3R - 428

MAR GWMR

07/22/2010

3R428

TETRA TECH, INC.

6121 Indian School Rd. NE Suite 200
Albuquerque, NM 87110
(505) 237-8440

July 22, 2010

Mr. Glen von Gonten
State of New Mexico Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

RE: Sategna No. 2E, Quarterly Groundwater Monitoring Report – March 2010 Sampling Event

Dear Mr. von Gonten:

Enclosed please find a copy of the above-referenced document created by Tetra Tech, Inc. for this Bloomfield area ConocoPhillips site.

Please do not hesitate to contact me at (505) 237-8440 if you have any questions or require additional information.

Sincerely,

Kelly E. Blanchard

Kelly E. Blanchard
Project Manager

Cc: Brandon Powell, NMOCD

Enclosures (1)

2010 QUARTERLY GROUNDWATER MONITORING REPORT MARCH 2010

CONOCOPHILLIPS COMPANY SATEGNA No. 2E PRODUCTION FACILITY SAN JUAN COUNTY, NEW MEXICO

OCD No. - TBD

API # 30-045-24060

Prepared for:

ConocoPhillips

Risk Management and Remediation
420 South Keeler Avenue
Bartlesville, OK 74004

Prepared by:

TETRA TECH, INC.

6121 Indian School Rd. NE, Suite 200
Albuquerque, NM 87110
Tetra Tech Project No. 1158690090

July 2010

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

QUARTERLY GROUNDWATER MONITORING REPORT SATEGNA NO. 2E, SAN JUAN COUNTY, NEW MEXICO MARCH 2010

1.0 INTRODUCTION

This report presents the results of the March 2010 quarterly groundwater monitoring event conducted by Tetra Tech, Inc. (Tetra Tech) at the ConocoPhillips Company (ConocoPhillips) Sategna No. 2E gas well production facility (Site) located on private land within Section 21, Township 29N, Range 11W of Bloomfield, New Mexico (**Figure 1**). A Site detail map is included as **Figure 2**.

1.1 Site Background

The historical timeline for the privately-owned Site is summarized below, and is presented in more detail in **Table 1**.

On November 24, 2008, approximately 8 barrels of condensate were found to have been released from an on-Site, aboveground storage tank (AST) as a result of corrosion in the tank. New Mexico Oil Conservation Division (OCD) Form C-141 was filled out by ConocoPhillips staff and notice was given to OCD via electronic mail. Form C-141 stated that the well was shut down and the production tank was emptied. The spilled fluids remained in the berm and none of the condensate was recovered. On November 25, 2008, Envirotech Inc. of Farmington, New Mexico (Envirotech) obtained grab soil samples from just outside the affected area for analysis of organic vapors. Results of this analysis were below OCD recommended action levels. Envirotech also hand-augered 2 soil borings to groundwater at a depth of approximately 8 feet below ground surface (bgs) and submitted two groundwater samples to an analytical laboratory for benzene, toluene, ethylbenzene and xylenes (BTEX) analysis. Results of these analyses revealed BTEX in concentrations below OCD action levels for these constituents.

On December 4, 2008, Envirotech returned to the Site and obtained grab and composite soil samples from an excavation measuring approximately 30 feet by 18 feet by 5 feet deep (**Figure 2**). Heated headspace organic vapor results ranged from 6.5 parts per million (ppm) in a grab soil sample obtained from the bottom of the excavation to 1,400 ppm from a composite soil sample taken from the former location of the AST; the OCD action level for organic vapors is 100 ppm. Total petroleum hydrocarbons (TPH), BTEX, and chloride samples were obtained for soils analysis, and results were all below OCD action levels for BTEX. Results for TPH analysis obtained through Environmental Protection Agency (EPA) method 8015B for the composite soil sample taken at the site of the AST revealed results of 205 mg/kg; the OCD action level is 100 mg/kg. Results for TPH analysis obtained through EPA method 418.1 for the composite soil sample obtained at the location of the below ground tank revealed results of 521 mg/kg. The below ground tank was located within the berm and adjacent to the AST (**Figure 2**).

Envirotech noted seepage of groundwater into the excavation on December 4, 2008, and returned to the Site on December 5, 2008 to collect groundwater samples from the excavation for BTEX analysis. The OCD groundwater action levels for benzene, toluene, and total xylenes are 10 ug/l, 750 ug/l, and 620 ug/l, respectively. Benzene was found at a concentration of 327 ug/l, toluene was detected at 4,300 ug/l, and total xylenes were found at a concentration of 8,480 ug/L. During the week of December 8, 2008, a vacuum truck was utilized to pump the groundwater seepage from the surface of the excavated area. Once removed, further excavation took place and groundwater slowly seeped into the excavation; this process was repeated a total of 4 times. The first time water was pumped from the surface of the excavation, a hydrocarbon odor and free-phase, light non-aqueous phase liquid (LNAPL) were present. By the fourth and last event, neither the hydrocarbon odor nor free-phase LNAPL was present in the groundwater seepage. Each pumping event removed approximately 30-60 barrels of liquid from the Site.

In January 2009, Tetra Tech conducted a site visit to determine proposed groundwater monitor well locations. Groundwater monitor wells were installed at the Site on March 4, 2009 and March 5, 2009. Tetra Tech initiated quarterly groundwater monitoring events with a baseline in April 2009.

2.0 MONITORING SUMMARY AND SAMPLING METHODOLOGY AND RESULTS

2.1 Monitoring Summary

Prior to collection of groundwater samples from Monitor Wells MW-1, MW-2 and MW-3, depth to groundwater was measured in each well using a dual interface probe. Results are displayed in **Table 2**.

The casings for Monitor Wells MW-1, MW-2, and MW-3 were surveyed in March 2009 using an arbitrary reference-elevation of 100 feet. The data obtained from the Site survey and from the March 2010 sampling event was used to create a groundwater elevation map for the Site (**Figure 3**). Using these data, it was determined that the groundwater flow direction at the Site is to the southwest. A generalized geologic cross section for the Site is presented as **Figure 4**.

2.2 Groundwater Sampling Methodology

During the groundwater monitoring event, Site monitor wells were purged of at least 3 casing volumes of groundwater using a 1.5-inch diameter, polyethylene disposable bailer. While bailing each well, groundwater parameters were collected using a YSI 556 multi-parameter sonde and results were recorded on a Tetra Tech Water Sampling Field Form (**Appendix A**). Collected groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain-of-custody documentation to Southern Petroleum Laboratory (SPL) of Houston, Texas.

Each groundwater sample collected was analyzed for dissolved manganese by Environmental Protection Agency (EPA) Method 6010B; BTEX by EPA Method 8260B; and TDS by EPA Method 2540C. Results of all analyses are displayed in **Table 3**.

2.3 Groundwater Sampling Analytical Results

The New Mexico Water Quality Control Commission (NMWQCC) mandates that groundwater quality in New Mexico be protected, and has issued groundwater quality standards in Title 20, Chapter 6, Part 2, Section 3103 of the New Mexico Administrative Code (20.6.2.3103 NMAC). Groundwater quality standards have been set for the protection of human health, domestic water supply, and irrigation use. Exceedences of NMWQCC groundwater quality standards in Site monitor wells are discussed below.

- **Total Dissolved Solids**

  The NMWQCC domestic water supply groundwater quality standard for TDS is 1,000 mg/L; groundwater collected from monitor wells MW-1, MW-2 and MW-3 was found to contain TDS concentrations of 2,470 mg/L, 2,620 mg/L, and 3,090 mg/L, respectively.

- **Manganese**

  The NMWQCC domestic water supply groundwater quality standard for manganese is 0.2 mg/L; groundwater collected from monitor well MW-3 was found to contain a manganese concentration of 1.71 mg/L.

- **Sulfate**

  The NMWQCC domestic water supply groundwater quality standard for sulfate is 600 mg/L; groundwater collected from Monitor Wells MW-1, MW-2, and MW-3 were found to contain sulfate in concentrations of 1,320; 1,530; and 1,660; respectively.

The corresponding laboratory analysis report for the March 2010 groundwater sampling event is included in **Appendix B**. A map showing TDS, manganese, and sulfate concentrations in Site wells during the March 2010 groundwater sampling event is included as **Figure 4**.

3.0 CONCLUSIONS AND RECOMMENDATIONS

The next quarterly groundwater monitoring event at the Site is scheduled for June 2010. Concentrations of dissolved manganese, sulfate and TDS have been detected above NMWQCC groundwater quality standards in groundwater monitor wells at the Site. As a result, Tetra Tech recommends that these constituents continue to be monitored as part of the quarterly monitoring program at the Site. BTEX was not found above laboratory detection limits in any Site monitor well, and Tetra Tech will continue to monitor for BTEX parameters in order to move toward Site closure.

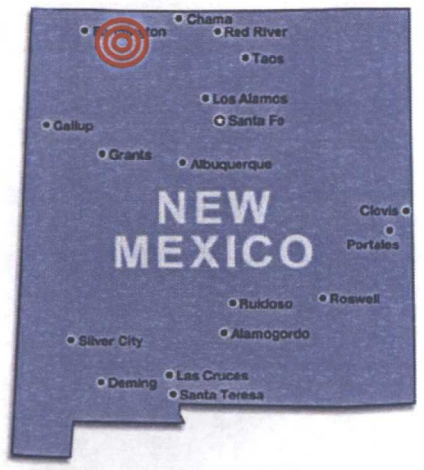
Please contact Kelly Blanchard at 505-237-8440 or kelly.blanchard@tetratech.com if you have any questions or require additional information.

FIGURES

ConocoPhillips High Resolution Aerial Imagery - 2008

FIGURE 1.

Site Location Map
ConocoPhillips
Company
Sategna No. 2E
Bloomfield, NM



Directions from HWY 64 to ConocoPhillips Company Sategna No. 2E Site Location

ConocoPhillips Company Sategna No. 2E Site Location

N

TETRA TECH, INC.

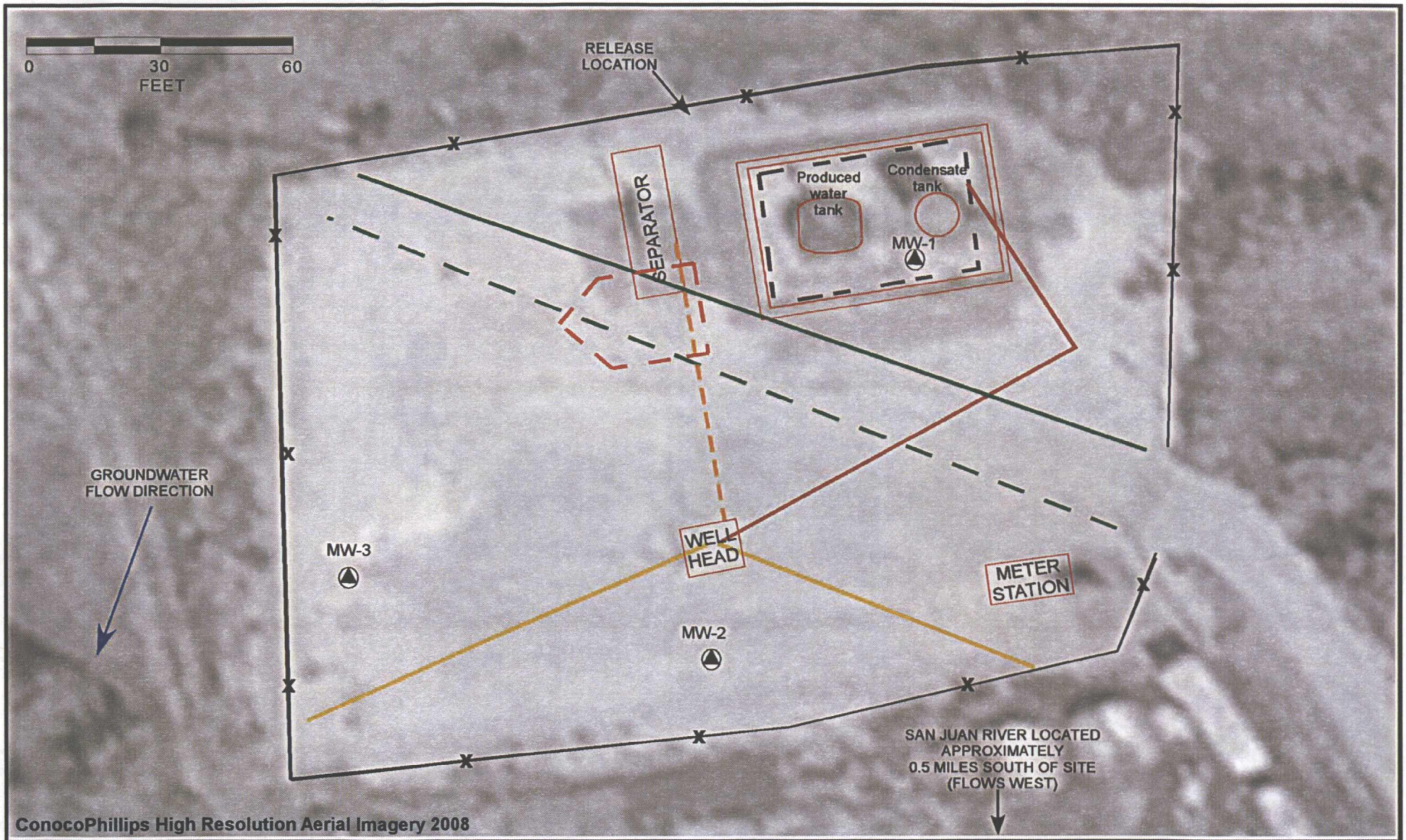


FIGURE 2:
SITE LAYOUT MAP
CONOCOPHILLIPS COMPANY
SATEGNA No. 2E GAS PRODUCTION WELL
Sec 21, T29N, R11W
Bloomfield, New Mexico

LEGEND

- GENERAL AREA OF DECEMBER 2008 EXCAVATION
- BERM AND ASSOCIATED EQUIPMENT
- FENCE LINE
- MONITOR WELL
- ACTIVE SEWER LINE
- ABANDONED SEWER LINE
- SEPARATOR LINE
- GAS LINE
- ELECTRIC LINE
- GENERAL AREA OF MAR/APR 2009 EXCAVATION

N

TETRA TECH, INC.

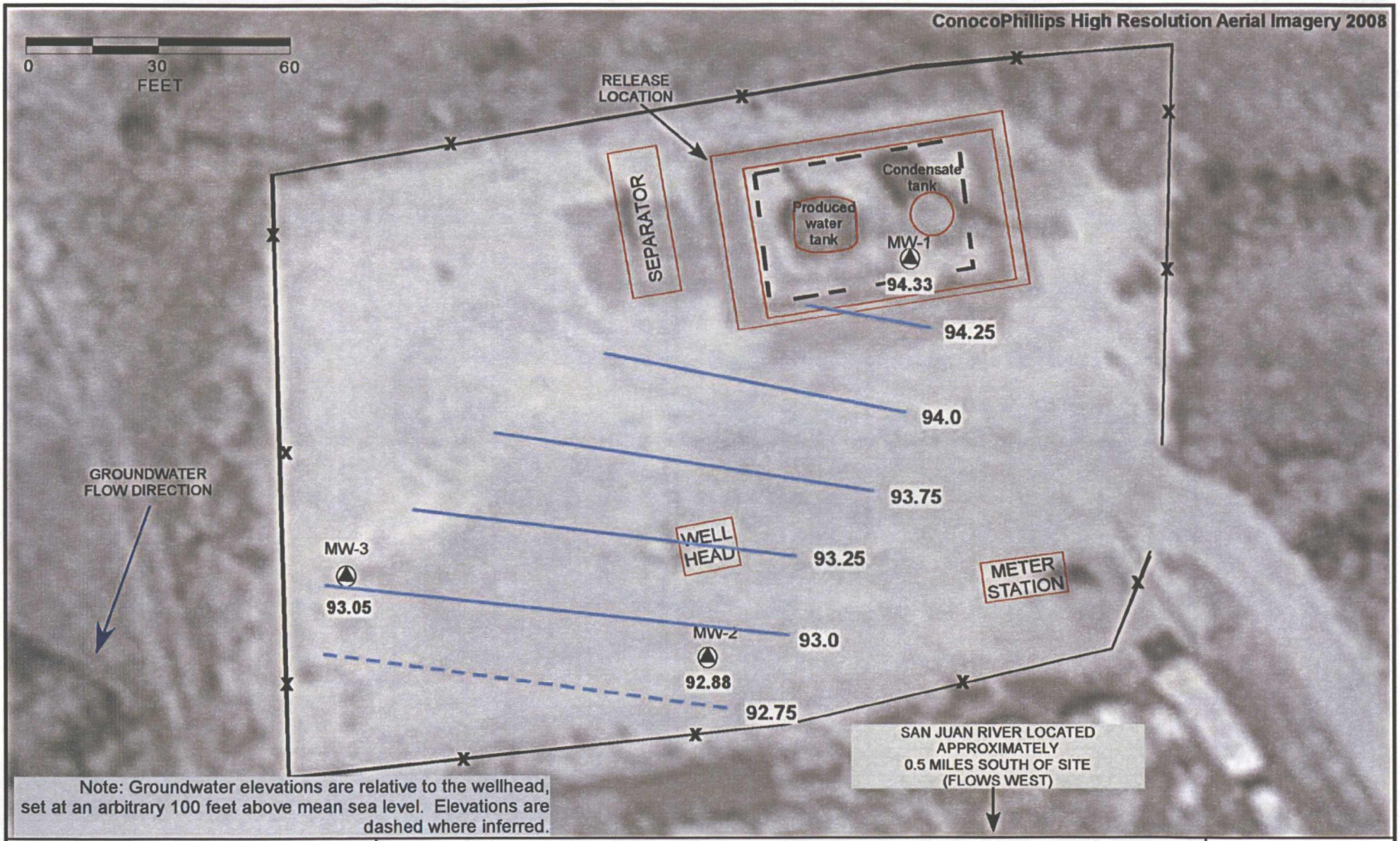


FIGURE 3:
GROUNDWATER ELEVATION MAP
March 2010
CONOCOPHILLIPS COMPANY
SATEGNA No. 2E
GAS PRODUCTION WELL
Sec 21, T29N, R11W
Bloomfield, New Mexico

LEGEND

- BERM AND ASSOCIATED EQUIPMENT
- FENCE LINE
- MONITORING WELL

0 30 60
FEET

N

TETRA TECH, INC.

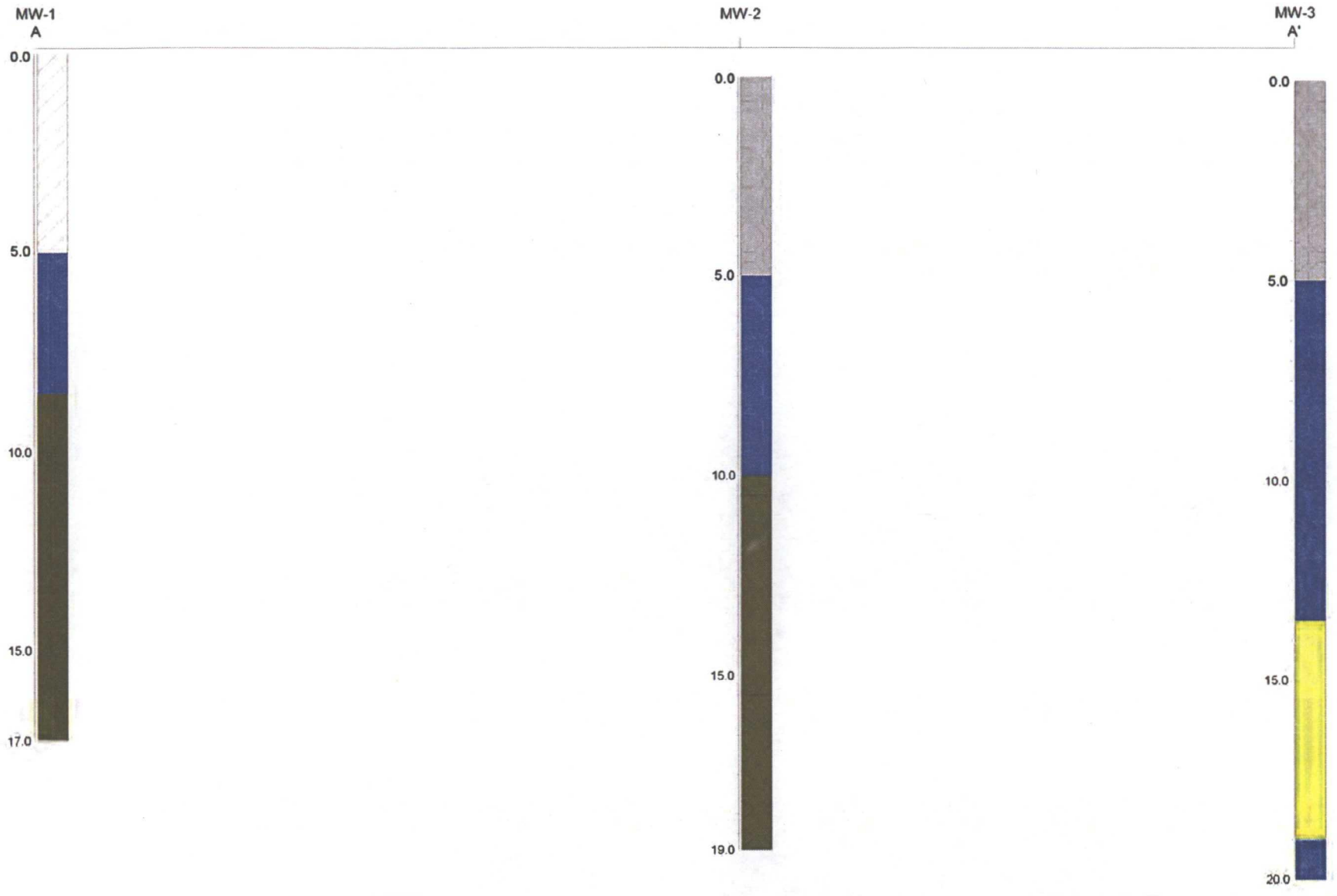


FIGURE 4:
GENERALIZED GEOLOGIC CROSS SECTION
CONOCOPHILLIPS COMPANY
SATEGNA No. 2E GAS PRODUCTION WELL
Sec 21, T29N, R11W
Bloomfield, New Mexico

LEGEND

- Backfill from excavation
- Clay
- Clayey sand with cobbles
- Coarse grained sand
- Well graded sand with clay

TETRA TECH, INC.

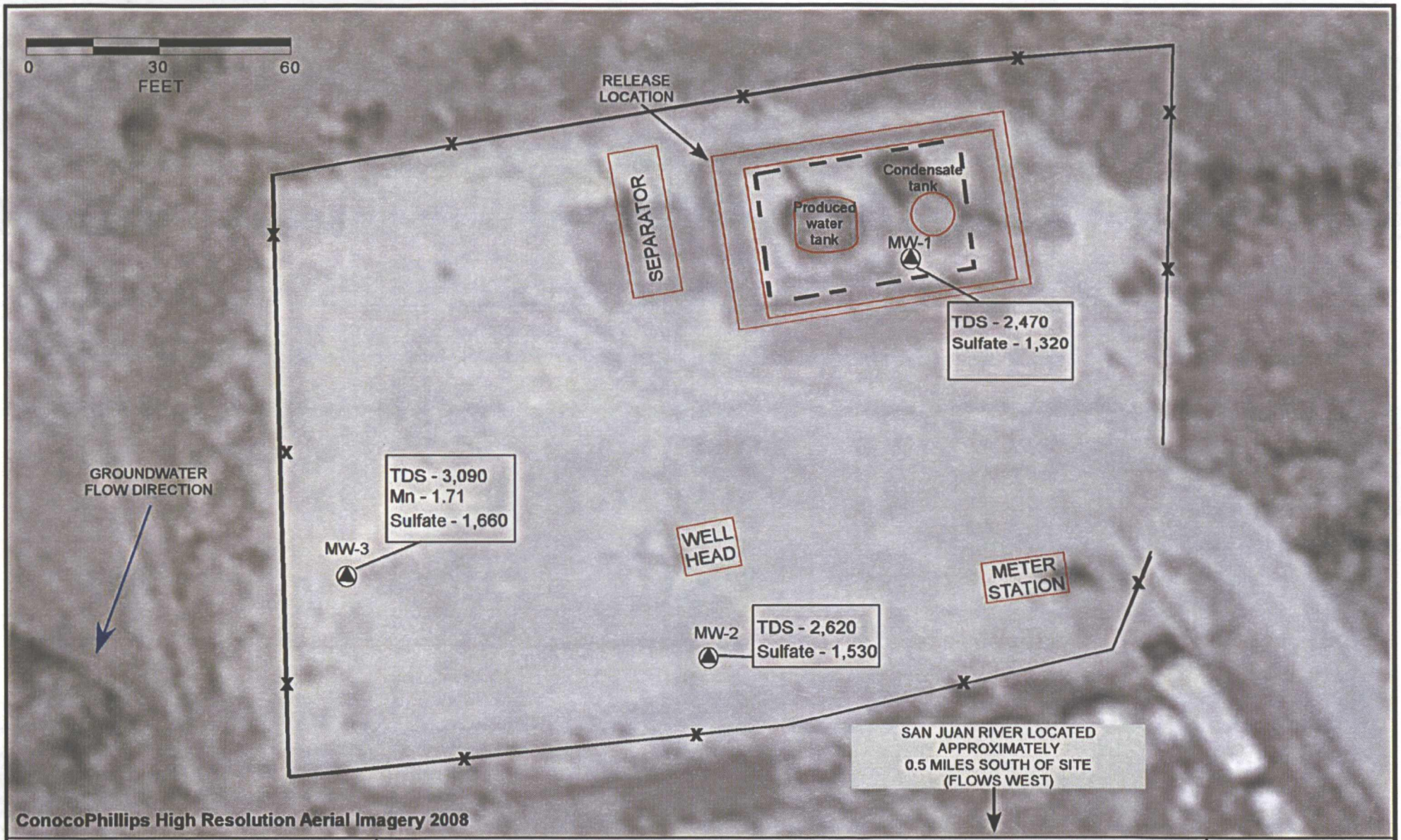


FIGURE 5:
GROUNDWATER QUALITY MAP
March 2010
CONOCOPHILLIPS COMPANY
SATEGNA No. 2E
GAS PRODUCTION WELL
Sec 21, T29N, R11W
Bloomfield, New Mexico

LEGEND

BERM AND ASSOCIATED EQUIPMENT

FENCE LINE

MONITOR WELL

TDS - 1,000
Mn - 0.2
Sulfate - 600

Total Dissolved Solids, Manganese, and Sulfate Concentrations in Site Monitoring Wells.
NMWQCC Groundwater Quality Standards Shown at Left (mg/L).

0 30 60
FEET

N

TETRA TECH, INC.

TABLES

Table 1. Site History Timeline

Date	Activity
November 24, 2008	Approximately eight (8) barrels of condensate were found to have spilled from an on-Site, aboveground storage tank (AST); corrosion was thought to be the cause of the release. Form C-141 was filled out by ConocoPhillips staff and notice was given to Brandon Powell via electronic mail. Form C-141 stated that the well was shut down and the production tank was emptied. The spilled fluids remained in the berm and none of the condensate was recovered.
November 25, 2008	Envirotech Inc. of Farmington, NM (Envirotech) obtained heated headspace soil results from just outside of the affected area; results were 0.2 and 1.1 parts per million (ppm). Depth of soil samples was not noted. Envirotech hand augered two soil borings to groundwater at a depth of approximately 8 feet below ground surface (bgs) and submitted groundwater samples for analysis. Results were below OCD action levels for benzene, toluene, ethylbenzene, and total xylenes (BTEX) in groundwater. Envirotech notes that groundwater levels in the soil borings increased to approximately 5 feet bgs, and groundwater beneath the Site was thought to be under confined aquifer conditions (Kerr, 2009).
December 4, 2008	Envirotech returned to the Site and obtained grab and composite soil samples from an excavation measuring approximately* 30 feet by 18 feet by 5 feet deep (Figure 2). Heated headspace results show values ranging from 6.5 ppm in a grab soil sample obtained from the bottom of the excavation to 1,400 ppm from a composite soil sample taken from the former location of the AST. Total petroleum hydrocarbons (TPH), BTEX, and chloride samples were obtained for soils analysis, and results were all below OCD action levels for BTEX; one soil sample obtained for chlorides showed results of 370 milligrams per kilogram (mg/kg). Results for TPH analysis obtained through Environmental Protection Agency (EPA) method 8015B for the composite soil sample taken at the site of the AST revealed results of 205 mg/kg; the OCD action level is 100 mg/kg. Results for TPH analysis obtained through EPA method 418.1 for the composite soil sample obtained at the location of the below ground tank revealed results of 521 mg/kg. The below ground tank was located within the berm and adjacent to the AST (Figure 2). Results of all other soil analyses at all other sampling locations were below OCD action levels (Appendix A).
December 5, 2008	Envirotech notes seepage of groundwater into the excavation on December 4, 2008, and returns to the Site on December 5, 2008 to collect groundwater samples from the excavation for BTEX analysis. (Kerr, 2009). The OCD groundwater action levels for benzene, toluene, and total xylenes are 10 ug/l, 750 ug/l, and 620 ug/l, respectively. Benzene was found at a concentration of 327 ug/l, toluene was detected at 4,300 ug/l, and total xylenes were found at a concentration of 8,480 ug/L (Appendix A).
Week of December 8, 2008	A vacuum truck was utilized to pump groundwater seepage from the surface of the excavated area. Once removed, further excavation took place and groundwater slowly seeped into the excavation; this process was repeated a total of four (4) times. The first time water was pumped from the surface of the excavation, a hydrocarbon odor and free-phase, light non-aqueous phase liquid (LNAPL) were present. By the fourth and last event, neither the hydrocarbon odor nor free-phase LNAPL was present in the groundwater seepage. Each pumping event removed approximately 30-60 barrels of liquid from the Site (Frost, 2009).
January 20, 2009 & January 30, 2009	Tetra Tech conducted a Site visit to determine proposed groundwater monitoring well locations.
March 4-5, 2009	Tetra Tech installed three groundwater monitor wells at the Site: MW-1, MW-2, and MW-3.
March 2009	Construction and trenching for relocation of well operational equipment and tanks uncovered additional hydrocarbon impacted soils between the well head and separator tank. Work was stopped.
April 2, 2009	Tetra Tech conducted the first quarterly groundwater monitoring event at the Site.

Table 1. Site History Timeline

Date	Activity
April 2, 2009	Envirotech created an exploratory trench between the proposed location of the separator tank and the well head and found an abandoned sewer line associated with hydrocarbon-impacted soils. The trenching was stopped and the excavated soils were stockpiled on site.
April 23 - 24, 2009	Tetra Tech provided oversight for removal of approximately 96 cubic yards of hydrocarbon-impacted soils located west of the tank berm and in the vicinity of the abandoned sewer line.
June 17, 2009	Tetra Tech conducted the second quarterly groundwater monitoring event at the Site.
September 28, 2009	Tetra Tech conducted the third quarterly groundwater monitoring event at the Site.
December 14, 2009	Tetra Tech conducted the fourth quarterly groundwater monitoring event at the Site.
March 31, 2010	Tetra Tech conducted the fith quarterly groundwater monitoring event at the Site.

Table 2 - Groundwater Elevation Data Summary

Well ID	Total Depth (ft bgs)	Screen Interval (ft)	*Elevation (ft) (TOC)	Date Measured	Depth to Groundwater (ft below TOC)	Relative Groundwater Elevation
MW-1	20.30	2.2 - 17.2	99.36	4/2/2009	5.15	94.21
				6/17/2009	5.43	93.93
				9/28/2009	5.45	93.91
				12/14/2009	5.06	94.30
				3/31/2010	5.03	94.33
MW-2	20.90	3.33 - 18.33	98.78	4/2/2009	5.96	92.82
				6/17/2009	6.21	92.57
				9/28/2009	6.23	92.55
				12/14/2009	5.92	92.86
				3/31/2010	5.90	92.88
MW-3	20.28	3.0 - 18.0	98.66	4/2/2009	5.70	92.96
				6/17/2009	5.97	92.69
				9/28/2009	5.96	92.70
				12/14/2009	5.63	93.03
				3/31/2010	5.61	93.05

ft = Feet

TOC = Top of casing

bgs = below ground surface

* Elevation relative to wellhead, set at 100 feet.

Table 3. Groundwater Laboratory Analytical Results Summary

Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	Sulfate (mg/L)	Aluminum (mg/L)	Iron (mg/L)	Manganese (mg/L)	Total Dissolved Solids (mg/L)
MW-1	4/2/2009	< 5	< 5	< 5	< 5	**1790**	7.25*	7.2*	2.7*	NA
	6/17/2009	< 5	< 5	< 5	< 5	**1420**	6.87*	5.63*	2.37*	NA
	9/28/2009	< 1	< 1	< 1	< 1	**1770**	<0.1	<0.02	**0.243**	**2590**
	12/14/2009	<1	<1	<1	<1	NA	NA	NA	0.152	**2470**
	3/31/2010	<1	<1	<1	<1	**1320**	NA	NA	0.176	**2470**
MW-2	4/2/2009	< 5	< 5	< 5	< 5	**1850**	10.1*	10.4*	6.76*	NA
	6/17/2009	< 5	< 5	< 5	< 5	**1610**	5.24*	5.52*	2.6*	NA
	9/28/2009	< 1	< 1	< 1	< 1	**1840**	<0.1	0.0217	0.168	**2260**
	12/14/2009	<1	<1	<1	<1	NA	NA	NA	0.158	**2470**
	3/31/2010	<1	<1	<1	<1	**1530**	NA	NA	0.136	**2620**
MW-3	4/2/2009	< 5	< 5	< 5	< 5	**2110**	0.848*	1.02*	1.9*	NA
	6/17/2009	< 5	< 5	< 5	< 5	**1650**	0.702*	1.49*	2.22*	NA
	9/28/2009	< 1	< 1	< 1	< 1	**2230**	<0.1	<0.02	**2.68**	**3340**
	12/14/2009	<1	<1	<1	<1	NA	NA	NA	**2.4**	**3060**
	3/31/2010	<1	<1	<1	<1	**1660**	NA	NA	**1.71**	**3090**
NMWQCC Standards		**10 (µg/L)**	**750 (µg/L)**	**750 (µg/L)**	**620 (µg/L)**	**600 (mg/L)**	**5 (mg/L)**	**1 (mg/L)**	**0.2 (mg/L)**	**1000 (mg/L)**

Explanation

ND = Not Detected
NMWQCC = New Mexico Water Quality Control Commission
mg/L = milligrams per liter (parts per million)
µg/L = micrograms per liter (parts per billion)
NA = Not Analyzed
<0.7 = Below laboratory detection limit of 0.7 ug/L
Bold = concentrations that exceed the NMWQCC limits
* = Results reported for total metals analysis, results cannot be compared to NMWQCC Standards for dissolved metals

APPENDICES

APPENDIX A

Groundwater Sampling Field Forms

TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name Sategna 2E — Page 1 of 3

Project No.

Site Location Bloomfield, NM

Site/Well No. MW-1 — Coded/ Replicate No. duplicate @ 1135 — Date 3/31/10

Weather Cloudy, 45° — Time Sampling Began 1115 — Time Sampling Completed 1140

EVACUATION DATA

Description of Measuring Point (MP) Top of Casing

Height of MP Above/Below Land Surface — MP Elevation

Total Sounded Depth of Well Below MP 20.3 — Water-Level Elevation

Held — Depth to Water Below MP 5.03 — Diameter of Casing 2"

Wet — Water Column in Well 15.27 — Gallons Pumped/Bailed Prior to Sampling 7.5

Gallons per Foot 0.16

Gallons in Well 2.44 x 3 = 7.33 — Sampling Pump Intake Setting (feet below land surface)

Purging Equipment Purge pump / Bailer

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm³)	TDS (g/L)	DO (mg/L)	ORP (mV)	DO%
5 1131	12.05	7.58	2824	1.825	7005	-19.7	89.3
6 1133	12.03	7.39	2820	1.834	3.82	-26.9	35.0
1134	12.07	7.34	2819	1.833	2.70	-32.5	25.2
7.5 1135	12.08	7.33	2819	1.833	2.51	-35.0	23.4

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl
Dissolved Mn	16 oz Plastic	None
Sulfate, TDS	32 oz Plastic	None

Remarks good recharge

Sampling Personnel K. Blanchard, C. Mathews

Well Casing Volumes

Gal./ft.							
	1 ¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1 ½" = 0.10	2 ½" = 0.24	3" ½ = 0.50	6" = 1.46

TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name Sategna 2E — Page 2 of 3

Project No.

Site Location Bloomfield, NM

Site/Well No. MW-2 — Coded/ Replicate No. — — Date 3-31-10

Weather Cloudy, 45° — Time Sampling Began 1100 — Time Sampling Completed 1125

EVACUATION DATA

Description of Measuring Point (MP) Top of Casing

Height of MP Above/Below Land Surface — MP Elevation

Total Sounded Depth of Well Below MP 20.9 — Water-Level Elevation

Held — Depth to Water Below MP 5.90 — Diameter of Casing 2"

Wet — Water Column in Well 15 — Gallons Pumped/Bailed Prior to Sampling 7.5

Gallons per Foot 0.16

Gallons in Well 2.4 x3 = 7.2 — Sampling Pump Intake (feet below land —

Purging Equipment Purge pump / Bailer

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm³)	TDS (g/L)	DO (mg/L)	ORP (mV)	DO%
5.95 1119	11.50	7.28	2893	1.893	2.63	-39.1	24.0
6.15 1120	11.63	7.21	2888	1.888	2.13	-40.2	19.7
7.25 1121	11.83	7.22	2897	1.884	2.02	-41.3	18.3

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl
Dissolved Mn	16 oz Plastic	None
Sulfate, TDS	32 oz Plastic	None

Remarks recharge is good

Sampling Personnel K. Blanchard, C. Mathews

Well Casing Volumes

Gal./ft.	1 ¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1 ½" = 0.10	2 ½" = 0.24	3" ½ = 0.50	6" = 1.46

TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name Sategna 2E — Page 3 of 3

Project No.

Site Location Bloomfield, NM

Site/Well No. MW-3 — Coded/ Replicate No. — Date 3-31-10

Weather Cloudy, 45° — Time Sampling Began 1055 — Time Sampling Completed 1150

EVACUATION DATA

Description of Measuring Point (MP) Top of Casing

Height of MP Above/Below Land Surface — MP Elevation

Total Sounded Depth of Well Below MP 20.28 — Water-Level Elevation

Held — Depth to Water Below MP 5.61 — Diameter of Casing 2"

Wet — Water Column in Well 14.67 — Gallons Pumped/Bailed Prior to Sampling 7.25

Gallons per Foot 0.16

Gallons in Well 2.35 x 3 = 7.04 — Sampling Pump Intake Setting (feet below land surface)

Purging Equipment Purge pump/Bailer

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm)	TDS (g/L)	DO (mg/L)	ORP (mV)	DO %
5.0 1111	11.97	7.11	3427	2.228	3.50	-43.6	32.7
6.0 1113	11.93	7.13	3458	2.250	3.57	-40.2	33.8
6.5 1116	12.05	7.30	3585	2.330	4.33	-36.0	41.2
7.0 1146	11.84	7.30	3473	2.258	3.70	-31.5	~~35~~ 34.0

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl
Dissolved Mn	16 oz Plastic	None
Sulfate, TDS	32 oz Plastic	None

Remarks recharge is slow, well dry @ 4 gallons, will wait to collect sample

Sampling Personnel L. Blanchard, C. Mathews

Well Casing Volumes

Gal./ft.							
	1 ¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1 ½" = 0.10	2 ½" = 0.24	3" ½ = 0.50	6" = 1.46

APPENDIX B

Groundwater Laboratory Analysis Reports

SPL Inc.
8880 Interchange Drive
Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

Certificate of Analysis

April 15, 2010

Workorder: H10040025

Kelly Blanchard
Tetra Tech
6121 Indian School Road NE
Suite 200
Albuquerque, NM 87110

Project: Sategna 2E

Project Number: Sategna 2E

Site: Bloomington, New Mexico

PO Number: 4511228605

NELAC Cert. No.: T104704205-09-1

This Report Contains A Total Of 19 Pages

Excluding Any Attachments

SPL Inc.
8880 Interchange Drive
Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

Certificate of Analysis

April 15, 2010

Workorder: H10040025

Kelly Blanchard
Tetra Tech
6121 Indian School Road NE
Suite 200
Albuquerque, NM 87110

Project: Sategna 2E

Project Number: Sategna 2E

Site: Bloomington, New Mexico

PO Number: 4511228605

NELAC Cert. No.: T104704205-09-1

I. SAMPLE RECEIPT:

All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

II: ANALYSES AND EXCEPTIONS:

There were no exceptions noted.

III. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report (" mg\kg-dry " or " ug\kg-dry ").

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Sample (LCS) and the Method Blank (MB) are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

Some of the percent recoveries and RPD's on the QC report for the MS/MSD may be different than the calculated recoveries and RPD's using the sample result and the MS/MSD results that appear on the report because, the actual raw result is used to perform the calculations for percent recovery and RPD.

Any other exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

SPL Inc.
8880 Interchange Drive
Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

Certificate of Analysis

April 15, 2010

Workorder: H10040025

Kelly Blanchard
Tetra Tech
6121 Indian School Road NE
Suite 200
Albuquerque, NM 87110

Project: Sategna 2E

Project Number: Sategna 2E

Site: Bloomington, New Mexico

PO Number: 4511228605

NELAC Cert. No.: T104704205-09-1

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or by his designee, as verified by the following signature.

Erica Cardenas, Senior Project Manager

Enclosures

SPL Inc.
8880 Interchange Drive
Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

SAMPLE SUMMARY

Workorder: H10040025 : Sategna 2E

Project Number: Sategna 2E

Lab ID	Sample ID	Matrix	COC ID	Date/Time Collected	Date/Time Received
H10040025001	MW-1	Water		3/31/2010 11:40	4/1/2010 09:00
H10040025002	MW-2	Water		3/31/2010 11:00	4/1/2010 09:00
H10040025003	MW-3	Water		3/31/2010 11:50	4/1/2010 09:00
H10040025004	Duplicate	Water		3/31/2010 11:35	4/1/2010 14:31
H10040025005	Trip Blank	Water		3/31/2010 12:00	4/1/2010 09:00

SPL Inc.
8880 Interchange Drive
Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

ANALYTICAL RESULTS

Workorder: H10040025 : Sategna 2E

Project Number: Sategna 2E

Lab ID: **H10040025001**
Sample ID: **MW-1**

Date/Time Received: 4/1/2010 09:00
Date/Time Collected: 3/31/2010 11:40

Matrix: Water

Analysis Desc: EPA 300.0
Analytical Batches:
Batch: 1238 EPA 300.0 on 04/01/2010 20:37 by CFS

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Sulfate	1320		500	43.5	1000			1238

WET CHEMISTRY

Analysis Desc: SM 2540 C
Analytical Batches:
Batch: 1538 SM 2540 C on 04/01/2010 18:00 by CFS

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Residue, Filterable (TDS)	2470		20.0	7.88	2			1538

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B
Preparation Batches:
Batch: 1638 SW-846 3010A on 04/05/2010 17:00 by R_V
Analytical Batches:
Batch: 1334 SW-846 6010B on 04/11/2010 14:45 by EBG

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Manganese	0.176		0.00500	0.000300	1		1638	1334

VOLATILES

Analysis Desc: SW-846 8260B
SW-846 5030Analytical Batches:
Batch: 1727 SW-846 8260B on 04/05/2010 21:08 by LKL

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.10	1			1727
Ethylbenzene	ND		1.0	0.15	1			1727
Toluene	ND		1.0	0.29	1			1727
m,p-Xylene	ND		1.0	0.18	1			1727
o-Xylene	ND		1.0	0.13	1			1727
Xylenes, Total	ND		1.0	0.13	1			1727
4-Bromofluorobenzene (S)	103 %		74-125		1			1727
1,2-Dichloroethane-d4 (S)	94.6 %		70-130		1			1727
Toluene-d8 (S)	101 %		82-118		1			1727

SPL Inc.
8880 Interchange Drive
Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

ANALYTICAL RESULTS

Workorder: H10040025 : Sategna 2E | Project Number: Sategna 2E

Lab ID: **H10040025002** | Date/Time Received: 4/1/2010 09:00 | Matrix: Water
Sample ID: **MW-2** | Date/Time Collected: 3/31/2010 11:00

Analysis Desc: EPA 300.0 | Analytical Batches:
Batch: 1238 EPA 300.0 on 04/01/2010 20:54 by CFS

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Sulfate	1530		500	43.5	1000			1238

WET CHEMISTRY

Analysis Desc: SM 2540 C | Analytical Batches:
Batch: 1538 SM 2540 C on 04/01/2010 18:00 by CFS

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Residue, Filterable (TDS)	2620		20.0	7.88	2			1538

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B | Preparation Batches:
Batch: 1638 SW-846 3010A on 04/05/2010 17:00 by R_V
Analytical Batches:
Batch: 1334 SW-846 6010B on 04/11/2010 13:55 by EBG

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Manganese	0.136		0.00500	0.000300	1		1638	1334

VOLATILES

Analysis Desc: SW-846 8260B | SW-846 5030Analytical Batches:
Batch: 1727 SW-846 8260B on 04/05/2010 21:35 by LKL

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.10	1			1727
Ethylbenzene	ND		1.0	0.15	1			1727
Toluene	ND		1.0	0.29	1			1727
m,p-Xylene	ND		1.0	0.18	1			1727
o-Xylene	ND		1.0	0.13	1			1727
Xylenes, Total	ND		1.0	0.13	1			1727
4-Bromofluorobenzene (S)	103 %		74-125		1			1727
1,2-Dichloroethane-d4 (S)	93.1 %		70-130		1			1727
Toluene-d8 (S)	98.9 %		82-118		1			1727

SPL Inc.
8880 Interchange Drive
Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

ANALYTICAL RESULTS

Workorder: H10040025 : Sategna 2E

Project Number: Sategna 2E

Lab ID: **H10040025003**
Sample ID: **MW-3**

Date/Time Received: 4/1/2010 09:00
Date/Time Collected: 3/31/2010 11:50

Matrix: Water

Analysis Desc: EPA 300.0
Analytical Batches:
Batch: 1238 EPA 300.0 on 04/01/2010 21:11 by CFS

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Sulfate	1660		500	43.5	1000			1238

WET CHEMISTRY

Analysis Desc: SM 2540 C
Analytical Batches:
Batch: 1538 SM 2540 C on 04/01/2010 18:00 by CFS

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Residue, Filterable (TDS)	3090		20.0	7.88	2			1538

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B
Preparation Batches:
Batch: 1638 SW-846 3010A on 04/05/2010 17:00 by R_V
Analytical Batches:
Batch: 1334 SW-846 6010B on 04/11/2010 14:51 by EBG

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Manganese	1.71		0.00500	0.000300	1		1638	1334

VOLATILES

Analysis Desc: SW-846 8260B
SW-846 5030Analytical Batches:
Batch: 1727 SW-846 8260B on 04/05/2010 22:02 by LKL

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.10	1			1727
Ethylbenzene	ND		1.0	0.15	1			1727
Toluene	ND		1.0	0.29	1			1727
m,p-Xylene	ND		1.0	0.18	1			1727
o-Xylene	ND		1.0	0.13	1			1727
Xylenes, Total	ND		1.0	0.13	1			1727
4-Bromofluorobenzene (S)	102 %		74-125		1			1727
1,2-Dichloroethane-d4 (S)	86.5 %		70-130		1			1727
Toluene-d8 (S)	99.4 %		82-118		1			1727

SPL Inc.
8880 Interchange Drive
Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

ANALYTICAL RESULTS

Workorder: H10040025 : Sategna 2E

Project Number: Sategna 2E

Lab ID: **H10040025004**

Date/Time Received: 4/1/2010 14:31

Matrix: Water

Sample ID: **Duplicate**

Date/Time Collected: 3/31/2010 11:35

VOLATILES

Analysis Desc: SW-846 8260B

SW-846 5030Analytical Batches:

Batch: 1727 SW-846 8260B on 04/05/2010 20:41 by LKL

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.10	1			1727
Ethylbenzene	ND		1.0	0.15	1			1727
Toluene	ND		1.0	0.29	1			1727
m,p-Xylene	ND		1.0	0.18	1			1727
o-Xylene	ND		1.0	0.13	1			1727
Xylenes, Total	ND		1.0	0.13	1			1727
4-Bromofluorobenzene (S)	104 %		74-125		1			1727
1,2-Dichloroethane-d4 (S)	101 %		70-130		1			1727
Toluene-d8 (S)	101 %		82-118		1			1727

SPL Inc.
8880 Interchange Drive
Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

ANALYTICAL RESULTS

Workorder: H10040025 : Sategna 2E

Project Number: Sategna 2E

Lab ID: **H10040025005**

Date/Time Received: 4/1/2010 09:00

Matrix: Water

Sample ID: **Trip Blank**

Date/Time Collected: 3/31/2010 12:00

VOLATILES

Analysis Desc: SW-846 8260B

SW-846 5030Analytical Batches:

Batch: 1727 SW-846 8260B on 04/05/2010 20:15 by LKL

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.10	1			1727
Ethylbenzene	ND		1.0	0.15	1			1727
Toluene	ND		1.0	0.29	1			1727
m,p-Xylene	ND		1.0	0.18	1			1727
o-Xylene	ND		1.0	0.13	1			1727
Xylenes, Total	ND		1.0	0.13	1			1727
4-Bromofluorobenzene (S)	106 %		74-125		1			1727
1,2-Dichloroethane-d4 (S)	93.1 %		70-130		1			1727
Toluene-d8 (S)	101 %		82-118		1			1727

SPL Inc.
8880 Interchange Drive
Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

QUALITY CONTROL DATA

Workorder: H10040025 : Sategna 2E — Project Number: Sategna 2E

QC Batch: IC/1238 — Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Associated Lab Samples: H10040013001, H10040017001, H10040017002, H10040021001, H10040021002, H10040021003, H10040021004, H10040022001, H10040025001, H10040025002, H10040025003

METHOD BLANK: 37213

Analysis Date/Time Analyst: 04/01/2010 10:36 CFS

Parameter	Units	Blank Result	Qualifiers	Reporting Limit
Sulfate	mg/l	ND		0.500

LABORATORY CONTROL SAMPLE & LCSD: 37214 37223

LCS Analysis Date/Time Analyst: 04/01/2010 10:53 CFS

LCSD Analysis Date/Time 04/01/2010 21:27 CFS

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD
Sulfate	mg/l	10	10.17	9.391	102	93.9	85-115	7.9	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 37221 37222 Original: H10040017001

MS Analysis Date/Time Analyst: 04/01/2010 14:13 CFS

MSD Analysis Date/Time Analyst: 04/01/2010 15:38 CFS

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Sulfate	mg/l	107	1000	1023	1006	91.7	89.9	80-120	1.8	20

QC results presented in the QC Control Data have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules. Also, MS/MSD % recoveries are calculated by the SPL LIMS using any detected value greater than the MDL.

SPL Inc.
8880 Interchange Drive
Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

QUALITY CONTROL DATA

Workorder: H10040025 : Sategna 2E — Project Number: Sategna 2E

QC Batch: WETS/1538 — Analysis Method: SM 2540 C

QC Batch Method: SM 2540 C

Associated Lab Samples: H10030546001, H10040011004, H10040015001, H10040017001, H10040017002, H10040019001, H10040019002, H10040019003, H10040019004, H10040025001, H10040025002, H10040025003, H10040029001, H10040029002, H10040029003, H10040029004

METHOD BLANK: 37258

Analysis Date/Time Analyst: 04/01/2010 18:00 CFS

Parameter	Units	Blank Result	Qualifiers	Reporting Limit
Residue, Filterable (TDS)	mg/l	ND		10.0

LABORATORY CONTROL SAMPLE & LCSD: 37259 37262

LCS Analysis Date/Time Analyst: 04/01/2010 18:00 CFS

LCSD Analysis Date/Time 04/01/2010 18:00 CFS

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD
Residue, Filterable (TDS)	mg/l	200	198.0	199.0	99.0	99.5	95-107	0.5	10

SAMPLE DUPLICATE: 37260 Original: H10040025001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	DF
WET CHEMISTRY						2
Residue, Filterable (TDS)	mg/l	2470	2490	0.6	10	2

SAMPLE DUPLICATE: 37261 Original: H10040015001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	DF
WET CHEMISTRY						1
Residue, Filterable (TDS)	mg/l	1510	1520	0.7	10	1

QC results presented in the QC Control Data have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules. Also, MS/MSD % recoveries are calculated by the SPL LIMS using any detected value greater than the MDL.

SPL Inc.
8880 Interchange Drive
Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

QUALITY CONTROL DATA

Workorder: H10040025 : Sategna 2E

Project Number: Sategna 2E

QC Batch: DIGM/1638

Analysis Method: SW-846 6010B

QC Batch Method: SW-846 3010A

Preparation: 04/05/2010 17:00 by R_V

Associated Lab Samples: H10040019001, H10040019002, H10040019003, H10040019004, H10040021001, H10040021002, H10040021003, H10040021004, H10040025001, H10040025002, H10040025003, H10040049001, H10040049002, H10040049003, H10040049004, H10040050001, H10040051001, H10040051002, H10040051003, H10040051004

METHOD BLANK: 37509

Analysis Date/Time Analyst: 04/11/2010 13:44 EBG

Parameter	Units	Blank Result	Qualifiers	Reporting Limit
Manganese	mg/l	ND		0.00500

LABORATORY CONTROL SAMPLE: 37510

Analysis Date/Time Analyst: 04/11/2010 13:49 EBG

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Manganese	mg/l	0.10	0.1052	105	80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 37507 37508 Original: H10040025002

MS Analysis Date/Time Analyst: 04/11/2010 14:00 EBG

MSD Analysis Date/Time Analyst: 04/11/2010 14:06 EBG

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Manganese	mg/l	0.136	0.10	0.2285	0.2325	92.9	96.9	75-125	1.7	20

QC results presented in the QC Control Data have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules. Also, MS/MSD % recoveries are calculated by the SPL LIMS using any detected value greater than the MDL.

SPL Inc.
8880 Interchange Drive
Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

QUALITY CONTROL DATA

Workorder: H10040025 : Sategna 2E

Project Number: Sategna 2E

QC Batch: MSV/1726

Analysis Method: SW-846 8260B

QC Batch Method: SW-846 5030

Preparation: 04/05/2010 00:00 by LKL

Associated Lab Samples: H10040021001, H10040021002, H10040021003, H10040021004, H10040021005, H10040021006, H10040025001, H10040025002, H10040025003, H10040025004, H10040025005

METHOD BLANK: 38400

Analysis Date/Time Analyst: 04/05/2010 13:36 LKL

Parameter	Units	Blank Result	Qualifiers	Reporting Limit
Benzene	ug/l	ND		1.0
Ethylbenzene	ug/l	ND		1.0
Toluene	ug/l	ND		1.0
m,p-Xylene	ug/l	ND		1.0
o-Xylene	ug/l	ND		1.0
Xylenes, Total	ug/l	ND		1.0
4-Bromofluorobenzene (S)	%	105		74-125
1,2-Dichloroethane-d4 (S)	%	97.8		70-130
Toluene-d8 (S)	%	102		82-118

LABORATORY CONTROL SAMPLE: 38401

Analysis Date/Time Analyst: 04/05/2010 12:43 LKL

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Benzene	ug/l	20	19.7	98.7	74-123
Ethylbenzene	ug/l	20	20.8	104	72-127
Toluene	ug/l	20	20.0	100	74-126
m,p-Xylene	ug/l	40	43.9	110	71-129
o-Xylene	ug/l	20	21.3	106	74-130
Xylenes, Total	ug/l	60	65.17	109	71-130
4-Bromofluorobenzene (S)	%			103	74-125
1,2-Dichloroethane-d4 (S)	%			93.7	70-130
Toluene-d8 (S)	%			100	82-118

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 38402 38403 Original: H10040021005

MS Analysis Date/Time Analyst: 04/05/2010 14:29 LKL

MSD Analysis Date/Time Analyst: 04/05/2010 14:57 LKL

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Benzene	ug/l	ND	20	19.5	19.1	97.4	95.5	70-124	2.0	20
Ethylbenzene	ug/l	ND	20	19.8	19.6	99.2	98.0	35-175	1.3	20
Toluene	ug/l	ND	20	19.1	19.9	95.3	99.5	70-131	4.3	20

QC results presented in the QC Control Data have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules. Also, MS/MSD % recoveries are calculated by the SPL LIMS using any detected value greater than the MDL.

SPL Inc.
8880 Interchange Drive
Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

QUALITY CONTROL DATA

Workorder: H10040025 : Sategna 2E

Project Number: Sategna 2E

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 38402 38403 Original: H10040021005

MS Analysis Date/Time Analyst: 04/05/2010 14:29 LKL

MSD Analysis Date/Time Analyst: 04/05/2010 14:57 LKL

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
m,p-Xylene	ug/l	ND	40	39.2	40.4	98.1	101	35-175	3.1	20
o-Xylene	ug/l	ND	20	19.5	19.6	97.4	98.0	35-175	0.6	20
Xylenes, Total	ug/l	ND	60	58.72	60.06	97.9	100	35-175	2.3	20
4-Bromofluorobenzene (S)	%	102				99.4	103	74-125		30
1,2-Dichloroethane-d4 (S)	%	94.8				95.9	88.4	70-130		30
Toluene-d8 (S)	%	99.4				97.7	99.9	82-118		30

QC results presented in the QC Control Data have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules. Also, MS/MSD % recoveries are calculated by the SPL LIMS using any detected value greater than the MDL.

SPL Inc.
8880 Interchange Drive
Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

Legend

(S) - Indicates analyte is a surrogate

Qualifier	Qualifier Description
MI	Matrix Interference
I	Estimated value, between MDL and PQL (Florida)
JN	The analysis indicates the presence of an analyte
C	MTBE results were not confirmed by GCMS
NC	Not Calculated - Sample concentration > 4 times the spike
*	Recovery/RPD value outside QC limits
E	Results exceed calibration range
H	Exceeds holding time
J	Estimated value
Q	Received past holding time
B	Analyte detected in the Method Blank
N	Recovery outside of control limits
D	Recovery out of range due to dilution
NC	Not Calculable (Sample Duplicate)
P	Pesticide dual column results, greater then 25%

SPL Inc.
8880 Interchange Drive
Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: H10040025 : Sategna 2E

Project Number: Sategna 2E

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
H10040025001	**MW-1**	EPA 300.0	IC/1238		
H10040025002	**MW-2**	EPA 300.0	IC/1238		
H10040025003	**MW-3**	EPA 300.0	IC/1238		
H10040025001	**MW-1**	SM 2540 C	WETS/1538		
H10040025002	**MW-2**	SM 2540 C	WETS/1538		
H10040025003	**MW-3**	SM 2540 C	WETS/1538		
H10040025001	**MW-1**	SW-846 3010A	DIGM/1638	SW-846 6010B	ICP/1334
H10040025002	**MW-2**	SW-846 3010A	DIGM/1638	SW-846 6010B	ICP/1334
H10040025003	**MW-3**	SW-846 3010A	DIGM/1638	SW-846 6010B	ICP/1334
H10040025001	**MW-1**	SW-846 5030	MSV/1726	SW-846 8260B	MSV/1727
H10040025002	**MW-2**	SW-846 5030	MSV/1726	SW-846 8260B	MSV/1727
H10040025003	**MW-3**	SW-846 5030	MSV/1726	SW-846 8260B	MSV/1727
H10040025004	**Duplicate**	SW-846 5030	MSV/1726	SW-846 8260B	MSV/1727
H10040025005	**Trip Blank**	SW-846 5030	MSV/1726	SW-846 8260B	MSV/1727

SPL Inc.
8880 Interchange Drive
Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

Sample Receipt Checklist

WorkOrder:	H10040025	Received By	LOG
Date and Time	04/01/2010 09:00	Carrier Name:	FEDEXS
Temperature:	3.0°C	Chilled By:	Water Ice

1.	Shipping container/cooler in good condition?	YES
2.	Custody seals intact on shipping container/cooler?	YES
3.	Custody seals intact on sample bottles?	Not Present
4.	Chain of custody present?	YES
5.	Chain of custody signed when relinquished and received?	YES
6.	Chain of custody agrees with sample labels?	YES
7.	Samples in proper container/bottle?	YES
8.	Samples containers intact?	YES
9.	Sufficient sample volume for indicated test?	YES
10.	All samples received within holding time?	YES
11.	Container/Temp Blank temperature in compliance?	YES
12.	Water - VOA vials have zero headspace?	YES
13.	Water - Preservation checked upon receipt(except VOA*)?	Not Applicable

*VOA Preservation Checked After Sample Analysis

SPL Representative: Contact Date & Time:

Client Name Contacted:

Client Instructions:

SPL Inc.
8880 Interchange Drive
Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

SPL, Inc.
Analysis Request & Chain of Custody Record

H10040025

Page 1 of 2

Client Name: Tetra Tech / ConocoPhillips
Address: 6121 Indian School Rd. Ste 200
City: Albuquerque State: NM Zip: 87110
Phone/Fax: 505.237.8440
Client Contact: Kelly Blanchard Email: kelly.blanchard@tetratech.com
Project Name/No.: Sategna 2E
Site Name:
Site Location: Bloomfield, NM
Invoice To: ConocoPhillips #4511288605 Ph:

SAMPLE ID	DATE	TIME	comp	grab	matrix (W=water S=soil O=oil A=air SL=sludge E=encore X=other)	bottle (P=plastic A=amber glass G=glass V=vial X=other)	size (1=1 liter 4=4oz 40=vial 8=8oz 16=16oz X=other)	pres. (1=HCl 2=HNO3 3=H2SO4 X=other)	Number of Containers	BTEX	Dissolved Manganese	SO4, TDS						
MW-1	3-31-10	1140		X	W	V	40	1	3	X								
MW-1	3-31-10	1140		X	W	P	16	Ø	1		X							
MW-1	3-31-10	1140		X	W	P	32	Ø	1			X						
MW-2	3-31-10	1100		X	W	V	40	1	3	X								
MW-2	3-31-10	1100		X	W	P	16	Ø	1		X							
MW-2	3-31-10	1100		X	W	P	32	Ø	1			X						
MW-3	3-31-10	1150		X	W	V	40	1	3	X								
MW-3	3-31-10	1150		X	W	P	16	Ø	1		X							
MW-3	3-31-10	1150		X	W	P	32	Ø	1			X						
Duplicate	3-31-10	1135		X	W	V	40	1	3	X								

Client/Consultant Remarks: Please filter & preserve metals container before analysis

Laboratory remarks:

Intact? ☐ Y ☐ N
Ice? ☐ Y ☐ N
Temp: 3 °C

Requested TAT
☐ 1 Business Day ☐ Contract
☐ 2 Business Days ☒ Standard
☐ 3 Business Days
☐ Other
Rush TAT requires prior notice

Special Reporting Requirements Results: Fax ☐ Email ☒ PDF ☒
Standard QC ☒ Level 3 QC ☐ Level 4 QC ☐ TX TRRP ☐ LA RECAP ☐

Special Detection Limits (specify):

PM review (initial):

1. Relinquished by Sampler: Kelly Blanchard	date 3-31-10	time 1300	2. Received by:
3. Relinquished by:	date	time	4. Received by:
5. Relinquished by:	date 4/1/10	time 0900	6. Received by Laboratory: [signature]

☐ 8880 Interchange Drive Houston, TX 77054 (713) 660-0901
☐ 500 Ambassador Caffery Parkway Scott, LA 70583 (337) 237-4775
☐ 459 Hughes Drive Traverse City, MI 49686 (231) 947-5777

SPL Inc.
8880 Interchange Drive
Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

SPL, Inc.

Analysis Request & Chain of Custody Record

SPL Workorder No.: H10040025

page 2 of 2

Client Name: Tetra Tech / ConocoPhillips
Address: 6121 Indian School Rd NE #200
City: Albuquerque State: NM Zip: 87110
Phone/Fax: 505.237.8440
Client Contact: Kelly Blanchard Email: kelly.blanchard@tetratech.com
Project Name/No.: Satagna 2E
Site Name:
Site Location: Bloomfield, NM
Invoice To: ConocoPhillips #451128605 Ph:

SAMPLE ID	DATE	TIME	comp	grab	matrix (W=water, S=soil, SO=soil, A=air, SL=sludge, E=encore, X=other)	bottle (P=plastic, A=amber glass, G=glass, V=vial, X=other)	size (1=1 liter, 4=4oz, 40=vial, 8=8oz, 16=16oz, X=other)	pres. (1=HCl, 2=HNO3, 3=H2SO4, X=other)	Number of Containers	Requested Analysis: BTEX	Dissolved Manganese	SO4, TDS
Trip Blank	3-31-10	1200			W	V	40	1	2	X		

Client/Consultant Remarks:
Please filter & preserve metals container before analysis

Laboratory remarks:

Intact? Y N
Ice? Y N
Temp: 3.5

Requested TAT

- 1 Business Day
- 2 Business Days
- 3 Business Days
- Other
- Contract
- Standard

Rush TAT requires prior notice

Special Reporting Requirements - Results: Fax Email PDF

Standard QC Level 3 QC Level 4 QC TX TRRP LA RECAP

Special Detection Limits (specify):

PM review (initial):

1. Relinquished by Sampler:	date: 3-31-10	time: 1300	2. Received by:
3. Relinquished by:	date:	time:	4. Received by:
5. Relinquished by:	date: 4/1/10	time: 0900	6. Received by Laboratory:

8880 Interchange Drive, Houston, TX 77054 (713) 660-0901
500 Ambassador Caffery Parkway, Scott, LA 70583 (337) 237-4775
459 Hughes Drive, Traverse City MI 49686 (231) 947-5777

Report ID: H10040025_6089
Printed: 04/15/2010 18:57