TETRA TECH

JUN 26 2009

June 1, 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, Parkway Delaware Unit #513 Well, Unit J, Section 35, Township 19 South, Range 29 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 Parkway Delaware Unit #513 Well located in Unit J, Section 35, Township 19 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32° .61323, W 104°.04382. 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 February 25, 2009. Approximately 50 barrels of produced water were released from a trunk line valve. The valve was repaired. The impacted area was excavated and the soil hauled to proper disposal. The initial C-141 is enclosed in Appendix A.

Groundwater

The New Mexico Office of the State Engineer iWATERS database listed one well in Section 35 with a reported depth to water of 110' below ground surface (bgs). The site elevation is approximately 3,320 feet above sea level (asl) which is consistent with the average elevations in Section 35. As such, based on the depth to groundwater and the relative elevation of the location, it appears the groundwater for the Site appears to be greater than 100' feet bgs. The State Engineer Report is shown in Appendix B.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills

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

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

Soil Assessment and Results

On March 4, 2009, Tetra Tech personnel inspected and sampled the spill area on the pad. 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. 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 AH-1, AH-3, AH-4 and AH-5. Since the chloride concentration in AH-2 was not defined to a depth of 3.0'-3.5' below excavation bottom (BEB), a truck mounted air-rotary rig was used to advance one soil boring (BH-1) in the vicinity of AH-2. A sample collected at 5.0'-6.0' had a chloride concentration of 636 mg/kg, which declined to <200 mg/kg at 10'-11'. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The spill area and the augerhole locations are shown on Figure 3.

Closure Request

The results of this assessment and remedial work were presented to the NMOCD in a meeting on May 30, 2009 in Artesia and it was agreed to close 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

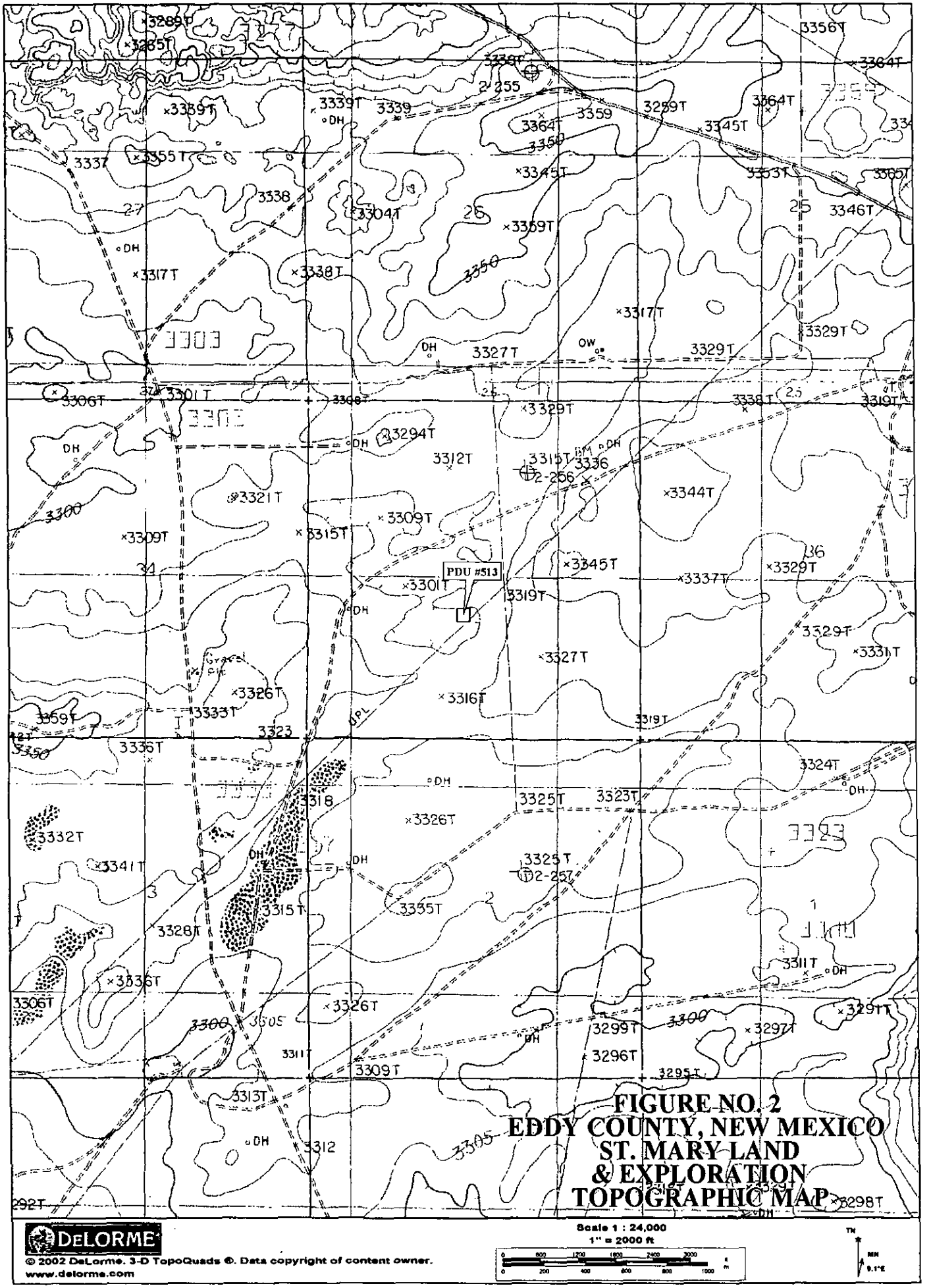
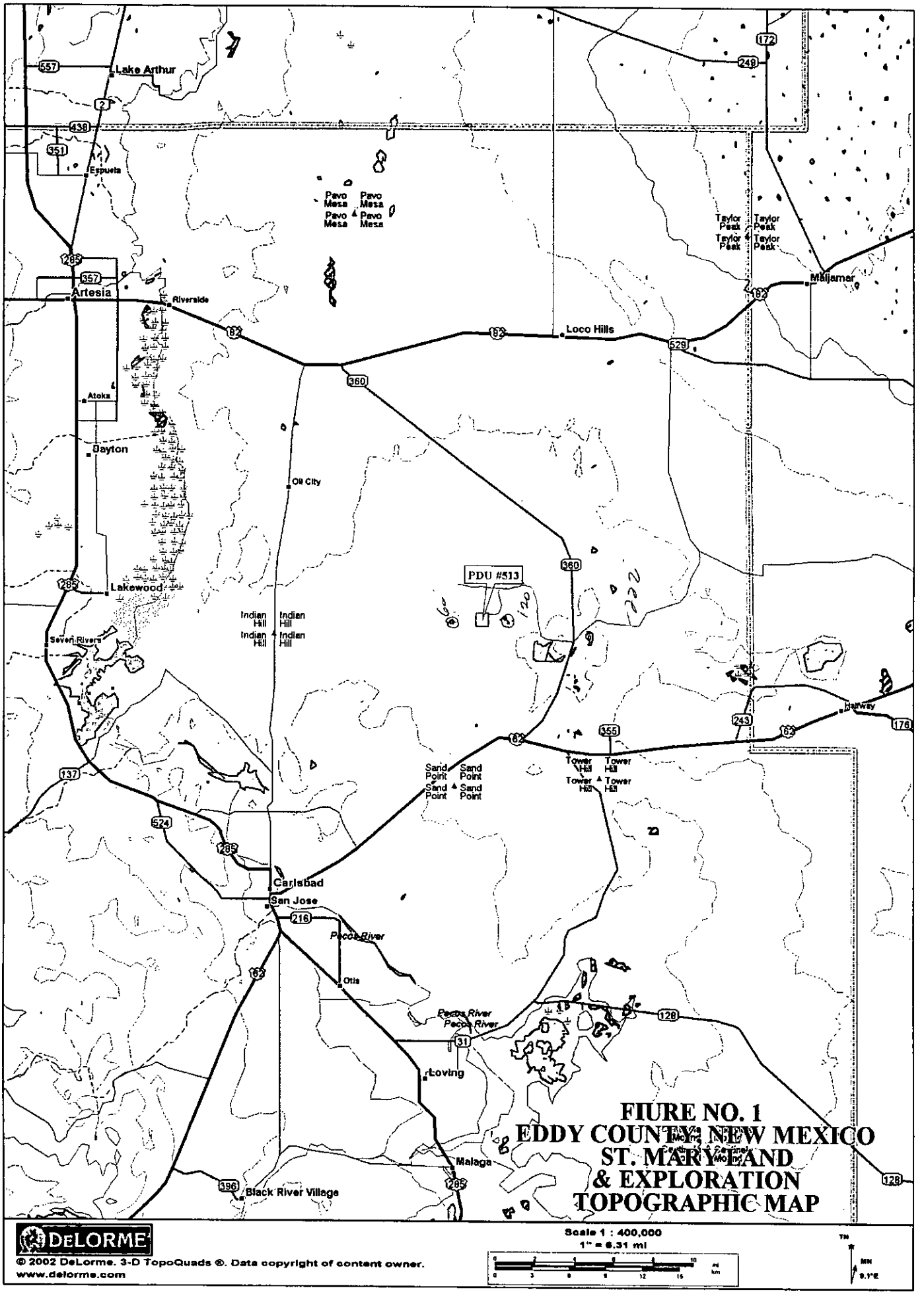
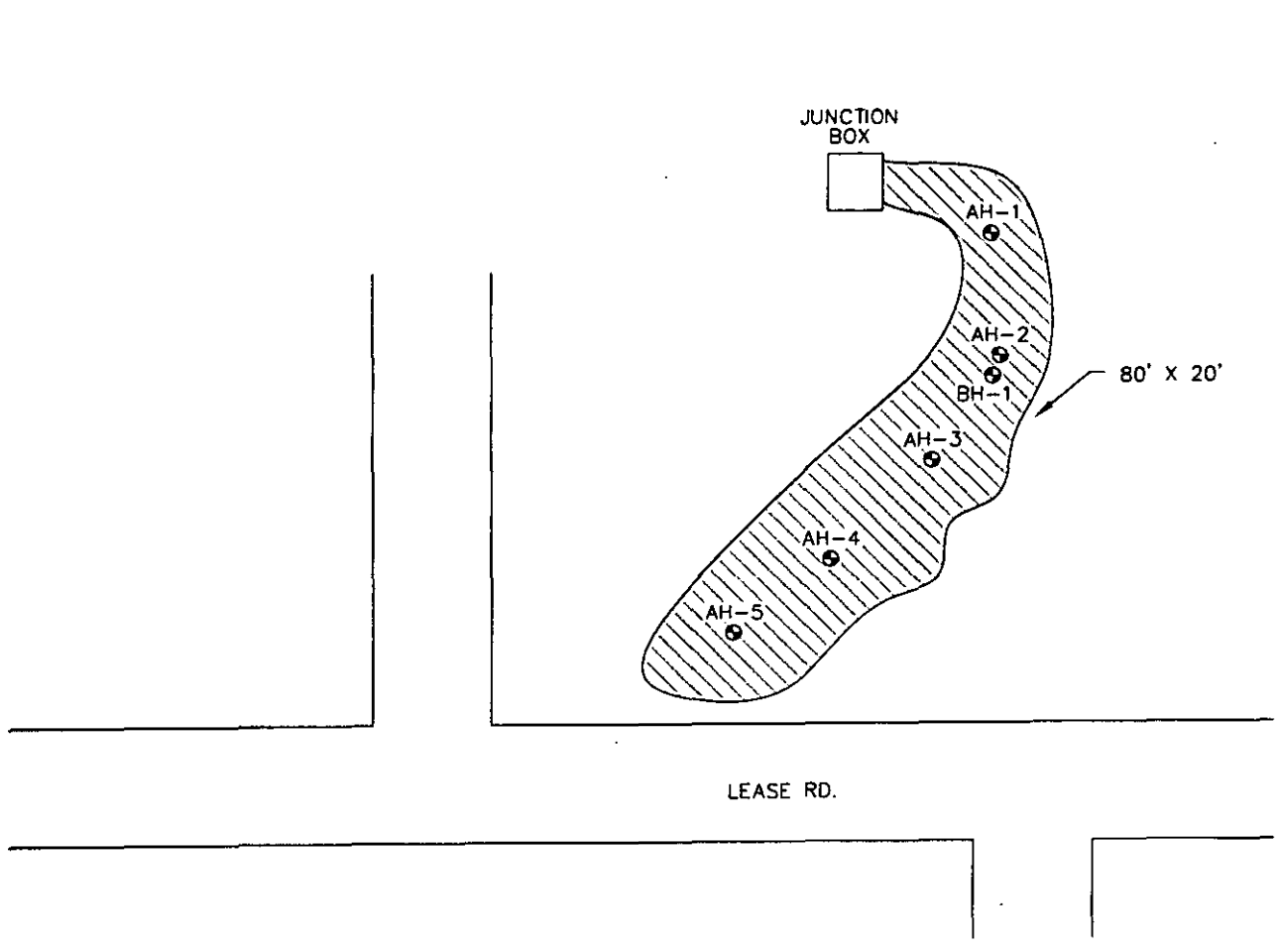


FIGURE NO. 2
EDDY COUNTY, NEW MEXICO
ST. MARY LAND & EXPLORATION
TOPOGRAPHIC MAP

Scale 1 : 24,000
1" = 2000 ft


Lake Arthur
Espuela
Pavo Mesa
Taylor Peak
Maljamar
Artesia
Riverside
Loco Hills
Atoka
Dayton
Oil City
PDU #513
Lakewood
Indian Hill
Seven Rivers
Tower Hill
Sand Point
Halfway
Carlsbad
San Jose
Pecos River
Otis
Loving
Malaga
Black River Village
FIURE NO. 1
EDDY COUNTY, NEW MEXICO
ST. MARYLAND
& EXPLORATION
TOPOGRAPHIC MAP
DeLORME
© 2002 DeLorme. 3-D TopoQuads ®. Data copyright of content owner.
www.delorme.com
Scale 1 : 400,000
1" = 6.31 mi



SPILL AREA
AUGER HOLE LOCATIONS
BORE HOLE LOCATION

NOT TO SCALE

FIGURE NO. 3

EDDY COUNTY, NEW MEXICO

ST. MARY LAND & EXPLORATION COMPANY

PDU #513

DATE: 3/27/09
DWN. BY: JJ
FILE: H:\ST. MARY\84CD137 PDU #513

TETRA TECH, INC.
MIDLAND, TEXAS

TABLE

Table 1
St. Mary Land & Exploration
PDU #513
Eddy County, New Mexico

Sample ID	Date Sampled	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	DRO	GRO	Total					
AH-1	3/4/2009	0-1 BEB (0.5)	X		<50.0	2.79	2.79	<0.0100	<0.0100	<0.0100	<0.0100	838
	3/4/2009	1-1.5 BEB (0.5)	X		-	-	-	-	-	-	-	235
	3/4/2009	2-2.5 BEB (0.5)	X		-	-	-	-	-	-	-	306
AH-2	3/4/2009	0-1 BEB (0.5)	X		<50.0	2.68	2.68	-	-	-	-	419
	3/4/2009	1-1.5 BEB (0.5)	X		-	-	-	-	-	-	-	<200
	3/4/2009	2-2.5 BEB (0.5)	X		-	-	-	-	-	-	-	935
	3/4/2009	3-3.5 BEB (0.5)	X		-	-	-	-	-	-	-	1,380
BH-1	3/12/2009	5-6	X		-	-	-	-	-	-	-	636
	3/12/2009	10-11	X		-	-	-	-	-	-	-	<200
AH-3	3/4/2009	0-1 BEB (0.5)	X		<50.0	2.80	2.80	<0.0100	<0.0100	<0.0100	<0.0100	618
	3/4/2009	1-1.5 BEB (0.5)	X		-	-	-	-	-	-	-	<200
	3/4/2009	2-2.5 BEB (0.5)	X		-	-	-	-	-	-	-	235
AH-4	3/4/2009	0-1 BEB (0.5)	X		<50.0	2.63	2.63	-	-	-	-	1,060
	3/4/2009	1-1.5 BEB (0.5)	X		-	-	-	-	-	-	-	<200
	3/4/2009	2-2.5 BEB (0.5)	X		-	-	-	-	-	-	-	<200
AH-5	3/4/2009	0-1 BEB (0.5)	X		<50.0	2.72	2.72	-	-	-	-	<200
	3/4/2009	1-1.5 BEB (0.5)	X		-	-	-	-	-	-	-	<200
	3/4/2009	2-2.5 BEB (0.5)	X		-	-	-	-	-	-	-	<200

(-) Not Analyzed

APPENDIX A
NMOCD FORM C-141

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company *St Mary Land & Exploration Co.*	Contact *Donna Huddleston*
Address *3300 N. A Street, Bldg. 7, Ste. 200, Midland, TX 79705*	Telephone No. *432-688-1789*
Facility Name *Parkway Delaware Unit #513*	Facility Type Injection

Surface Owner *BLM*	Mineral Owner *BLM*	Lease No. *NMNM88491X*

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	35	19S	29E					Eddy

Latitude_____ **Longitude**_____

NATURE OF RELEASE

Type of Release *Produced Water*	Volume of Release *50 BW*	Volume Recovered *0*
Source of Release *2.5" flanged Balon trunk line valve.*	Date and Hour of Occurrence *2/25/09 7:30 AM*	Date and Hour of Discovery *2/25/09 7:30 AM*
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? *Mike Bratcher w/NMOCD & Jim Amos w/BLM*	
By Whom? *Bill Hearne*	Date and Hour *2/25/2009 10:20 AM*	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
Cause: 2.5" flanged Balon trunk line valve failure (bottom of valve blow out) @ junction box.
Injection pumps shut down on low (900#) injection pressure. Estimated 50 bbls. Produced water spilled

Describe Area Affected and Cleanup Action Taken.*
West of Injection Station and north of PDU #513. Spill Area: 180' x 70' = 12,600 sq. ft.
Dug out contaminated soil and remediate with fresh soil.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: *Tim Reed (agent for St. Mary Land)*	Approved by District Supervisor:	
Title: *Tetra Tech*	Approval Date:	Expiration Date:
E-mail Address: *timothy.reed@tetratech.com*	Conditions of Approval:	Attached ☐
Date: *6/01/2009* Phone: *432-682-4559*		

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company St. Mary Land & Exploration Co.	Contact Donna Huddleston
Address 3300 N. A Street, Bldg. 7, Ste. 200 Midland, , TX	Telephone No. (432)688-1789
Facility Name Parkway Delaware Unit #513	Facility Type Injection

Surface Owner BLM	Mineral Owner BLM	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	35	19S	29E					

Latitude_____ Longitude_____

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 50 bbls	Volume Recovered 0
Source of Release 2.5" flange Balon trunk line valve	Date and Hour of Occurrence 2/25/09 7:30AM	Date and Hour of Discovery 2/25/09
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher W/OCD & Jim Amos W/ BLM	
By Whom? Bill Hearne	Date and Hour 10/25/09 10:20AM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

2.5" flanged Balon trunk line valve failure (bottom of valve blow out) @ junction box.
Injection pumps shutdown on low (900#) injection pressure.Estimated 50 bbls. produced water spilled.

Describe Area Affected and Cleanup Action Taken.*

West of injection station and North of PDU 513. Spill Area: 180' x 70' = 12,600 sq. ft. Pasture.

Dig out contaminated soil and remediate with fresh soil.

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

Signature: Donna Huddleston	OIL CONSERVATION DIVISION	
Printed Name: Donna Huddleston	Approved by District Supervisor:	
Title: Production Tech	Approval Date:	Expiration Date:
E-mail Address: dhuddleston@stmaryland.com	Conditions of Approval:	Attached ☐
Date: 02/26/2009 Phone: (432)688-1789		

* Attach Additional Sheets If Necessary

APPENDIX B
WATER WELL DATA

Water Well Data
Average Depth to Groundwater (ft)
St Mary Land & Exploration Co. - Parkway Delaware Unit #514

18 South 28 East

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

18 South 29 East

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

18 South 30 East

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

19 South 28 East

6	5	4	3	2	1
7	8	9 **265**	10	11	12
18 **91**	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

19 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13 **123** **101**
19	20 **62.9**	21	22	23	24
30	29	28	27	26	25
31	32	33	34 **60**	35 **110**	36 **115**

19 South 30 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30 **90**	29	28	27	26	25
31 **115**	32	33	34	35	36

20 South 28 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28 **30**	27 **35**	26	25
31 **115**	32	33 **25** **29**	34	35	36 **19**

20 South 29 East

6	5	4	3 **91**	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20 **62**	21	22	23	24
30 **52**	29	28	27	26	25
31	32	33	34	35	36

20 South 30 East

6	5 **3.5**	4	3 **6**	2	1
7	8	9	10	11	12
18	17	16 **29**	15	14	13
19	20 **29**	21 **150**	22	23	24
30	29	28	27	26	25
31	32 **170**	33 **191**	34	35	36

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

90 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

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 19S Range: 29E Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) Non-Domestic Domestic All

POD / Surface Data Report | Avg Depth to Water Report | Water Column Report

Clear Form | iWATERS Menu | Help

AVERAGE DEPTH OF WATER REPORT 04/28/2009

								(Depth Water in Feet)		
Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	Min	Max	Avg
CP	19S	29E	34				1	60	60	60
CP	19S	29E	35				1	110	110	110
CP	19S	29E	36				1	115	115	115

Record Count: 3

APPENDIX C
SUMMARY REPORT
March 11, 2009

Summary Report

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

Report Date: March 11, 2009

Work Order: 9030517

Project Location: Eddy Co., NM
Project Name: St. Mary/PDU #513
Project Number: 114-6400137

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
189081	AH-1 0-1' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189082	AH-1 1'-1.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189083	AH-1 2'-2.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189084	AH-2 0-1' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189085	AH-2 1'-1.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189086	AH-2 2'-2.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189087	AH-2 3'-3.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189088	AH-3 0-1' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189089	AH-3 1'-1.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189090	AH-3 2'-2.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189091	AH-4 0-1' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189092	AH-4 1'-1.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189093	AH-4 2'-2.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189094	AH-5 0-1' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189095	AH-5 1'-1.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189096	AH-5 2'-2.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05

Sample - Field Code	TPH DRO DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
189081 - AH-1 0-1' (.5' BEB)	<50.0	**2.79**
189084 - AH-2 0-1' (.5' BEB)	<50.0	**2.68**
189088 - AH-3 0-1' (.5' BEB)	<50.0	**2.80**
189091 - AH-4 0-1' (.5' BEB)	<50.0	**2.63**
189094 - AH-5 0-1' (.5' BEB)	<50.0	**2.72**

Sample: 189081 - AH-1 0-1' (.5' BEB)

Param	Flag	Result	Units	RL
Chloride		**838**	mg/Kg	4.00

Sample: 189082 - AH-1 1'-1.5' (.5' BEB)

Param	Flag	Result	Units	RL
Chloride		**235**	mg/Kg	4.00

Sample: 189083 - AH-1 2'-2.5' (.5' BEB)

Param	Flag	Result	Units	RL
Chloride		**306**	mg/Kg	4.00

Sample: 189084 - AH-2 0-1' (.5' BEB)

Param	Flag	Result	Units	RL
Chloride		**419**	mg/Kg	4.00

Sample: 189085 - AH-2 1'-1.5' (.5' BEB)

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

Sample: 189086 - AH-2 2'-2.5' (.5' BEB)

Param	Flag	Result	Units	RL
Chloride		**935**	mg/Kg	4.00

Sample: 189087 - AH-2 3'-3.5' (.5' BEB)

Param	Flag	Result	Units	RL
Chloride		**1380**	mg/Kg	4.00

Sample: 189088 - AH-3 0-1' (.5' BEB)

Param	Flag	Result	Units	RL
Chloride		**618**	mg/Kg	4.00

Sample: 189089 - AH-3 1'-1.5' (.5' BEB)

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

Sample: 189090 - AH-3 2'-2.5' (.5' BEB)

Param	Flag	Result	Units	RL
Chloride		**235**	mg/Kg	4.00

Sample: 189091 - AH-4 0-1' (.5' BEB)

Param	Flag	Result	Units	RL
Chloride		**1060**	mg/Kg	4.00

Sample: 189092 - AH-4 1'-1.5' (.5' BEB)

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

Sample: 189093 - AH-4 2'-2.5' (.5' BEB)

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

Sample: 189094 - AH-5 0-1' (.5' BEB)

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

Sample: 189095 - AH-5 1'-1.5' (.5' BEB)

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

Sample: 189096 - AH-5 2'-2.5' (.5' BEB)

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

TRACEANALYSIS, INC.

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

Certifications

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

NELAP Certifications

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

Analytical and Quality Control Report

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

Report Date: March 11, 2009

Work Order: 9030517

Project Location: Eddy Co., NM
Project Name: St. Mary/PDU #513
Project Number: 114-6400137

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
189081	AH-1 0-1' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189082	AH-1 1'-1.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189083	AH-1 2'-2.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189084	AH-2 0-1' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189085	AH-2 1'-1.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189086	AH-2 2'-2.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189087	AH-2 3'-3.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189088	AH-3 0-1' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189089	AH-3 1'-1.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189090	AH-3 2'-2.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
189091	AH-4 0-1' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189092	AH-4 1'-1.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189093	AH-4 2'-2.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189094	AH-5 0-1' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189095	AH-5 1'-1.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189096	AH-5 2'-2.5' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05

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.

Dr. Blair Leftwich, Director

Standard Flags

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

Case Narrative

Samples for project St. Mary/PDU #513 were received by TraceAnalysis, Inc. on 2009-03-05 and assigned to work order 9030517. Samples for work order 9030517 were received intact at a temperature of 5.3 deg. C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	49050	2009-03-09 at 09:50	57419	2009-03-09 at 12:50
Chloride (Titration)	SM 4500-Cl B	49051	2009-03-09 at 09:50	57420	2009-03-09 at 12:51
TPH DRO	Mod. 8015B	49063	2009-03-06 at 13:00	57415	2009-03-09 at 10:00
TPH GRO	S 8015B	49012	2009-03-05 at 15:09	57365	2009-03-05 at 15:09

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 9030517 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: 189081 - AH-1 0-1' (.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	57419	Date Analyzed:	2009-03-09	Analyzed By:	AR
Prep Batch:	49050	Sample Preparation:	2009-03-09	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**838**		mg/Kg	50	4.00

Sample: 189081 - AH-1 0-1' (.5' BEB)

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	57415	Date Analyzed:	2009-03-09	Analyzed By:	LD
Prep Batch:	49063	Sample Preparation:	2009-03-06	Prepared By:	LD

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		53.4	mg/Kg	1	100	53	10 - 250.4

Sample: 189081 - AH-1 0-1' (.5' BEB)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	57365	Date Analyzed:	2009-03-05	Analyzed By:	ME
Prep Batch:	49012	Sample Preparation:	2009-03-05	Prepared By:	ME

Parameter	Flag	Result	RL	Units	Dilution	RL
GRO		**2.79**		mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.913	mg/Kg	1	1.00	91	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)		0.660	mg/Kg	1	1.00	66	52 - 117

Sample: 189082 - AH-1 1'-1.5' (.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	57419	Date Analyzed:	2009-03-09	Analyzed By:	AR
Prep Batch:	49050	Sample Preparation:	2009-03-09	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**235**	mg/Kg	50	4.00

Sample: 189083 - AH-1 2'-2.5' (.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	57419	Date Analyzed:	2009-03-09	Analyzed By:	AR
Prep Batch:	49050	Sample Preparation:	2009-03-09	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**306**	mg/Kg	50	4.00

Sample: 189084 - AH-2 0-1' (.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	57419	Date Analyzed:	2009-03-09	Analyzed By:	AR
Prep Batch:	49050	Sample Preparation:	2009-03-09	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**419**	mg/Kg	50	4.00

Sample: 189084 - AH-2 0-1' (.5' BEB)

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	57415	Date Analyzed:	2009-03-09	Analyzed By:	LD
Prep Batch:	49063	Sample Preparation:	2009-03-06	Prepared By:	LD

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		94.8	mg/Kg	1	100	95	10 - 250.4

Sample: 189084 - AH-2 0-1' (.5' BEB)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	57365	Date Analyzed:	2009-03-05	Analyzed By:	ME
Prep Batch:	49012	Sample Preparation:	2009-03-05	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		2.68	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.921	mg/Kg	1	1.00	92	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)		0.662	mg/Kg	1	1.00	66	52 - 117

Sample: 189085 - AH-2 1'-1.5' (.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	57419	Date Analyzed:	2009-03-09	Analyzed By:	AR
Prep Batch:	49050	Sample Preparation:	2009-03-09	Prepared By:	AR

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

Sample: 189086 - AH-2 2'-2.5' (.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	57419	Date Analyzed:	2009-03-09	Analyzed By:	AR
Prep Batch:	49050	Sample Preparation:	2009-03-09	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		935	mg/Kg	50	4.00

Sample: 189087 - AH-2 3'-3.5' (.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	57419	Date Analyzed:	2009-03-09	Analyzed By:	AR
Prep Batch:	49050	Sample Preparation:	2009-03-09	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**1380**	mg/Kg	50	4.00

Sample: 189088 - AH-3 0-1' (.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	57419	Date Analyzed:	2009-03-09	Analyzed By:	AR
Prep Batch:	49050	Sample Preparation:	2009-03-09	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**618**	mg/Kg	50	4.00

Sample: 189088 - AH-3 0-1' (.5' BEB)

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	57415	Date Analyzed:	2009-03-09	Analyzed By:	LD
Prep Batch:	49063	Sample Preparation:	2009-03-06	Prepared By:	LD

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		124	mg/Kg	1	100	124	10 - 250.4

Sample: 189088 - AH-3 0-1' (.5' BEB)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	57365	Date Analyzed:	2009-03-05	Analyzed By:	ME
Prep Batch:	49012	Sample Preparation:	2009-03-05	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		2.80	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.926	mg/Kg	1	1.00	93	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)		0.675	mg/Kg	1	1.00	68	52 - 117

Sample: 189089 - AH-3 1'-1.5' (.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	57419	Date Analyzed:	2009-03-09	Analyzed By:	AR
Prep Batch:	49050	Sample Preparation:	2009-03-09	Prepared By:	AR

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

Sample: 189090 - AH-3 2'-2.5' (.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	57419	Date Analyzed:	2009-03-09	Analyzed By:	AR
Prep Batch:	49050	Sample Preparation:	2009-03-09	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		235	mg/Kg	50	4.00

Sample: 189091 - AH-4 0-1' (.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	57420	Date Analyzed:	2009-03-09	Analyzed By:	AR
Prep Batch:	49051	Sample Preparation:	2009-03-09	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1060	mg/Kg	50	4.00

Sample: 189091 - AH-4 0-1' (.5' BEB)

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	57415	Date Analyzed:	2009-03-09	Analyzed By:	LD
Prep Batch:	49063	Sample Preparation:	2009-03-06	Prepared By:	LD

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		152	mg/Kg	1	100	152	10 - 250.4

Sample: 189091 - AH-4 0-1' (.5' BEB)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	57365	Date Analyzed:	2009-03-05	Analyzed By:	ME
Prep Batch:	49012	Sample Preparation:	2009-03-05	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**2.63**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.924	mg/Kg	1	1.00	92	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)		0.657	mg/Kg	1	1.00	66	52 - 117

Sample: 189092 - AH-4 1'-1.5' (.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	57420	Date Analyzed:	2009-03-09	Analyzed By:	AR
Prep Batch:	49051	Sample Preparation:	2009-03-09	Prepared By:	AR

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

Sample: 189093 - AH-4 2'-2.5' (.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	57420	Date Analyzed:	2009-03-09	Analyzed By:	AR
Prep Batch:	49051	Sample Preparation:	2009-03-09	Prepared By:	AR

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

Sample: 189094 - AH-5 0-1' (.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	57420	Date Analyzed:	2009-03-09	Analyzed By:	AR
Prep Batch:	49051	Sample Preparation:	2009-03-09	Prepared By:	AR

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

Sample: 189094 - AH-5 0-1' (.5' BEB)

Laboratory:	Midland				
Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	57415	Date Analyzed:	2009-03-09	Analyzed By:	LD
Prep Batch:	49063	Sample Preparation:	2009-03-06	Prepared By:	LD

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		118	mg/Kg	1	100	118	10 - 250.4

Sample: 189094 - AH-5 0-1' (.5' BEB)

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015B	Prep Method:	S 5035
QC Batch:	57365	Date Analyzed:	2009-03-05	Analyzed By:	ME
Prep Batch:	49012	Sample Preparation:	2009-03-05	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**2.72**	mg/Kg	1	1.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.920	mg/Kg	1	1.00	92	68.5 - 119.4
4-Bromofluorobenzene (4-BFB)		0.654	mg/Kg	1	1.00	65	52 - 117

Sample: 189095 - AH-5 1'-1.5' (.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	57420	Date Analyzed:	2009-03-09	Analyzed By:	AR
Prep Batch:	49051	Sample Preparation:	2009-03-09	Prepared By:	AR

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

Sample: 189096 - AH-5 2'-2.5' (.5' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	57420	Date Analyzed:	2009-03-09	Analyzed By:	AR
Prep Batch:	49051	Sample Preparation:	2009-03-09	Prepared By:	AR

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

Method Blank (1) QC Batch: 57365

QC Batch:	57365	Date Analyzed:	2009-03-05	Analyzed By:	ME
Prep Batch:	49012	QC Preparation:	2009-03-05	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.921	mg/Kg	1	1.00	92	75.8 - 98.5
4-Bromofluorobenzene (4-BFB)		0.740	mg/Kg	1	1.00	74	56.5 - 109.5

Method Blank (1) QC Batch: 57415

QC Batch: 57415 | Date Analyzed: 2009-03-09 | Analyzed By: LD
Prep Batch: 49063 | QC Preparation: 2009-03-06 | Prepared By: LD

Parameter	Flag	MDL Result	Units	RL
DRO		<12.0	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		66.6	mg/Kg	1	100	67	30.9 - 146.4

Method Blank (1) QC Batch: 57419

QC Batch: 57419 | Date Analyzed: 2009-03-09 | Analyzed By: AR
Prep Batch: 49050 | QC Preparation: 2009-03-09 | Prepared By: AR

Parameter	Flag	MDL Result	Units	RL
Chloride		<2.01	mg/Kg	4

Method Blank (1) QC Batch: 57420

QC Batch: 57420 | Date Analyzed: 2009-03-09 | Analyzed By: AR
Prep Batch: 49051 | QC Preparation: 2009-03-09 | Prepared By: AR

Parameter	Flag	MDL Result	Units	RL
Chloride		<2.01	mg/Kg	4

Laboratory Control Spike (LCS-1)

QC Batch: 57365 | Date Analyzed: 2009-03-05 | Analyzed By: ME
Prep Batch: 49012 | QC Preparation: 2009-03-05 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	9.07	mg/Kg	1	10.0	<0.482	91	60.5 - 100.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	8.85	mg/Kg	1	10.0	<0.482	88	60.5 - 100.1	2	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.982	0.969	mg/Kg	1	1.00	98	97	78.8 - 104.7
4-Bromofluorobenzene (4-BFB)	0.791	0.788	mg/Kg	1	1.00	79	79	66.1 - 107.3

Laboratory Control Spike (LCS-1)

QC Batch: 57415 | Date Analyzed: 2009-03-09 | Analyzed By: LD
Prep Batch: 49063 | QC Preparation: 2009-03-06 | Prepared By: LD

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	281	mg/Kg	1	250	<12.0	112	27.8 - 152.1

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	243	mg/Kg	1	250	<12.0	97	27.8 - 152.1	14	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	75.3	66.0	mg/Kg	1	100	75	66	38 - 130.4

Laboratory Control Spike (LCS-1)

QC Batch: 57419 | Date Analyzed: 2009-03-09 | Analyzed By: AR
Prep Batch: 49050 | QC Preparation: 2009-03-09 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.8	mg/Kg	1	100	<2.01	98	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	99.5	mg/Kg	1	100	<2.01	100	85 - 115	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 57420 | Date Analyzed: 2009-03-09 | Analyzed By: AR
Prep Batch: 49051 | QC Preparation: 2009-03-09 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	102	mg/Kg	1	100	<2.01	102	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	101	mg/Kg	1	100	<2.01	101	85 - 115	1	20

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

Matrix Spike (MS-1) Spiked Sample: 189005

QC Batch: 57365 | Date Analyzed: 2009-03-05 | Analyzed By: ME
Prep Batch: 49012 | QC Preparation: 2009-03-05 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	19.3	mg/Kg	1	10.0	2.9554	163	12.8 - 175.2

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	17.0	mg/Kg	1	10.0	2.9554	140	12.8 - 175.2	13	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.980	0.998	mg/Kg	1	1	98	100	60.8 - 132.1
4-Bromofluorobenzene (4-BFB)	0.660	0.663	mg/Kg	1	1	66	66	31.3 - 161.7

Matrix Spike (MS-1) Spiked Sample: 189005

QC Batch: 57415 | Date Analyzed: 2009-03-09 | Analyzed By: LD
Prep Batch: 49063 | QC Preparation: 2009-03-06 | Prepared By: LD

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	326	mg/Kg	1	250	102	90	18 - 179.5

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	320	mg/Kg	1	250	102	87	18 - 179.5	2	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	101	106	mg/Kg	1	100	101	106	34.1 - 158

Matrix Spike (MS-1) Spiked Sample: 189090

QC Batch: 57419 | Date Analyzed: 2009-03-09 | Analyzed By: AR
Prep Batch: 49050 | QC Preparation: 2009-03-09 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	5180	mg/Kg	50	5000	235	99	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	5270	mg/Kg	50	5000	235	101	85 - 115	2	20

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

Matrix Spike (MS-1) Spiked Sample: 189104

QC Batch: 57420 | Date Analyzed: 2009-03-09 | Analyzed By: AR
Prep Batch: 49051 | QC Preparation: 2009-03-09 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	4950	mg/Kg	50	5000	104	97	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	5080	mg/Kg	50	5000	104	100	85 - 115	3	20

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

Standard (ICV-1)

QC Batch: 57365 | Date Analyzed: 2009-03-05 | Analyzed By: ME

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.998	100	85 - 115	2009-03-05

Standard (CCV-1)

QC Batch: 57365 | Date Analyzed: 2009-03-05 | Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.920	92	85 - 115	2009-03-05

Standard (CCV-1)

QC Batch: 57415 | Date Analyzed: 2009-03-09 | Analyzed By: LD

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	243	97	85 - 115	2009-03-09

Standard (CCV-2)

QC Batch: 57415 | Date Analyzed: 2009-03-09 | Analyzed By: LD

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	248	99	85 - 115	2009-03-09

Standard (CCV-3)

QC Batch: 57415 | Date Analyzed: 2009-03-09 | Analyzed By: LD

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	238	95	85 - 115	2009-03-09

Standard (ICV-1)

QC Batch: 57419 | Date Analyzed: 2009-03-09 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	103	103	85 - 115	2009-03-09

Standard (CCV-1)

QC Batch: 57419 | Date Analyzed: 2009-03-09 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.0	97	85 - 115	2009-03-09

Standard (ICV-1)

QC Batch: 57420 | Date Analyzed: 2009-03-09 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.1	99	85 - 115	2009-03-09

Standard (CCV-1)

QC Batch: 57420 | Date Analyzed: 2009-03-09 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2009-03-09

9030517

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 2

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

ANALYSIS REQUEST (Circle or Specify Method No.)

CLIENT NAME: St Marys
SITE MANAGER: Ike Tavarez
PROJECT NO.: 114-L400137
PROJECT NAME: St Marys / PDH #513 Eddy Co, NM

LAB I.D. NUMBER	DATE 2009	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
189081	3/4		S		X	AH-1 0-1' (.5' BEB)	1				X			X											X				
082						AH-1 1'-1.5' (.5' BEB																							
083						AH-1 2'-2.5' (.5' BEB)																							
084						AH-2 0-1' (.5' BEB)									X														
085						AH-2 1'-1.5' (.5' BEB)																							
086						AH-2 2'-2.5' (.5' BEB)																							
087						AH-2 3'-3.5' (.5' BEB)																							
088						AH-3 0-1' (.5' BEB)									X														
089						AH-3 1'-1.5' (.5' BEB)																							
090	↓		↓		↓	AH-3 2'-2.5' (.5' BEB)	↓				↓													↓				

RELINQUISHED BY: (Signature) — Date: 3/5/09 Time: 1145
RECEIVED BY: (Signature) — Date: Time:
SAMPLED BY: (Print & Initial) JT / RG — Date: 3/4/09 Time:

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

RELINQUISHED BY: (Signature) — Date: Time:
RECEIVED BY: (Signature) — Date: Time:
TETRA TECH CONTACT PERSON: Ike Tavarez — Results by:

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: 3-5-09 TIME: 11:05
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 5.3° C intact

REMARKS: If total TPH exceeds 1,000 mg/kg run deeper horizons All tests Midland

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

9030517

Analysis Request of Chain of Custody Record

PAGE: 2 OF: 2

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

CLIENT NAME: Sr Marys

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-L400137

PROJECT NAME: St Marys / PDH #513
Eddy Co, NM

LAB I.D. NUMBER	DATE 2009	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
189091	3/4		S		X	AH-4 0-1' (1.5' BEB)	1				X	
092						AH-4 1'-1.5' (5' BEB)						
093						AH-4 2'-2.5' (5' BEB)						
094						AH-5 0-1' (1.5' BEB)						
095						AH-5 1'-1.5' (1.5' BEB)						
096						AH-5 2'-2.5' (1.5' BEB)						

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8021B	TPH 8015 MOD. / TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
	X											X				
	X															

RELINQUISHED BY: (Signature) Date: 3/5/09 Time: 1403

RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Initial) JT / EG Date: 3/4/09 Time:

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

AIRBILL #:

OTHER:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: Trace

ADDRESS:

CITY: Midland STATE: TX ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: 3.5.09 TIME: 11:05

SAMPLE CONDITION WHEN RECEIVED: 5.3° C Intact

REMARKS: If total TPH exceeds 1000 mg/kg run deeper horizons All tests Midland

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

SUMMARY REPORT
March 17, 2009

Summary Report

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

Report Date: March 17, 2009

Work Order: 9031331

Project Location: Eddy Co., NM
Project Name: St. Mary/PDU #513
Project Number: 114-6400137

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
190256	BH-1 (5-6')	soil	2009-03-12	00:00	2009-03-13
190257	BH-1 (10-11')	soil	2009-03-12	00:00	2009-03-13

Sample: 190256 - BH-1 (5-6')

Param	Flag	Result	Units	RL
Chloride		**636**	mg/Kg	4.00

Sample: 190257 - BH-1 (10-11')

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

TRACEANALYSIS, INC.

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

Certifications

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

NELAP Certifications

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

Analytical and Quality Control Report

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

Report Date: March 17, 2009

Work Order: 9031331

Project Location: Eddy Co., NM
Project Name: St. Mary/PDU #513
Project Number: 114-6400137

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
190256	BH-1 (5-6')	soil	2009-03-12	00:00	2009-03-13
190257	BH-1 (10-11')	soil	2009-03-12	00:00	2009-03-13

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.

Dr. Blair Leftwich, Director

Standard Flags

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

Case Narrative

Samples for project St. Mary/PDU #513 were received by TraceAnalysis, Inc. on 2009-03-13 and assigned to work order 9031331. Samples for work order 9031331 were received intact at a temperature of 8.4 deg. C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	49251	2009-03-16 at 09:52	57648	2009-03-16 at 12:53

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 9031331 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: 190256 - BH-1 (5-6')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	57648	Date Analyzed:	2009-03-16	Analyzed By:	AR
Prep Batch:	49251	Sample Preparation:	2009-03-16	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**636**	mg/Kg	50	4.00

Sample: 190257 - BH-1 (10-11')

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	57648	Date Analyzed:	2009-03-16	Analyzed By:	AR
Prep Batch:	49251	Sample Preparation:	2009-03-16	Prepared By:	AR

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

Method Blank (1) QC Batch: 57648

QC Batch:	57648	Date Analyzed:	2009-03-16	Analyzed By:	AR
Prep Batch:	49251	QC Preparation:	2009-03-16	Prepared By:	AR

Parameter	Flag	MDL Result	Units	RL
Chloride		<2.01	mg/Kg	4

Laboratory Control Spike (LCS-1)

QC Batch:	57648	Date Analyzed:	2009-03-16	Analyzed By:	AR
Prep Batch:	49251	QC Preparation:	2009-03-16	Prepared By:	AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	102	mg/Kg	1	100	<2.01	102	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	99.3	mg/Kg	1	100	<2.01	99	85 - 115	2	20

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

Matrix Spike (MS-1) Spiked Sample: 190267

QC Batch: 57648 | Date Analyzed: 2009-03-16 | Analyzed By: AR
Prep Batch: 49251 | QC Preparation: 2009-03-16 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	5270	mg/Kg	50	5000	343	98	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	5380	mg/Kg	50	5000	343	101	85 - 115	2	20

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

Standard (ICV-1)

QC Batch: 57648 | Date Analyzed: 2009-03-16 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	102	102	85 - 115	2009-03-16

Standard (CCV-1)

QC Batch: 57648 | Date Analyzed: 2009-03-16 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.8	98	85 - 115	2009-03-16

Analysis Request of Chain of Custody Record

4051551

PAGE: 1 OF: 1

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

CLIENT NAME: ST mary Land + Expl. | SITE MANAGER: IKE TAVARez

PROJECT NO.: 114-640 0137 | PROJECT NAME: ST mary / PDU #513 Eddy co. NM.

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
256	3-12-09		S		G	BH-1 (5-6')	1				✓														X			
257	3-12-09		S		G	BH-1 (10-11')	1				✓														X			

RELINQUISHED BY: (Signature) — Date: 3/13/09 Time: 1530 — RECEIVED BY: (Signature) Lindsay Rub — Date: 3/13/09 Time: 1538 — SAMPLED BY: (Print & Initial) — Date: — Time:

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

RELINQUISHED BY: (Signature) — Date: — Time: — RECEIVED BY: (Signature) — Date: — Time: — TETRA TECH CONTACT PERSON: — Results by:

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

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 6.4

REMARKS: All tests Midland

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

SUMMARY REPORT
March 18, 2009

Summary Report

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

Report Date: March 18, 2009

Work Order: 9030517

Project Location: Eddy Co., NM
Project Name: St. Mary/PDU #513
Project Number: 114-6400137

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
189081	AH-1 0-1' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189088	AH-3 0-1' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05

	BTEX			
Sample - Field Code	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)
189081 - AH-1 0-1' (.5' BEB)	<0.0100	<0.0100	<0.0100	<0.0100
189088 - AH-3 0-1' (.5' BEB)	<0.0100	<0.0100	<0.0100	<0.0100

TRACEANALYSIS, INC.

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

Certifications

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

NELAP Certifications

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

Analytical and Quality Control Report

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

Report Date: March 18, 2009

Work Order: 9030517

Project Location: Eddy Co., NM
Project Name: St. Mary/PDU #513
Project Number: 114-6400137

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
189081	AH-1 0-1' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05
189088	AH-3 0-1' (.5' BEB)	soil	2009-03-04	00:00	2009-03-05

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.

Dr. Blair Leftwich, Director

Standard Flags

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

Case Narrative

Samples for project St. Mary/PDU #513 were received by TraceAnalysis, Inc. on 2009-03-05 and assigned to work order 9030517. Samples for work order 9030517 were received intact at a temperature of 5.3 deg. C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	49309	2009-03-17 at 10:05	57721	2009-03-17 at 10:05

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 9030517 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: 189081 - AH-1 0-1' (.5' BEB)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	57721	Date Analyzed:	2009-03-17	Analyzed By:	ME
Prep Batch:	49309	Sample Preparation:	2009-03-17	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.03	mg/Kg	1	1.00	103	49 - 129.7
4-Bromofluorobenzene (4-BFB)		0.904	mg/Kg	1	1.00	90	45.2 - 144.3

Sample: 189088 - AH-3 0-1' (.5' BEB)

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	57721	Date Analyzed:	2009-03-17	Analyzed By:	ME
Prep Batch:	49309	Sample Preparation:	2009-03-17	Prepared By:	ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	1	0.0100
Toluene		<0.0100	mg/Kg	1	0.0100
Ethylbenzene		<0.0100	mg/Kg	1	0.0100
Xylene		<0.0100	mg/Kg	1	0.0100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.02	mg/Kg	1	1.00	102	49 - 129.7
4-Bromofluorobenzene (4-BFB)		0.900	mg/Kg	1	1.00	90	45.2 - 144.3

Method Blank (1) QC Batch: 57721

QC Batch:	57721	Date Analyzed:	2009-03-17	Analyzed By:	ME
Prep Batch:	49309	QC Preparation:	2009-03-17	Prepared By:	ME

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.02	mg/Kg	1	1.00	102	65.6 - 130.6
4-Bromofluorobenzene (4-BFB)		0.946	mg/Kg	1	1.00	95	51.9 - 128.1

Laboratory Control Spike (LCS-1)

QC Batch: 57721 | Date Analyzed: 2009-03-17 | Analyzed By: ME
Prep Batch: 49309 | QC Preparation: 2009-03-17 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.08	mg/Kg	1	1.00	<0.00100	108	72.7 - 129.8
Toluene	1.09	mg/Kg	1	1.00	<0.00100	109	71.6 - 129.6
Ethylbenzene	1.08	mg/Kg	1	1.00	<0.00110	108	70.8 - 129.7
Xylene	3.21	mg/Kg	1	3.00	<0.00360	107	70.9 - 129.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.07	mg/Kg	1	1.00	<0.00100	107	72.7 - 129.8	1	20
Toluene	1.10	mg/Kg	1	1.00	<0.00100	110	71.6 - 129.6	1	20
Ethylbenzene	1.10	mg/Kg	1	1.00	<0.00110	110	70.8 - 129.7	2	20
Xylene	3.27	mg/Kg	1	3.00	<0.00360	109	70.9 - 129.4	2	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.02	1.14	mg/Kg	1	1.00	102	114	65.9 - 132
4-Bromofluorobenzene (4-BFB)	0.955	0.967	mg/Kg	1	1.00	96	97	55.2 - 128.9

Matrix Spike (MS-1) Spiked Sample: 190265

QC Batch: 57721 | Date Analyzed: 2009-03-17 | Analyzed By: ME
Prep Batch: 49309 | QC Preparation: 2009-03-17 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.07	mg/Kg	1	1.00	<0.00100	107	58.6 - 165.2
Toluene	1.11	mg/Kg	1	1.00	<0.00100	111	64.2 - 153.8
Ethylbenzene	1.13	mg/Kg	1	1.00	<0.00110	113	61.6 - 159.4
Xylene	3.38	mg/Kg	1	3.00	0.3381	101	64.4 - 155.3

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.12	mg/Kg	1	1.00	<0.00100	112	58.6 - 165.2	5	20
Toluene	1.13	mg/Kg	1	1.00	<0.00100	113	64.2 - 153.8	2	20
Ethylbenzene	1.15	mg/Kg	1	1.00	<0.00110	115	61.6 - 159.4	2	20
Xylene	3.43	mg/Kg	1	3.00	0.3381	103	64.4 - 155.3	2	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.993	1.03	mg/Kg	1	1	99	103	76 - 127.9
4-Bromofluorobenzene (4-BFB)	0.898	0.884	mg/Kg	1	1	90	88	72 - 127.8

Standard (ICV-1)

QC Batch: 57721 Date Analyzed: 2009-03-17 Analyzed By: ME

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.104	104	85 - 115	2009-03-17
Toluene		mg/Kg	0.100	0.108	108	85 - 115	2009-03-17
Ethylbenzene		mg/Kg	0.100	0.107	107	85 - 115	2009-03-17
Xylene		mg/Kg	0.300	0.316	105	85 - 115	2009-03-17

Standard (CCV-1)

QC Batch: 57721 Date Analyzed: 2009-03-17 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.107	107	85 - 115	2009-03-17
Toluene		mg/Kg	0.100	0.108	108	85 - 115	2009-03-17
Ethylbenzene		mg/Kg	0.100	0.107	107	85 - 115	2009-03-17
Xylene		mg/Kg	0.300	0.318	106	85 - 115	2009-03-17

Analysis Request of Chain of Custody Record

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

PAGE: 1 OF: 2

CLIENT NAME: St Marys

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-G400137

PROJECT NAME: St Marys / PDH #513 Eddy Co, NM

LAB I.D. NUMBER	DATE 2009	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION			NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
189081	3/4		S		X	AH-1	0-1'	(.5' BEB)	1				X	
082						AH-1	1'-1.5'	(.5' BEB						
083						AH-1	2'-2.5'	(.5' BEB)						
084						AH-2	0-1'	(.5' BEB)						
085						AH-2	1'-1.5'	(.5' BEB)						
086						AH-2	2'-2.5'	(.5' BEB)						
087						AH-2	3'-3.5'	(.5' BEB)						
088						AH-3	0-1'	(.5' BEB)						
089						AH-3	1'-1.5'	(.5' BEB)						
090						AH-3	2'-2.5'	(.5' BEB)						

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
	X											X				
	X															
	X															

RELINQUISHED BY: (Signature) Date: 3/5/09 Time: 1125 — RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Initial) JT / RG Date: 3/4/09 Time:

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

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

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

TETRA TECH CONTACT PERSON: Ike Tavarez — Results by:

RECEIVING LABORATORY: Trace — RECEIVED BY: (Signature)

ADDRESS:

CITY: Midland STATE: TX ZIP:

CONTACT: PHONE: DATE: 3-5-09 TIME: 11:05

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 5.3° c intact

REMARKS: If total TPH exceeds 10 1,000 mg/kg run deeper horizons All tests Midland

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

Analysis Request of Chain of Custody Record

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

CLIENT NAME: Sr Marys

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-L400137

PROJECT NAME: St Marys / PDH #513 Eddy Co, NM

LAB I.D. NUMBER	DATE 2009	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
89091	3/4		S		X	AH-4 0-1' (.5' BEB)	1				X	
092						AH-4 1'-1.5' (.5' BEB)						
093						AH-4 2'-2.5' (.5' BEB)						
094						AH-5 0-1' (.5' BEB)						
095						AH-5 1'-1.5' (.5' BEB)						
096						AH-5 2'-2.5' (.5' BEB)						

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8021B	TPH 8015 MOD. / TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/6260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 8081/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
	X											X				
	X															

RELINQUISHED BY: (Signature) Date: 3/5/09 Time: 1105

RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Initial) JT / RG Date: 3/4/09 Time:

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

RECEIVING LABORATORY: Trace

ADDRESS:

CITY: Midland STATE: TX ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: 3.5.09 TIME: 11:05

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 5.3° C Intact

REMARKS: If total TPH exceeds 4000 mg/kg run deeper horizons All tests Midland

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