

SITE INFORMATION												
REPORT TYPE: Closure Report 2RP-691												
General Site Information:												
Site:	Parkway Delaware Unit #204											
Company:	St. Mary Land & Exploration Company											
Section, Township and Range	35	Township 19S	Range 29E									
Unit Letter:	D											
API No.	30-015-26143											
County:	Eddy County											
GPS:	N 32.62182° W 104.04618°											
Surface Owner:	BLM											
Mineral Owner:	BLM											
Directions:	From the intersection of Hwy 62/180 and 360, head north on 360 for 5.6 miles and turn west onto Carry Comb (CR235) go 4.2 mi., turn south for 1.2 mi., turn west for 1.9 mi turn north on lease road for 0.4 miles to location											
Release Data:												
Date Released:	4/20/2009											
Type Release:	Produced water											
Source of Contamination:	Trunk line valve											
Fluid Released:	70 bbls											
Fluids Recovered:	16 bbls											
Official Communication:												
Name:	Zachary Luikens		Ike Tavaréz									
Company:	SM Energy		Tetra Tech									
Address:	6301 Holiday Hill Rd. Bldg 1		4000 N. Big Spring St., Ste 401									
P.O. Box												
City:	Midland, Texas 79707		Midland, Texas									
Phone number:	(432) 688-3138		(432) 682- 4559									
Email:	zluikens@sm-energy.com		ike.tavaréz@tetrattech.com									
Ranking Criteria												
Depth to Groundwater:		Ranking Score	Site Data									
<50 ft		20										
50-99 ft		10										
>100 ft.		0	Average Depth >110									
WellHead Protection:		Ranking Score	Site Data									
Water Source <1,000 ft., Private <200 ft.		20	None									
Water Source >1,000 ft., Private >200 ft.		0										
Surface Body of Water:		Ranking Score	Site Data									
<200 ft.		20	None									
200 ft - 1,000 ft.		10	None									
>1,000 ft.		0										
Total Ranking Score:		0										
<table border="1"> <thead> <tr> <th colspan="3">Acceptable Soil RRAL (mg/kg)</th> </tr> <tr> <th>Benzene</th> <th>Total BTEX</th> <th>TPH</th> </tr> </thead> <tbody> <tr> <td>10</td> <td>50</td> <td>5,000</td> </tr> </tbody> </table>				Acceptable Soil RRAL (mg/kg)			Benzene	Total BTEX	TPH	10	50	5,000
Acceptable Soil RRAL (mg/kg)												
Benzene	Total BTEX	TPH										
10	50	5,000										



TETRA TECH

August 19, 2016

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

**Re: Closure Report for the SM Energy Company, Parkway Delaware Unit #204
Flow Line Leak, Unit D, Section 35, Township 19 South, Range 29 East,
Eddy County, New Mexico. 2RP-691**

Mr. Bratcher:

Tetra Tech Inc. (Tetra Tech) was contacted by SM Energy Company (SM Energy) to assess a flow line spill at the Parkway Delaware Unit #204, located in Unit D, Section 35, Township 19 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.62182°, W 104.04618°. 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 April 20, 2009. Approximately 70 barrels of produced water was released from a 2.5" flanged Balon trunk line valve failure. A total of 16 barrels of fluids were recovered. The initial C-141 is enclosed in Appendix A.

Hydrology

The New Mexico State Engineers Well Report listed one well in Section 34 with an average depth of 60' and wells in Sections 35 and 36, with reported depths of 110' and 115', respectively. The Geology and Groundwater Resources of Eddy County New Mexico (Report 3) showed one well in Section 3 of Township 20 South and Range 29 East, with a reported depth to water of 91' bgs. The well reports are shown in Appendix B.

According to the *Geology and Groundwater Resources of Eddy County, New Mexico (Report 3)*, the Rustler and Castile formations (Ochoa Series) are present west and east of the Pecos River. The Rustler and Castile formations consist of anhydrite,

Tetra Tech

1910 North Big Spring, Midland, TX 79705
Tel 432.682.4559 Fax 432.682.3946 www.tetrattech.com



gypsum, interbedded sandy clay and beds of dolomite. Groundwater from the Castile and Rustler formations west of the Pecos River is historically high in chloride and sulfate concentrations which increase towards the river. The site is located on the east edge of the Rustler formation.

Previously, Tetra Tech personnel supervised the installation of a temporary well (TMW-1) in Section 35 to establish groundwater quality and depth in this section. During the installation, the well drilled dry. The well was drilled through fine grain sand with gypsum layers and red shale to a total depth of 140', to the top of a black and gray shale formation (blue shale). The well was measured two days later and showed a depth to groundwater of 122.93 TOC.

Regulatory

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

Soil Assessment and Results

On April 28, 2009, Tetra Tech personnel inspected the site and installed a total of four (4) auger holes (AH-1, AH-2, AH-3, and AH-4) to assess the spill area. Additionally, one Background auger hole was installed to evaluate the background soils. The spill area is shown on the attached Figure 3. The auger holes were advanced to depths ranging from 5.5' to 7.0' below surface. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1.

Referring to Table 1, all of the samples analyzed were below the RRAL for both BTEX and TPH. Auger holes (AH-1, AH-2, AH-3 and AH-4) showed chloride highs of 5,920 mg/kg, 6,940 mg/kg, 5,650 mg/kg, and 3,940 mg/kg at 1-1.5' below surface, respectively. The Background sample showed chloride concentrations of <200 mg/kg at 2' below surface and 389 mg/kg at 4' below surface.

Chloride concentrations in auger holes (AH-1, AH-2, AH-3, and AH-4) declined with depth in all four of the auger holes to near or below background concentrations.



TETRA TECH

Conclusion

On July 27, 2009, Tetra Tech personnel met with the NMOCD in Artesia to discuss the corrective action for the site. As discussed and as submitted in the Work Plan, the proposed excavation depths are shown in Table 1 and Figure 4.

In June 2010, Tetra Tech personnel were onsite to supervise the excavation of the impacted soils. The areas of auger holes (AH-2, AH-3, and AH-4) were excavated to 3-3.5' and the area of auger hole (AH-1) was excavated to 5-5.5' below surface. The impacted soils were hauled to Lea Land Disposal. The site was backfilled with clean fill material and brought to surface grade.

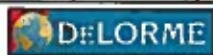
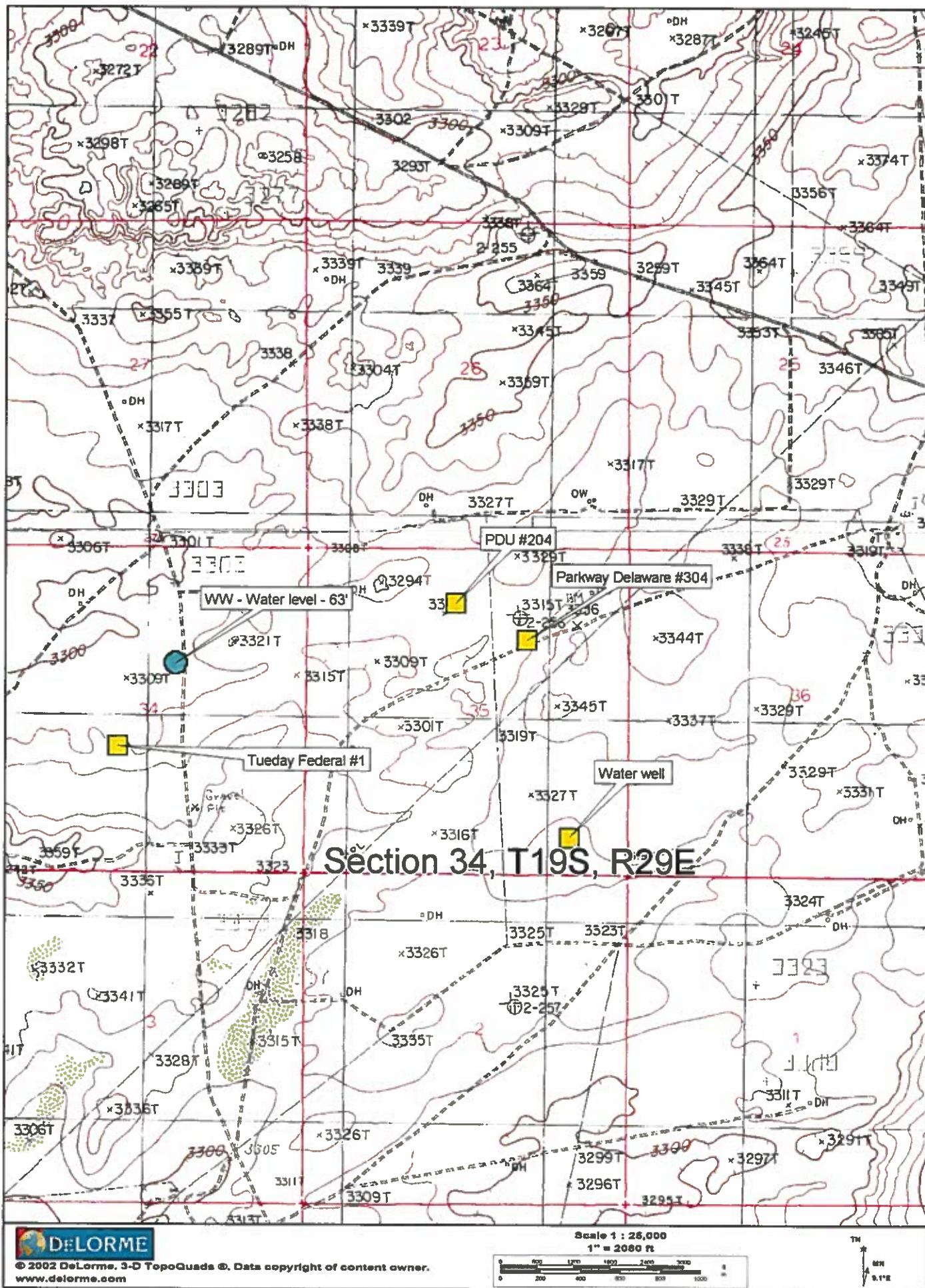
Based upon the results of the investigation and the remedial work performed at this site, SM Energy requests that this site be closed. A copy of the C-141 (Final) is included in Appendix A. If you require any additional information or have any questions or comments please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

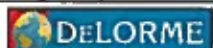
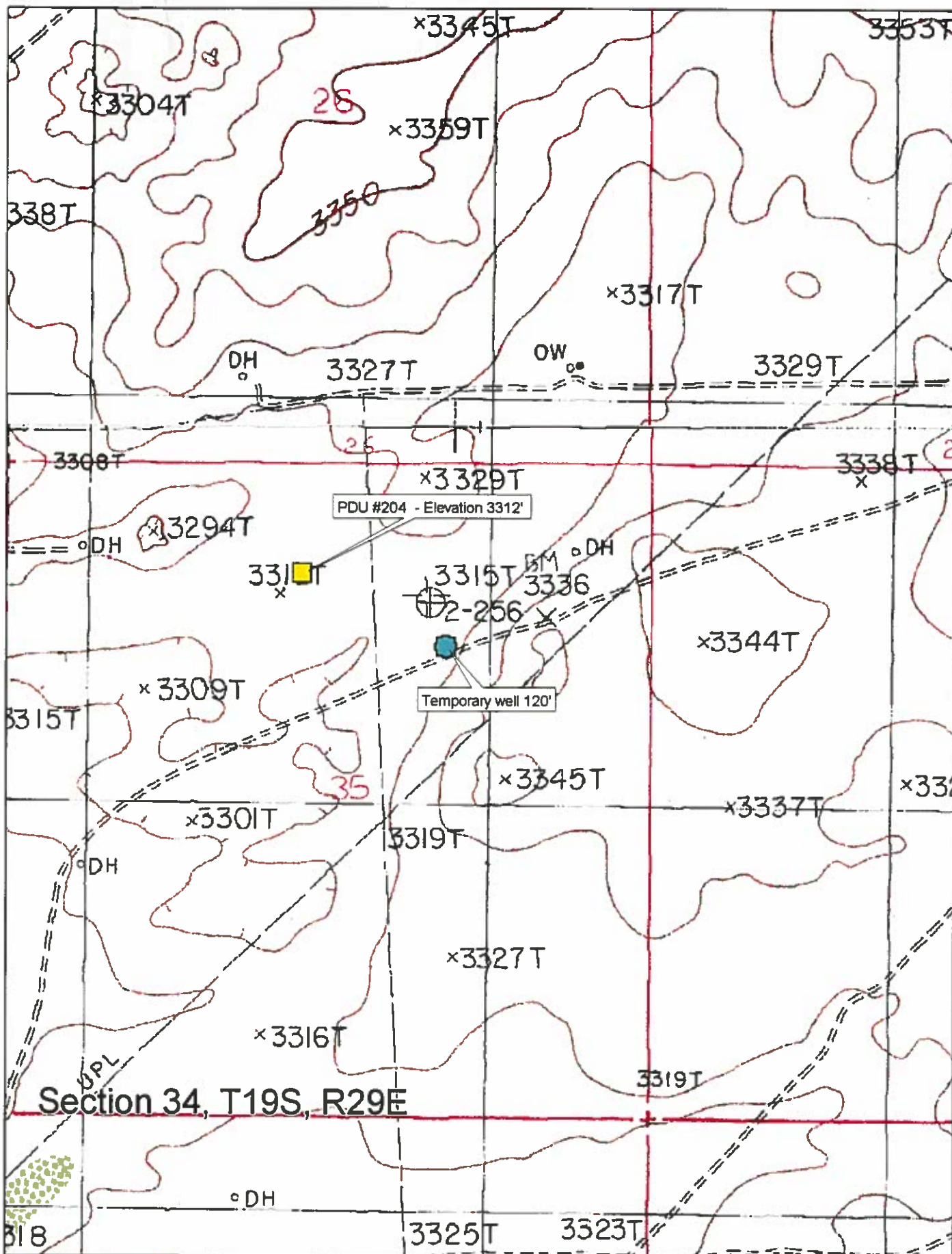
Ike Tavarez
Senior Project Manager

cc: Zach Luikens – SM Energy

Figures



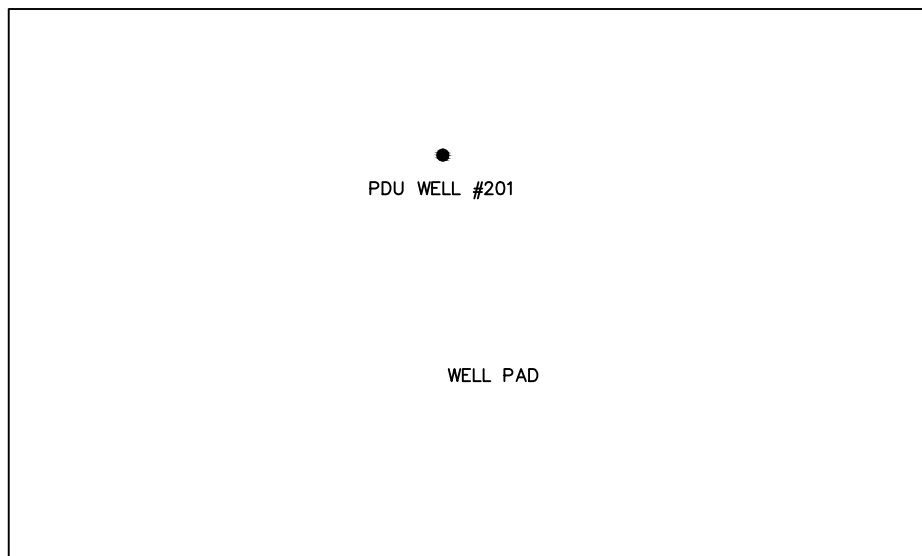
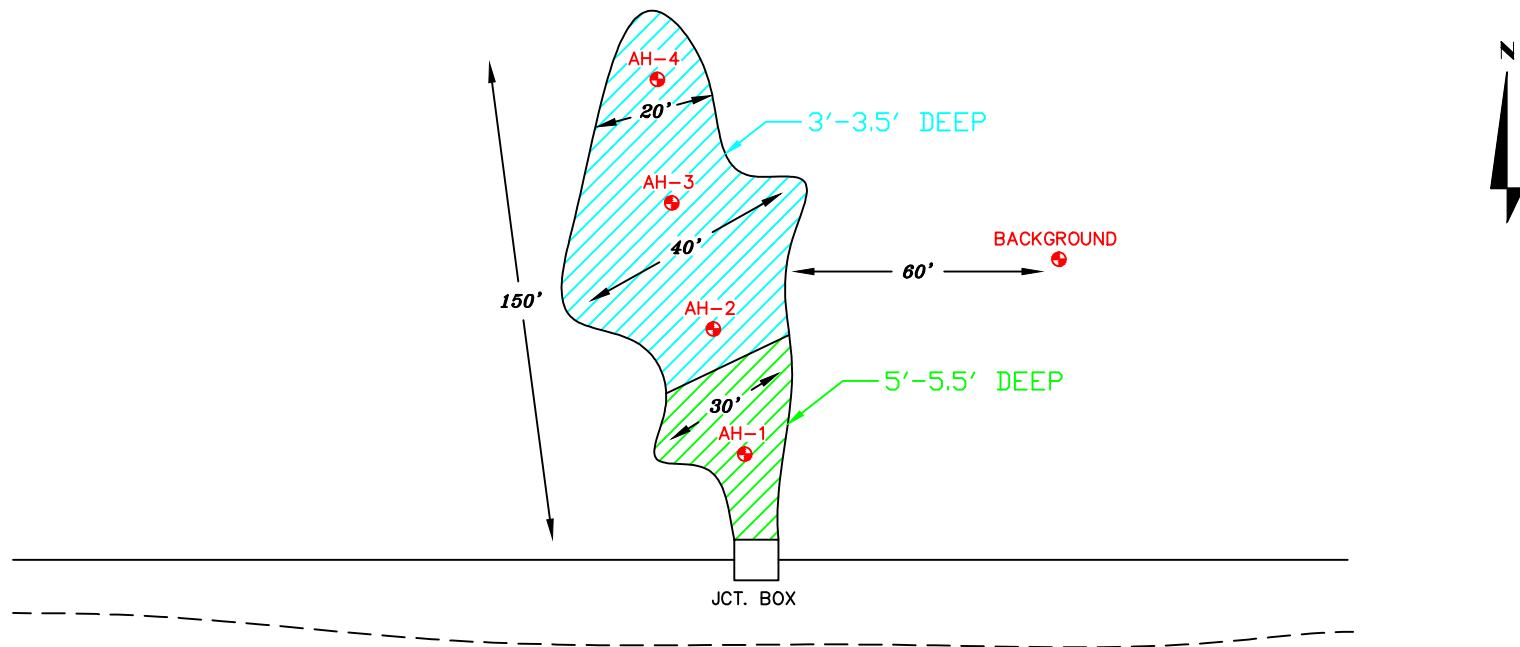
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Scale 1 : 12,500
1" = 1070 ft





SPILL AREA
 AUGER HOLE

NOT TO SCALE

DATE:
 5/8/09
 DWN. BY:
 JJ
 FILE:
 H:\ST. MARY\6400187

FIGURE NO. 4
EDDY COUNTY, NEW MEXICO
ST. MARY LAND & EXPLORATION COMPANY
PDU #204 FLOWLINE SPILL
TETRA TECH, INC. MIDLAND, TEXAS

Tables

Table 1
St. Mary Land & Exploration
PDU #204
Eddy County, New Mexico

Sample ID	Date Sampled	Sample Depth (ft)	Excavation 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	4/28/2009	0-1	0.5		X	<50.0	1.81	1.81	-	-	-	-	5,440
	"	1-1.5			X	-	-	-	-	-	-	-	5,920
	"	2-2.5			X	-	-	-	-	-	-	-	3,340
	"	3-3.5			X	-	-	-	-	-	-	-	3,640
	"	4-4.5			X	-	-	-	-	-	-	-	978
	"	5-5.5			X	-	-	-	-	-	-	-	983
	"	6-6.5		X		-	-	-	-	-	-	-	666
	"	6.5-7.0		X		-	-	-	-	-	-	-	625
AH-2	4/28/2009	0-1	0.5		X	<50.0	4.57	4.57	<0.0100	<0.0100	<0.0100	<0.0100	5,780
	"	1-1.5			X	-	-	-	-	-	-	-	6,940
	"	2-2.5			X	-	-	-	-	-	-	-	3,360
	"	3-3.5			X	-	-	-	-	-	-	-	3,730
	"	4-4.5		X		-	-	-	-	-	-	-	358
	"	5-5.5		X		-	-	-	-	-	-	-	633
AH-3	4/28/2009	0-1	0.5		X	<50.0	6.30	6.30	<0.0100	<0.0100	<0.0100	<0.0100	5,340
	"	1-1.5			X	-	-	-	-	-	-	-	5,650
	"	2-2.5			X	-	-	-	-	-	-	-	4,260
	"	3-3.5			X	-	-	-	-	-	-	-	2,180
	"	4-4.5		X		-	-	-	-	-	-	-	702
	"	5-5.5		X		-	-	-	-	-	-	-	<200
AH-4	4/28/2009	0-1	0.5		X	<50.0	4.21	4.21	-	-	-	-	3,510
	"	1-1.5			X	-	-	-	-	-	-	-	3,940
	"	2-2.5			X	-	-	-	-	-	-	-	2,790
	"	3-3.5			X	-	-	-	-	-	-	-	2,120
	"	4-4.5		X		-	-	-	-	-	-	-	904
	"	5-5.5		X		-	-	-	-	-	-	-	204
Background	4/28/2009	2		X		-	-	-	-	-	-	-	<200
	"	4		X		-	-	-	-	-	-	-	389

(-) Not Analyzed



Excavation Depths

Appendix A

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

State of New Mexico
Energy Minerals and Natural Resources

APR 23 2009

Form C-141
Revised October 10, 2003

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

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

30-015-26143

Release Notification and Corrective Action

nkmu 1109436766

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company St. Mary Land & Exploration Co. 154923	Contact Donna Huddleston
Address 3300 N. A Street, Bldg. 7, Ste. 200 Midland, TX	Telephone No. (432)688-1789
Facility Name Parkway Delaware Unit #204	Facility Type Injection

Surface Owner BLM	Mineral Owner BLM	Lease No.
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LOCATION OF RELEASE

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

Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 70 bbls	Volume Recovered 16 bbls
Source of Release 2.5" flange Balon trunk line valve	Date and Hour of Occurrence 4/20/09	Date and Hour of Discovery 4/20/09
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher W/OCD & Jim Amos W/ BLM	
By Whom? Bill Hearne	Date and Hour 04/20/09 1:40PM	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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 (due to internal washout) @ junction box east of PDU 201 (UL:C, Sec. 35, T19S, R29E). Replacement valves have been ordered. Est. 70 bbls produced wtr spilled w/16 bbls PU from ground.

Describe Area Affected and Cleanup Action Taken.*

East of PDU 201. Spill Area: 40' x 165' = 6,600 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 Signed By: Mike Bratcher	
Title: Production Tech	Approval Date: 4/4/11	Expiration Date:
E-mail Address: dhuddleston@stmaryland.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 04/21/2009 Phone: (432)688-1789	REMEDATION per OCD Rules and Guidelines. SUBMIT REMEDIATION PROPOSAL BY:	

5/4/11

2 Rp. 691

* 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 SM Energy	Contact Zachary Luikens
Address 6301 Holiday Hill Rd, Bldg 1 Midland, TX 79707	Telephone No. (432) 688-3138
Facility Name PDU 204	Facility Type Injection Well

Surface Owner: BLM	Mineral Owner	API No. 30-015-26143
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LOCATION OF RELEASE

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

Latitude N 32.62182° Longitude W 104.04618°

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release 70 bbls	Volume Recovered 16 bbls
Source of Release 2.5" flange Balon trunk line valve	Date and Hour of Occurrence 04/20/09	Date and Hour of Discovery 04/20/09
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher – OCD & Jim Amos - BLM	
By Whom? Bill Hearne	Date and Hour 04/20/09 1:40 pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A


Describe Cause of Problem and Remedial Action Taken.*

2.5" flanged Balon trunk line valve failed due to internal washout. The valve was replaced and all standing fluid was recovered.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected site and collected samples to define spills extent. Soil that exceeded RRAL was removed and hauled away for proper disposal. Site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD for review.

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

Signature: 		<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Ike Tavarez		Approved by District Supervisor:	
Title: Project Manager		Approval Date:	Expiration Date:
E-mail Address: Ike.Tavarez@TetraTech.com		Conditions of Approval:	
Date: 8/19/16 Phone: (432) 682-4559		Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
SM Energy - PDU #204

18 South			28 East		
6	5	4	3	2	1
		108		55	
7	8	81	9	10	11
49	69				12
18	17	16	15	80	14
					13
19	20	21	22	23	24
		226			
30	137	29	28	27	26
					25
31	32	33	34	35	36
				65	

18 South			29 East		
6	5	4	3	2	1
7	8	9	10	95	11
					12
18	17	16	15	14	13
19	20	21	22	23	24
					158
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	44
					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	246	10	11
		265			12
18	17	16	15	14	13
91					
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
					75

19 South			29 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
					123
19	20	21	22	23	24
	62.9				101
30	29	28	27	26	25
31	32	33	34	62'	35
				121	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	29	28	27	26	25
90					
31	32	33	34	35	36
115					

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	27	26	25
		30	35		
31	32	33	25	34	35
115		29			19

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

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

- 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
- 121 Abandoned Waterwell (recently measured)



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00626 POD1	CP	ED		2	3	1	03	19S	29E	587360	3617575*	286	247	39
CP 00626 POD2	CP	ED		3	2	1	03	19S	29E	587559	3617779*	240	195	45
CP 00646		ED		1	1	4	07	19S	29E	583155	3615551	199	150	49
CP 00681		ED		1	1	3	34	19S	29E	587230	3609127*			
CP 00703		ED			4	1	36	19S	29E	590945	3609441	225	115	110
CP 00739		ED		3	4	4	35	19S	29E	590068	3608622	200	110	90
CP 00741		ED		1	3	2	34	19S	29E	588030	3609533*	230	60	170
CP 00820		LE			2	4	13	19S	29E	591713	3613870*	120		
CP 00821		LE			4	4	25	19S	29E	591743	3610248*	120		

Average Depth to Water: **146 feet**

Minimum Depth: **60 feet**

Maximum Depth: **247 feet**

Record Count: 9

PLSS Search:

Township: 19S

Range: 29E

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

Appendix C

Report Date: May 4, 2009
114-6400187

Work Order: 9042909
St. Mary/PDU #204 Inj.

Page Number: 1 of 5
Eddy Co., NM

Summary Report

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

Report Date: May 4, 2009

Work Order: 9042909



Project Location: Eddy Co., NM
Project Name: St. Mary/PDU #204 Inj.
Project Number: 114-6400187

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
194292	AH-1 0'-1' (1' BEB)	soil	2009-04-28	00:00	2009-04-29
194293	AH-1 1'-1.5' (1' BEB)	soil	2009-04-28	00:00	2009-04-29
194294	AH-1 2'-2.5' (1' BEB)	soil	2009-04-28	00:00	2009-04-29
194295	AH-1 3'-3.5' (1' BEB)	soil	2009-04-28	00:00	2009-04-29
194296	AH-1 4'-4.5' (1' BEB)	soil	2009-04-28	00:00	2009-04-29
194297	AH-1 5'-5.5' (1' BEB)	soil	2009-04-28	00:00	2009-04-29
194298	AH-1 6'-6.5' (1' BEB)	soil	2009-04-28	00:00	2009-04-29
194299	AH-1 6.5'-7' (1' BEB)	soil	2009-04-28	00:00	2009-04-29
194300	AH-2 0'-1' (1' BEB)	soil	2009-04-28	00:00	2009-04-29
194301	AH-2 1'-1.5' (1' BEB)	soil	2009-04-28	00:00	2009-04-29
194302	AH-2 2'-2.5' (1' BEB)	soil	2009-04-28	00:00	2009-04-29
194303	AH-2 3'-3.5' (1' BEB)	soil	2009-04-28	00:00	2009-04-29
194304	AH-2 4'-4.5' (1' BEB)	soil	2009-04-28	00:00	2009-04-29
194305	AH-2 5'-5.5' (1' BEB)	soil	2009-04-28	00:00	2009-04-29
194306	AH-3 0'-1' (0.5' BEB)	soil	2009-04-28	00:00	2009-04-29
194307	AH-3 1'-1.5' (0.5' BEB)	soil	2009-04-28	00:00	2009-04-29
194308	AH-3 2'-2.5' (0.5' BEB)	soil	2009-04-28	00:00	2009-04-29
194309	AH-3 3'-3.5' (0.5' BEB)	soil	2009-04-28	00:00	2009-04-29
194310	AH-3 4'-4.5' (0.5' BEB)	soil	2009-04-28	00:00	2009-04-29
194311	AH-3 5'-5.5' (0.5' BEB)	soil	2009-04-28	00:00	2009-04-29
194312	AH-4 0'-1' (0.5' BEB)	soil	2009-04-28	00:00	2009-04-29
194313	AH-4 1'-1.5' (0.5' BEB)	soil	2009-04-28	00:00	2009-04-29
194314	AH-4 2'-2.5' (0.5' BEB)	soil	2009-04-28	00:00	2009-04-29
194315	AH-4 3'-3.5' (0.5' BEB)	soil	2009-04-28	00:00	2009-04-29
194316	AH-4 4'-4.5' (0.5' BEB)	soil	2009-04-28	00:00	2009-04-29
194317	AH-4 5'-5.5' (0.5' BEB)	soil	2009-04-28	00:00	2009-04-29
194318	Background 2'	soil	2009-04-28	00:00	2009-04-29
194319	Background 4'	soil	2009-04-28	00:00	2009-04-29

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Sample - Field Code	BTEX				TPH DRO	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
194292 - AH-1 0-1' (1' BEB)					<50.0	1.81
194300 - AH-2 0-1' (1' BEB)	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	4.57
194306 - AH-3 0-1' (0.5' BEB)	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	6.30
194312 - AH-4 0-1' (0.5' BEB)					<50.0	4.21

Sample: 194292 - AH-1 0-1' (1' BEB)

Param	Flag	Result	Units	RL
Chloride		5440	mg/Kg	4.00

Sample: 194293 - AH-1 1'-1.5' (1' BEB)

Param	Flag	Result	Units	RL
Chloride		5920	mg/Kg	4.00

Sample: 194294 - AH-1 2'-2.5' (1' BEB)

Param	Flag	Result	Units	RL
Chloride		3340	mg/Kg	4.00

Sample: 194295 - AH-1 3'-3.5' (1' BEB)

Param	Flag	Result	Units	RL
Chloride		3640	mg/Kg	4.00

Sample: 194296 - AH-1 4'-4.5' (1' BEB)

Param	Flag	Result	Units	RL
Chloride		978	mg/Kg	4.00

Sample: 194297 - AH-1 5'-5.5' (1' BEB)

Param	Flag	Result	Units	RL
Chloride		983	mg/Kg	4.00

Sample: 194298 - AH-1 6'-6.5' (1' BEB)

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Eddy Co., NM

Param	Flag	Result	Units	RL
Chloride		666	mg/Kg	4.00

Sample: 194299 - AH-1 6.5'-7' (1' BEB)

Param	Flag	Result	Units	RL
Chloride		625	mg/Kg	4.00

Sample: 194300 - AH-2 0-1' (1' BEB)

Param	Flag	Result	Units	RL
Chloride		5780	mg/Kg	4.00

Sample: 194301 - AH-2 1'-1.5' (1' BEB)

Param	Flag	Result	Units	RL
Chloride		6940	mg/Kg	4.00

Sample: 194302 - AH-2 2'-2.5' (1' BEB)

Param	Flag	Result	Units	RL
Chloride		3360	mg/Kg	4.00

Sample: 194303 - AH-2 3'-3.5' (1' BEB)

Param	Flag	Result	Units	RL
Chloride		3730	mg/Kg	4.00

Sample: 194304 - AH-2 4'-4.5' (1' BEB)

Param	Flag	Result	Units	RL
Chloride		358	mg/Kg	4.00

Sample: 194305 - AH-2 5'-5.5' (1' BEB)

Param	Flag	Result	Units	RL
Chloride		633	mg/Kg	4.00

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114-6400187

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Eddy Co., NM

Sample: 194306 - AH-3 0-1' (0.5' BEB)

Param	Flag	Result	Units	RL
Chloride		5340	mg/Kg	4.00

Sample: 194307 - AH-3 1'-1.5' (0.5' BEB)

Param	Flag	Result	Units	RL
Chloride		5650	mg/Kg	4.00

Sample: 194308 - AH-3 2'-2.5' (0.5' BEB)

Param	Flag	Result	Units	RL
Chloride		4260	mg/Kg	4.00

Sample: 194309 - AH-3 3'-3.5' (0.5' BEB)

Param	Flag	Result	Units	RL
Chloride		2180	mg/Kg	4.00

Sample: 194310 - AH-3 4'-4.5' (0.5' BEB)

Param	Flag	Result	Units	RL
Chloride		702	mg/Kg	4.00

Sample: 194311 - AH-3 5'-5.5' (0.5' BEB)

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

Sample: 194312 - AH-4 0-1' (0.5' BEB)

Param	Flag	Result	Units	RL
Chloride		3510	mg/Kg	4.00

Sample: 194313 - AH-4 1'-1.5' (0.5' BEB)

Param	Flag	Result	Units	RL
Chloride		3940	mg/Kg	4.00

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Eddy Co., NM

Sample: 194314 - AH-4 2'-2.5' (0.5' BEB)

Param	Flag	Result	Units	RL
Chloride		2790	mg/Kg	4.00

Sample: 194315 - AH-4 3'-3.5' (0.5' BEB)

Param	Flag	Result	Units	RL
Chloride		2120	mg/Kg	4.00

Sample: 194316 - AH-4 4'-4.5' (0.5' BEB)

Param	Flag	Result	Units	RL
Chloride		904	mg/Kg	4.00

Sample: 194317 - AH-4 5'-5.5' (0.5' BEB)

Param	Flag	Result	Units	RL
Chloride		204	mg/Kg	4.00

Sample: 194318 - Background 2'

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

Sample: 194319 - Background 4'

Param	Flag	Result	Units	RL
Chloride		389	mg/Kg	4.00

9042909

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ANALYSIS REQUEST

(Circle or Specify Method No.)



TETRA TECH

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

CLIENT NAME:		PROJECT NAME:		SITE MANAGER:		PRESERVATIVE METHOD	
PROJECT NO.:		DATE		TIME		NUMBER OF CONTAINERS	
LAB. I.D. NUMBER		DATE		TIME		HCL	
LAB. I.D. NUMBER		DATE		TIME		HNO3	
LAB. I.D. NUMBER		DATE		TIME		ICE	
LAB. I.D. NUMBER		DATE		TIME		NONE	
104292	4/28	5	Y	0-1	(1' BEB)	1	X
293				1-1.5'	(1' BEB)		
294				2'-2.5'	(1' BEB)		
295				3'-3.5'	(1' BEB)		
296				4'-4.5'	(1' BEB)		
297				5'-5.5'	(1' BEB)		
298				6'-6.5'	(1' BEB)		
299				6.5' - 7.	(1' BEB)		
300				0-1'	(1' BEB)		
301				1'-1.5'	(1' BEB)		
RELINQUISHED BY: (Signature)		Date: 04/28/09		RECEIVED BY: (Signature)		Date: 10/10	
RELINQUISHED BY: (Signature)		Date: 10/10		RECEIVED BY: (Signature)		Date: 10/10	
RELINQUISHED BY: (Signature)		Date: 10/10		RECEIVED BY: (Signature)		Date: 10/10	
RELINQUISHED BY: (Signature)		Date: 10/10		RECEIVED BY: (Signature)		Date: 10/10	
RECEIVING LABORATORY:		ADDRESS: 12410		CITY: 12410		STATE: 12410	
CONTACT: 12410		PHONE: 12410		FAX: 12410		E-MAIL: 12410	
SAMPLE CONDITION WHEN RECEIVED		12.410		12.410		12.410	
REMARKS:		12.410		12.410		12.410	

Please fill out all copies - Laboratory retains Yellow copy - Return Original 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: <i>St Marys</i>		SITE MANAGER: <i>Ilke Tavaroz</i>	
PROJECT NO.: <i>114-6406187</i>		PROJECT NAME: <i>St Marys / IDU #204 Inj</i>	
LAB I.D. NUMBER	DATE	TIME	MATRIX
194312	4/28		6
313			
314			
315			
316			
317			
318			
319			
COMPARISON		GRAB	
AH-4 0-1' (0.5' BEB)		X	
AH-4 1-1.5' (0.5' BEB)			
AH-4 2-2.5' (0.5' BEB)			
AH-4 3-3.5' (0.5' BEB)			
AH-4 4-4.5' (0.5' BEB)			
AH-4 5-5.5' (0.5' BEB)			
Background 2'			
Background 4'			
NUMBER OF CONTAINERS		PRESERVATIVE METHOD	
HCL		HCL	
HNO3		HNO3	
ICE		ICE	
NONE		NONE	
BTEX 8021B		TPH 8015 MOD TX1005 (Ext. to C95)	
PAH 8270		RCRA Metals Ag As Ba Cd Cr Pb Hg Se	
TCLP Metals Ag As Ba Cd Cr Pb Hg Se		TCLP Volatiles	
TCLP Semi Volatiles		RCI	
GC/MS Vol. 8240/8260/624		GC/MS Semi Vol. 8270/625	
PCBs 8080/608		Pest. 808/608	
Chloride		Gamma Spec.	
Alpha Beta (Air)		PLM (Asbestos)	
Major Anions/Cations, pH, TDS			

SAMPLED BY: (Print & Initial) <i>ST/124</i>	DATE: <i>4/28/09</i>
SAMPLE SHIPPED BY: (Circle) FEDEX HAND DELIVERED BUS UPS	AIRBILL #: OTHER:
TETRA TECH CONTACT PERSON: <i>Ilke Tavaroz</i>	
RESULTS BY:	
RUSH CHARGES AUTHORIZED:	YES NO

RELINQUISHED BY: (Signature) <i>[Signature]</i>	DATE: <i>04/28/09</i>	RECEIVED BY: (Signature) <i>[Signature]</i>	DATE: <i>10/10</i>
RELINQUISHED BY: (Signature)	DATE:	RECEIVED BY: (Signature)	DATE:
RELINQUISHED BY: (Signature)	DATE:	RECEIVED BY: (Signature)	DATE:
RECEIVING LABORATORY:	STATE: <i>TX</i>	ZIP:	PHONE:
ADDRESS: <i>Midland</i>	CITY:	STATE:	ZIP:
CONTACT:	PHONE:	DATE:	TIME:
REMARKS: <i>12.4°C intact</i>			

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

9042909