag	Result	Units	RL
Chloride		5780	mg/Kg	2.00

nber 7, 2008	Work Order: 810311 St. Mary/Geronimo Federal I	Page Number: 3 of 3 Eddy Co., NM	
BH-2 6-7'			
Flag	Result	Units	RL
	1150	mg/Kg	2.00
BH-2 8-9'	• . •		
Flag	Result	Units	RL
~	610	mg/Kg	2.00
	nber 7, 2008 BH-2 6-7' Flag BH-2 8-9' Flag	More Work Order: 81031 St. Mary/Geronimo Federal I BH-2 6-7' Flag Result 1150 BH-2 8-9' Flag Result 610	More 7, 2008 Work Order: 8103117 St. Mary/Geronimo Federal Inj. Station BH-2 6-7' Units Flag Result Units 1150 mg/Kg

Sample: 177830 - BH-2 10-11'

Param	⁻ Flag		Result		Units	RL	
Chloride			<100		mg/Kg	2.00	<u>)</u>
· · ·				· ·			
Sample: 17	7831 - BH-2 12-13'	· ·					
Param	Flag		Result		Units	RI	Ĺ
Chloride			<100		mg/Kg	2.00	0

6701 Aberdeen Avenue, Suite 9 Lubbock, Jexas 79424 800+378+1296 806+794+1296 FAX 806+794+1298

200 East Sunsel Road, Suite 5 5002 Basin Street, Suite A1 6015 Harris Parkway, Suite 110

Lubbock, Iexas 79424 800 • 378 • 1296 El Paso, Texas 79922 888 • 588 • 3443 Midland, Texas 79703 Ft. Worth, Texas 76132 E-Mail: lab@traceanalysis.com

800•378•1296 806•794•1296 888•588•3443 915•585•3443 432•683•6301 . 817•201•5260

FAX 806 • 794 • 1298 FAX 915 • 585 • 4944 FAX 432 • 689 • 6313

Certifications

WBENC: 237019

HUB:1752439743100-86536NCTRCAWFWB38444Y0909

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

٦ŧ

Analytical and Quality Control Report

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

Report Date: November 7, 2008

Work Order: 8103117

Project Location:Eddy Co., NMProject Name:St. Mary/Geronimo Federal Inj. StationProject Number:115-6403593

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
177816	BH-1 0-1'	soil	2008-10-29	00:00	2008-10-31
177817	BH-1 2-3'	soil	2008-10-29	00:00	2008-10-31
177818	BH-1 4-5'	soil	2008-10-29	00:00	2008-10-31
177819	BH-1 6-7'	soil	2008-10-29	00:00	2008-10-31
177820	BH-1 8-9'	soil	2008-10-29	00:00	2008-10-31
177821	B H-1 10-11'	soil	2008-10-29	. 00:00	2008-10-31
177822	BH-1 12-13'	soil	2008-10-29	00:00	2008-10-31
177825	BH-2 0-1'	soil	2008-10-29	00:00	2008-10-31
177826	BH-2 2-3'	soil	2008-10-29	00:00	2008-10-31
177827	BH-2 4-5'	soil	2008-10-29	00:00	2008-10-31

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
177828	BH-2 6-7'	soil	2008-10-29	00:00	2008-10-31
177829	BH-2 8-9'	soil	2008-10-29	00:00	2008-10-31
177830	BH-2 10-11'	soil	2008-10-29	00:00	2008-10-31
177831	BH-2 12-13'	soil	2008-10-29	00:00	2008-10-31

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

Michael Ale

Dr. Blair Leftwich, Director

Standard Flags

 ${\bf B}\,$ - The sample contains less than ten times the concentration found in the method blank.

Case Narrative

Samples for project St. Mary/Geronimo Federal Inj. Station were received by TraceAnalysis, Inc. on 2008-10-31 and assigned to work order 8103117. Samples for work order 8103117 were received intact at a temperature of 3.5 deg. C.

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

Test	Method				
Chloride (Titration)	SM 4500-Cl B				

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 8103117 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Analytical Report

Sample: 177816 - BH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	53968	Date Analyzed:	2008-11-05	Analyzed By:	AR
Prep Batch:	46167	Sample Preparation:	2008-11-05	Prepared By:	AR
		\mathbf{RL}			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		5110	mg/Kg	50	2.00

Sample: 177817 - BH-1 2-3'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 53968 46167	Anal Date Samp	ytical Method: SM 4500- Analyzed: 2008-11-0 De Preparation: 2008-11-0	CIB Pr 5 A1 5 Pr	ep Method: N/A nalyzed By: AR epared By: AR
		\mathbf{RL}			
Parameter	\mathbf{Flag}	\mathbf{Result}	Units	Dilution	RL
Chloride		374	mg/Kg	50	2.00

Sample: 177818 - BH-1 4-5'

Chloride		118	mg/Kg	50	2.00
Parameter	Flag	RL Result	Units	Dilution	RL
Prep Batch:	46167	Sample Preparation:	2008-11-05	Prepared By:	AR
Analysis: QC Batch:	Chloride (Titration) 53968	Analytical Method: Date Analyzed:	SM 4500-Cl B 2008-11-05	Prep Method: Analyzed By:	N/A AR
Laboratory:	Midland				

Sample: 177819 - BH-1 6-7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	53968	Date Analyzed:	2008-11-05	Analyzed By:	AR
Prep Batch:	46167	Sample Preparation:	2008-11-05	Prepared By:	AR

continued ...

Report Date: November 7, 2008 115-6403593		Work Order: 8103117 St. Mary/Geronimo Federal Inj. Station		Page Number: 5 of Eddy Co., N	
sample 17781	9 continued				
		RL			
Parameter	Flag	Result	Units	Dilution	RL
		RL		•	
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		219	mg/Kg	50	2.00
Sample: 177	7820 - BH-1 8-9'				
Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Metl	nod: SM 4500-Cl B	Prep Method:	N/A
QC Batch:	53968	Date Analyzed:	2008-11-05	Analyzed By:	ÁR
Prep Batch:	46167	Sample Prepara	tion: 2008-11-05	Prepared By:	AR
· · ·		RL	· · ·	•	
Parameter	Flag	Result	Units	Dilution	RL
Chloride		599	mg/Kg	50	2.00
Complet 17	7991 BH 1 10-11'		• •		
	NCN 1				
Laboratory:	Midland Chlorida (Pitrotion)	Applutical Mat	had. CM 4500 CLD	Deep Mathad	NI / A
Analysis. OC Batch:	53068	Date Analyzed	2008 11.05	Analyzed By:	AR AR
Prep Batch:	46167	Sample Prepara	ation: 2008-11-05	Prepared By:	AR
		\mathbf{RL}			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		160	mg/Kg	50	2.00
Sample: 17	7822 - BH-1 12-13'				
Laboratory.	Midland				
Analysis:	Chloride (Titration)	Analytical Met	hod: SM 4500-Cl B	Prep Method:	N/A
QC Batch:	53968	Date Analyzed	2008-11-05	Analyzed By:	AR
Prep Batch:	46167	Sample Prepar	ation: 2008-11-05	Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	RL
				······································	

•

.

•

Sample: 177825 - BH-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl ⁻ B	Prep Method:	N/A
QC Batch:	53968	Date Analyzed:	2008-11-05	Analyzed By:	AR
Prep Batch:	46167	Sample Preparation:	2008-11-05	Prepared By:	AR
		\mathbf{RL}			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride	······	9660 1	mg/Kg	50	2.00

,

Sample: 177826 - BH-2 2-3'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 53968 46167	Analytical Method: Date Analyzed: Sample Preparation	SM 4500-Cl B 2008-11-05 : 2008-11-05	Prep Method: Analyzed By: Prepared By:	N/A AR AR
•		RL			•
Parameter	Flag	Result	Units	Dilution	RL
Chloride		513	mg/Kg	50	2.00

Sample: 177827 - BH-2 4-5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	53969	Date Analyzed:	2008-11-05 ′	Analyzed By:	AR
Prep Batch:	46168	Sample Preparation:	2008-11-05	Prepared By:	\mathbf{AR}
		\mathbf{RL}			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		5780	mg/Kg	50	2.00

Sample: 177828 - BH-2 6-7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
\mathbf{QC} Batch:	53969	Date Analyzed:	2008-11-05	Analyzed By:	AR
Prep Batch:	46168	Sample Preparation:	2008-11-05	Prepared By:	AR
1					
		\mathbf{RL}			
Parameter	Flag	\mathbf{Result}	Units	Dilution	\mathbf{RL}
Chloride		1150 r	mg/Kg	50	2.00

Sample: 177829 - BH-2 8-9'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	53969	Date Analyzed:	2008-11-05	Analyzed By:	AR
Prep Batch:	46168	Sample Preparation:	2008-11-05	Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		610 1	ng/Kg	50	2.00

Sample: 177830 - BH-2 10-11'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 53969 46168	Analytical Method: Date Analyzed: Sample Preparation:	SM 4500-Cl B 2008-11-05 2008-11-05	Prep Method: Analyzed By: Prepared By:	N/A AR AR
		\mathbf{RL}	•		
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		<100	mg/Kg	50	2.00

Sample: 177831 - BH-2 12-13'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	53969	Date Analyzed:	2008-11-05	Analyzed By:	AR
Prep Batch:	46168	Sample Preparation:	2008-11-05	Prepared By:	\mathbf{AR}
		DI			
		· RL			
Parameter	Flag	Result	Units	Dilution	\mathbf{RL}
Chloride		<100	mg/Kg	50	2.00

Method Blank (1)	QC Batch:	53968

QC Batch:	53968	Date Analyzed:	2008-11-05	Analyzed By:	AR
Prep Batch:	46167	QC Preparation:	2008-11-05	Prepared By:	AR

		MDL		
Parameter	Flag	Result	Units	\mathbf{RL}
Chloride		<0.500	mg/Kg	2

Report Date: 115-6403593	Novembe	er 7, 2008	St. M	Work O lary/Geroni	rder: 810311 mo Federal I	7 nj. Station		Page	Number: Eddy (8 of 10 Co., NM
Method Bla	nk (1)	QC Batch: 5396	9							
QC Batch: Prep Batch:	53969 46168	· ·	Date QC F	Analyzed: reparation:	2008-11-05 2008-11-05			An: Pre	alyzed By pared By	r: AR r: AR
				М	DL					
Parameter Chlorida		Flag	<u></u>	Re	sult		Units	<u> </u>		
		··			<u> </u>		ing/K	<u>g</u>		2
Laboratory QC Batch: Prep Batch:	Control 53968 46167	Spike (LCS-1)	Date QC F	Analyzed: Preparation:	2008-11-05 2008-11-05			An Pre	alyzed By mared By	7: AR 7: AR
			v						· · · · · · · · · · · · · · · · · · ·	
			LCS			Spike	Mat	rix		Rec.
Param	· .	•	Result	Units	Dil.	Amount	Res	ult R	ec.	Limit
Chloride		·····	98.2	mg/Kg	1	100	<0.8	500	98	<u>85 - 115</u>
Percent recov	ery is bas	ed on the spike resu	ilt. RPD	is based on	the spike an	d spike duj	olicate re	sult.	,	
Param		LCS: Resu	D lt Uni	its Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride		100	mg/	Kg 1	100	<0.500	100	85 - 115	2	20
Percent recov	ery is bas Control	Spike (LCS-1)	ult. RPD	is based on	the spike an	d spike duj	plicate re	sult.		
QC Batch: Prep Batch:	53969 46168		Date QC I	Analyzed: Preparation:	2008-11-05 2008-11-05	i j		An Pre	alyzed By epared By	y: AR 7: AR
			LCS			Spike	Mat	rix		Rec.
Param			Result	Units	Dil.	Amount	Res	<u>ult</u> F	.ec.	Limit
Chloride	·		98.7	mg/Kg	1	100		500	99	<u>85 - 115</u>
Percent recov	ery is bas	sed on the spike res	ult. RPD	is based on	the spike an	d spike du	plicate re	esult.		
		LCS	D		Spike	Matrix		Rec.		RPD
Param		Resu	lt Un	its Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		100) mg/	'Kg 1	100	< 0.500	100	85 - 115	2	20
Percent recov	ery is bas	sed on the spike res	ult. RPD	is based on	the spike an	d spike du	plicate re	esult.		
Matrix Spil	ke (MS-1	() Spiked Sample	e: 177826							
QC Batch:	53968		Date	Analyzed:	2008-11-0	5		Aı	alvzed B	v: AR

QC Batch:53968Date Analyzed:2008-11-05Analyzed By:ARPrep Batch:46167QC Preparation:2008-11-05Prepared By:AR

Report Date: November 7, 2 115-6403593	2008	St. Mary	Work Or //Geronir	rder: 81031 no Federal	17 Inj. Station		Pa	ge Number Eddy	:: 9 of 10 Co., NM
Param	M Res	S ult	Units	Dil.	Spike Amount	Ma Res	trix sult	Rec	Rec. Limit
Chloride	578	<u>30 n</u>	ng/Kg	50	5000	5	13	105	85 - 115
Percent recovery is based on	the spike result.	RPD is b	ased on t	he spike an	d spike dup	licate r	esult.		
	MSD	•		Snike	Matrix		Bec		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	5920	mg/Kg	50	5000	513	108	85 - 11	5 2	20
Percent recovery is based on	the spike result.	RPD is t	ased on t	the spike an	d spike dup	licate r	esult.		
				-					
Matrix Spike (MS-1)	Spiked Sample: 1	77890		•					
						•			
QC Batch: 53969		Date An	alyzed:	2008-11-0	5		A	Analyzed E	by: AR
Prep Batch: 46168		QC Prep	aration:	2008-11-0	0		ł	repared B	y: AR
	M	.S			Spike	Ma	trix	-	Rec.
Param	Res	ult	Units	<u>Dil.</u>	Amount	Re	sult	Rec.	Limit
Chloride	91	<u>70 r</u>	ng/Kg	50	5000	4	130	101 -	85 - 115
Percent recovery is based on	the spike result.	RPD is b	based on t	the spike ar	ıd spike duş	olicate r	esult.		
	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	9310	mg/Kg	50	5000	4130	104	85 - 11	$5\overline{2}$	20
Percent recovery is based of	i the spike result.	Ard is i	based on	the spike at	ia spike aup	oncate i	esuit.		
Standard (ICV-1)		Data Ar	-lung di	2000 11 05			,	\	AD
Standard (ICV-1) QC Batch: 53968		Date An	alyzed:	2008-11-05	·		ł	Analyzed F	By: AR
Standard (ICV-1) QC Batch: 53968		Date An ICVs	alyzed:	2008-11-05 Vs	ICVs		Percent	Analyzed F	8y: AR
Standard (ICV-1) QC Batch: 53968	·	Date An ICVs True	alyzed: IC For	2008-11-05 Vs und	ICVs Percent		Percent Recovery	Analyzed F	By: AR Date
Standard (ICV-1) QC Batch: 53968 Param Flag	Units	Date An ICVs True Conc.	ialyzed: IC Foi Cc	2008-11-05 Vs und onc.	ICVs Percent Recovery		Percent Recovery Limits	Analyzed F	By: AR Date Analyzed
Standard (ICV-1) QC Batch: 53968 Param Flag Chloride	Units mg/Kg	Date An ICVs True Conc. 100	ialyzed: IC Foi 29	2008-11-05 Vs und onc. 9.1	ICVs Percent Recovery 99		Percent Recovery Limits 85 - 115	Analyzed F Analyzed F 20	By: AR Date Analyzed 008-11-05
Standard (ICV-1) QC Batch: 53968 Param Flag Chloride Standard (CCV-1)	Units mg/Kg	Date An ICVs True Conc. 100	ialyzed: IC Foi 09	2008-11-05 Vs und onc 9.1	ICVs Percent Recovery 99		Percent Recovery Limits 85 - 115	Analyzed F	By: AR Date Analyzed 108-11-05
Standard (ICV-1)QC Batch:53968ParamFlagChloride	Units mg/Kg	Date An ICVs True Conc. 100 Date An	ialyzed: Fo Co 99 ialyzed:	2008-11-05 Vs und onc. 9.1 2008-11-05	ICVs Percent Recovery 99		Percent Recovery Limits 85 - 115	Analyzed F Analyzed F	By: AR Date Analyzed 208-11-05 By: AR
Standard (ICV-1) QC Batch: 53968 Param Flag Chloride Standard (CCV-1) QC Batch: 53968	Units mg/Kg	Date An ICVs True Conc. 100 Date An CCVs	ialyzed: Fo Cc 99 ialyzed: CC	2008-11-05 Vs und onc. 9.1 2008-11-05 CVs	ICVs Percent Recovery 99		Percent Recovery Limits 85 - 115	Analyzed F Analyzed F	By: AR Date Analyzed 108-11-05 By: AR
Standard (ICV-1) QC Batch: 53968 Param Flag Chloride Standard (CCV-1) QC Batch: 53968	Units mg/Kg	Date An ICVs True Conc. 100 Date An CCVs True	nalyzed: For Cc 99 nalyzed: CC Fo	2008-11-05 2Vs und onc. 9.1 2008-11-05 CVs und	ICVs Percent Recovery 99 CCVs Percent		Percent Recovery Limits 85 - 115 Percent Recovery	Analyzed F Analyzed I	By: AR Date Analyzed 008-11-05 By: AR Date
Standard (ICV-1) QC Batch: 53968 Param Flag Chloride	Units mg/Kg Units	Date An ICVs True Conc. 100 Date An CCVs True Conc.	nalyzed: For Cc 99 nalyzed: Fo Cc	2008-11-05 Vs und onc. 9.1 2008-11-05 CVs und onc.	ICVs Percent Recovery 99 CCVs Percent Recovery		Percent Recovery Limits 85 - 115 Percent Recovery Limits	Analyzed F Analyzed F	By: AR Date Analyzed 008-11-05 By: AR Date Analyzed

•

.

· · · · ·

.

Report Dat 115-640359	te: November 7 3	, 2008	St. Mary/	Work Order: 810 Geronimo Feder	03117 al Inj. Station	Page N	umber: 10 of 10 Eddy Co., NM
Standard	(ICV-1)						
QC Batch:	53969		Date Ana	lyzed: 2008-11	-05	Anal	yzed By: AR .
Param Chloride	Flag	Units mg/Kg	ICVs True Conc. 100	ICVs Found Conc. 99.3	ICVs Percent Recovery 99	Percent Recovery Limits 85 - 115	Date Analyzed 2008-11-05
Standard	(CCV-1)						
QC Batch:	53969		Date Ana	lyzed: 2008-11	-05	Anal	yzed 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	2008-11-05
		,					
		,					

.

.

PAGE: 1 OF: 2	ANALYSIS REQUEST	(Circle or Specify Method No.)		48 29 18 29	H Pd H 2d	C XI C XI	MOD. 400 400 400 400 400 400 400 40	иоие ВТЕХ 8021В ПСЦР Мета ПСЦР Мета ПСЦР Мета ПСЦР Мета ПСЦР Мета ПСЦР %6016 СПОЦР ССЦР 56016 ССЦР 56016 СССК5 560806 СССК5 560806 ССССК5 560806 СССК5 560806 СССК5 560806 ССССК5 560806 С											SAMPJED BY: (Print & Initial) Date: 10/20/07 Mar 7 a 1/cr	SAMPLE SHIPPED BY: (Circle) AIRBILL #:	HAND DELIVERED UPS OTHER	TETRA TECH CONTACT PERSON: Results by:	The Think PCL RUSH Charges	1 4 649 - 1 4 64	
Dacord vice	nnà necola	-				Z ER METHO	44100 00 22	ICE HNO3 HCC MNWBEB (J	X		X	X			X	X . 1	X	X /	Date:	Date:	Lunte:	Time:	A A	ME 10:05	
in of Cuet				Spring St.	(as / 9 / U5 • Fax (432) 682-3946	R: I'Ve Tavarc:	0 Federal INTS	1. N/V	1-11	1.31	1-51		5.9'	111-10	2'-/3'	1-151	6-171	1-0	RECEIVED BY: (Signatum)	RECEIVED BY: (Signature)	RECEIVED BY: (Signature)		RECEIVED BY: (Signature)	DATE 10.31.08	Mird Lach
A Det of Ch.	squest of City		TETRA	1910 N. Big	(432) 682-4559 (432) 682-4559	ution Sitemanage	ROJECT NAME: 54 Mary / (5 e ron i Mu	COMP. Eduar Lount,	X BH - 1 6	Z: 1-HQX	X BH - 1 - 1	XBH-1 6	X 134-1 8	X BH - 1 1	1 1 - HQX	1/ 1-HCIX	1 - Halx	X BH-2	Date: 10/01/07	Date:	Time: Date:	Time:	2	PHONE: ZIP:	DII + X+1
Analysis Do	Alialysis ne				Ø	HENT NAME: St Mary Land & EXPON	PROJECT NO .: PHOJECT NO .: 115-640 3593 5	LABI.D. DATE TIME	77816 10/29/08 S	5 1 the	818	814 18	\$20 S20	B21 / 5	822 522	813	S HEB	केट्ट 🗸 🛛 🔇	IELINQUISHED BY: (Signature)	(EUNQUISHED BY: (Signature)	El INOLIJSHED BY: (Signature)		RECEINING LABORATORY: TY24/ DDRESS: - ///	NTN: Pridit VIU II STATE	AMPLE CONDITION WHEN RECEIVED:

К DATE TIME TIME RROLE SAMPLE LOENTPLOATION UNERTIGE N MD/T X MD X X MD X	Analy: Triving Land Solution 1 March 26 40 35	SiS F <i>d J E</i> <i>C P</i>			Lest C	Df Ch ETRA 10 N. Big dland, Te alland, Te 2) 682-4559 2) 682-4559 2) 682-4559 2) 682-4559	ain of TECH Spring St. xas 79705 • Fax (432) 66. The Ta	Custody 2-3946 2-3946 2-3946 7 544 trion		Neither States and Sta	0218 <u> </u>	8015 MOD, TX1005 (Ext. to C35)	Aetals Ag As Ba Cd Cr Pb Hg Se				809/80 809/80		Č (sotsada	rions/Cations, pH, TDS	N
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	R DATE Pullado	TIME		COMP.	BH-	samp 2	LE IDENTIFICA $2^{-} - 3^{+}$	NOU			BTEX 60	208 HVA	N ARDR			CCW2	Pest. 80	Chloride	8 shqiA 2A) MJ9	A tolsM	
$ \left(\begin{array}{c c c c c c c c c c c c c c c c c c c $			2	<u>× </u> ×	<u> (</u> <u> </u> <u> </u> <u> </u>	7 7	4-51											XX			
V S N DH - 2 D - 13' N <t< td=""><td></td><td></td><td>$\frac{1}{2}$</td><td></td><td>(BH -</td><td>える</td><td>8'-9' 10'-11'</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>XX</td><td></td><td></td><td></td></t<>			$\frac{1}{2}$		(BH -	える	8'-9' 10'-11'											XX			
Image: Signature Date: -LU_JLEV RECEIVED BY: (Signature) Date: -LU_JLEV RECEIVED BY: (Signature) Date: -LU_JLEV Image: Der Signature Date: -LU_JLEV RECEIVED BY: (Signature) Date: -LU_JLEV RECEIVED BY: (Signature) Date: -LU_JLEV Image: Der Signature Date: -LU_JLEV RECEIVED BY: (Signature) Date: -LU_JLEV RECEIVED BY: (Signature) Date: -LU_JLEV Image: Der Signature Date: -LU_JLEV RECEIVED BY: (Signature) Date: -LU_JLEV Signature) Date: -LU_JLEV Image: Der Signature Date: -LU_JLEV RECEIVED BY: (Signature) Date: -LU_JLEV Milaga Lintel Date: -LU_JLEV Image: Der Signature Date: -LU_JLEV RECEIVED BY: (Signature) Date: -LU_JLEV Milaga Lintel Date: -LU_JLEV Image: Der Signature Date: -LU_JLEV RECEIVED BY: (Signature) Date: -LU_JLEV Signature) Date: -LU_JLEV Image: Der Signature Date: -LU_JLEV RECEIVED BY: (Signature) Date: -LU_JLEV Signature) Date: -LU_LEV Image: Der Signature Date: -LU_JLEV RECEIVED BY: (Signature) Date: -LU_LEV Signature) Date: -LU_LEV Image: Der Signature Trace Signature Date: -LU_LEV Signature) Date: -LU_LEV Image: Der Signature Trace Signature)<	>		5		- HA -	2	12-13'											<u>x</u>			
By (Signature) Date: PL/31. PC RECEIVED BY: (Signature) Date: Date: Date: Date: Time: 10.10.10.10.10.10.10.10.10.10.10.10.10.1				<u>├</u>																	
HED BY. (Bigmenture) Time: Time: Time: BUS OTHER: HED BY. (Bigmenture) Date: Date: Date: UPS OTHER: LABORATORN: T.F.C. Time: Time: Date: UPS OTHER: LABORATORN: T.F.C. Time: Time: Date: UPS OTHER: LABORATORN: T.F.C. TIME: Time: Date: UPS N LABORATORN: T.F.C. TIME: Date: U.J.I.O. N N LABORATORN: T.F.C. TIME: U.J.I.O. M N N LABORATORN: T.F.C. TIME: U.J.I.O. M N N	HED BY (Signatu HED BY (Signatu	(en			Date: Time: Date:	10;0/ 10;0/	RECEIVED BY: (5 RECEIVED BY: (5	Signature) Xignature)					AMPLE AMPLE	BY (P	Day C	(e) (e)		$\left \right $	Date: 77me: AIRBILL		
LABORATORY: TPLE RECEIVED BY (SIgnature) () M RUGH Charges audited state: <u>TF</u> PHONE ZP: 041E, 10, 31, 09 TIME: 10:35 TKC TUNCED YOS NO	HED BY: (Signatu	(eur			Time: Date: Time:		RECEIVED BY: (5	Signature)	FQF	i i i i i i i i i i i i i i i i i i i			FEDEX HAND-I	DELIVER SCH CO	TACT P	US IPS ERSON:		Ĵ	OTHER:	suits by:	
	LABORATORN 11 d to ad	TD STATE:	27	Î Î Î	NE:		RECEIVED BY: (SIG DATE: 10 . 7	J1 - 09		8			H	je je	Tau	2	Ŋ		<u> </u>	SH Char thorized: Yes	ov Ses