3R - 340

SEP 2010
GWMR

02/02/2011

3R340

QUARTERLY GROUNDWATER MONITORING REPORT

CONOCOPHILLIPS COMPANY

RANDLEMAN No.1
PRODUCTION FACILITY
SAN JUAN COUNTY, NEW MEXICO

OCD # 3RP-340-0
API # 30-045-10698

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

February 2011

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

QUARTERLY GROUNDWATER MONITORING REPORT
RANDLEMAN NO.1, SAN JUAN COUNTY, NEW MEXICO
SEPTEMBER 2010

1.0 INTRODUCTION

This report discusses the groundwater sampling event performed by Tetra Tech, Inc. (Tetra Tech) on September 20, 2010 at the ConocoPhillips Company Randleman No. 1 site located outside of Aztec, New Mexico (Site). The Site is situated on private land in Section 13, Township 31N, Range 11W, of San Juan County, New Mexico. A site location map and detail map are included as **Figures 1** and **2**, respectively.

1.1 Site Background

The historical timeline for the Site is summarized below, and is also presented in **Table 1**.

In April 1997, an unlined surface impoundment (**Figure 2**) was discovered to have been impacted by petroleum hydrocarbons. On April 29, 1997, excavation of the soil beneath the impoundment began; once complete, a total of 613 cubic yards of hydrocarbon impacted soil were removed and landfarmed at the nearby Randleman No. 3 site (Williams 2002). Three monitor wells were installed at the Site on May 14, 1997, and quarterly groundwater monitoring was conducted through March 1998. Evaluation of groundwater monitoring results initiated another excavation in April 1998 of 2,220 cubic yards of hydrocarbon impacted soil "to address residual soil contamination extending to the south of the original excavated area" (Williams, 2002). Quarterly groundwater monitoring was continued through September 2000, and after 4 consecutive quarters of groundwater monitoring results below New Mexico Water Quality Control Commission (NMWQCC) groundwater quality standards for benzene, toluene, ethylbenzene, and total xylenes (BTEX), Williams Environmental Services (Williams) requested that the New Mexico Oil Conservation Division (OCD) grant closure status to the Site. In June 2002, OCD granted closure for the Site, provided that Williams plug and abandon all Site groundwater monitor wells according to OCD standards (NMEMNRD, 2002). The historical excavation area and historical groundwater monitor wells are displayed in **Figure 2**.

On February 23, 2009, a release of approximately 60 barrels of condensate occurred as a result of a hole in an on-Site production tank. Envirotech Inc. of Farmington, NM (Envirotech) excavated an area of approximately 42 ft. x 51 ft. x 7 ft. deep on February 26, 2009. Seven composite soil samples were collected during excavation activities and were field analyzed for total petroleum hydrocarbons (TPH) using Environmental Protection Agency (EPA) Method 418.1. Additionally, samples were field analyzed for organic vapors using a photoionization detector (PID) and heated headspace techniques. TPH results ranged from 8 to 1,080 parts per million (ppm) in the walls of the excavation. Organic vapor concentrations ranged from 6.8 ppm to 898 ppm. Due to levels of TPH and organic vapors above OCD action levels, the excavation was

continued on February 27, 2009 (Envirotech, 2009). The total area of excavation measured 81 ft x 43 ft x 20 ft. deep. The excavation area is depicted in **Figure 2**.

On March 2, 2009, groundwater was found seeping into the southeast corner of the excavation at a depth of approximately 20 feet bgs. A vacuum truck operated by Rock Springs was contracted by Envirotech to collect groundwater from the excavation. After removal of accumulated groundwater, Envirotech obtained a soil sample from the southeast corner of the excavation at a depth of 20 feet bgs. TPH and organic vapor results were found to be above OCD action levels. During field analysis of the soil sample, groundwater continued to seep into the excavation. Groundwater was again removed from the excavation, and additional excavation was performed to obtain a soil sample below OCD action levels. A groundwater sample was collected and sent for laboratory analysis of volatile organic compounds by EPA Method 8260B. The groundwater sample was found to contain benzene, total xylenes and total naphthalenes above NMWQCC groundwater quality standards. Soon after the groundwater sample was taken, the excavation caved in making further water removal via the vacuum truck impossible (Envirotech, 2009). The excavation area is depicted in **Figure 2**.

A total of 611 cubic yards of soil were removed from the Site and were transported to an OCD-permitted facility; clean fill was obtained from the landowner to backfill the excavation. Envirotech recommended the installation of groundwater monitor wells at the Site under OCD guidelines (Envirotech, 2009).

Tetra Tech installed four groundwater monitor wells at the Site between June 9, 2009 and June 10, 2009. A generalized geologic cross section was produced using soil boring data collected during monitoring well installation (**Figure 3**). Following drilling activities in June 2009, the casings for Site monitor wells were surveyed using an arbitrary reference-elevation of 100 feet above mean sea level (amsl). Data obtained from the Site survey is used in conjunction with quarterly monitoring data to produce groundwater elevation maps for the Site (**Figure 4**). Groundwater flow direction at the Site is to the east/southeast.

Tetra Tech began conducting groundwater monitoring events at the Site on June 12, 2009. Hydrocarbon absorbent socks were placed in Monitor Wells MW-2 and MW-3 on June 18, 2009 due to the presence of a spotty, discontinuous light non-aqueous phase liquid (LNAPL) sheen present in purge water during sampling. The socks were removed during the March 2010 sampling event. Since the removal of the socks, LNAPL has not been detected in MW-2 or in MW-3. Soil and groundwater samples were also collected from the Kiffen Canyon Wash on October 21, 2009 and analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX). In both the soil and groundwater collected from Kiffen Canyon Wash, BTEX constituents were found to be below standards.

2.0 MONITORING SUMMARY, SAMPLING METHODOLOGY AND RESULTS

2.1 Monitoring Summary

A groundwater sampling event was conducted at the Site on September 20, 2010. Bridge work near the Site resulted in ground shift near Monitoring Well MW-3 and caused the well casing to raise. The vault lid would no longer shut properly. As a result, the PVC had to be cut and the site was completely re-surveyed. The lock and cap were missing from Monitor Well MW-4; this was reported and replaced while on site. Prior to collection of groundwater samples from Monitor Wells MW-1, MW-2, MW-3 and MW-4, depth to groundwater in each well was measured using a dual interface probe (**Table 2**). A groundwater elevation contour map reflecting September 20, 2010 groundwater elevation is presented as **Figure 4**.

2.2 Groundwater Sampling Methodology

During the September 20, 2010 groundwater monitoring event, Site monitor wells were purged of at least 3 casing volumes of groundwater using a 1.5-inch diameter, polyethylene dedicated 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**). 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.

September 2010 groundwater samples were analyzed for BTEX by EPA Method 8260B; sulfate and chloride by EPA Method E300.0; TDS by EPA Method 2540C; and dissolved manganese by EPA Method 6010B (**Table 3**). A summary of analytical results from the September 20, 2010 sampling event is displayed in **Table 4**. Tetra Tech has prepared **Table 4** as a historical analytical results table to include all quarterly analytical parameters to help document trends in constituent concentrations over time. Results from future groundwater monitoring events at the Site will be compiled in this table.

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. Exceedances of NMWQCC groundwater quality standards in Site monitoring wells are discussed below.

- **Chloride**
  - The NMWQCC domestic water supply groundwater quality standard for chloride is 250 milligrams per liter (mg/L); in September 2010, the groundwater sample collected from MW-4, the up-gradient monitoring well, was found to contain chloride at concentration of 2,640 mg/L.
- **Sulfate**
  - The NMWQCC domestic water supply groundwater quality standard for sulfate is 600 mg/L; groundwater samples collected in September 2010 from Monitor Well MW-1, MW-2, and MW-4 were found to contain sulfate at concentrations of 1,710 mg/L, 1,390 mg/L, and

3,260 mg/L, respectively. Sulfate concentrations increased in wells MW-1, MW-2, and MW-4 but decreased to below NMWQCC standards in MW-3

- **Manganese**
  - The NMWQCC domestic water supply groundwater quality standard for manganese is 0.2 milligrams per liter (mg/L). In September 2010, groundwater samples collected from monitor wells MW-1, MW-2, MW-3 and MW-4 were found to contain concentrations of manganese above the standard at 0.207 mg/L, 2.7 mg/L, 0.818 mg/L, and 1.24 mg/L, respectively. Manganese concentrations in MW-1 and MW-3 were below NMWQCC standards in the June 2010 sampling event but have increased to once again exceed standards.
- **Benzene**
  - The human health NMWQCC groundwater quality standard for benzene is 10 µg/L. Benzene concentrations measured in the September 2010 sampling event were found to all be below NMWQCC standards. This is the first sampling event with benzene below standards in all monitoring wells.
- **Total Xylenes**
  - The human health NMWQCC groundwater quality standard for total xylenes is 620 µg/L. The September 2010 groundwater samples collected from all Monitor Wells were below the NMWQCC standard for total xylenes; representing the third quarter of NMWQCC compliance for total xylenes at the Site.
- **Total Dissolved Solids**
  - The human health NMWQCC groundwater quality standard for total dissolved solids is 1,000 mg/L. The September 2010 groundwater samples collected from Monitor Wells MW-1, MW-2, MW-3 and MW-4 were above the standard with concentrations of 4,070 µg/L, 2,440 µg/L, 2,840 µg/L and 9,550 µg/L, respectively. It should be noted that the up-gradient well, MW-4, consistently contains TDS concentrations at much higher levels than the other Site monitoring wells.

The corresponding laboratory analytical report for the September 2010 groundwater sampling event, including quality control summaries, is included in **Appendix B**. A map showing BTEX concentrations in groundwater from Site monitoring wells during the April 2010 groundwater sampling event is included as **Figure 5**. An isopleths map showing sulfate, chloride, and TDS concentrations is presented as **Figure 6**.

3.0 CONCLUSIONS AND RECOMMENDATIONS

Tetra Tech recommends continued quarterly groundwater sampling at the Site in order to provide sufficient data for Site closure. Site closure will be requested when groundwater analytical results indicate that all constituents of concern are consistently below NMWQCC groundwater quality

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

4.0 REFERENCES

Envirotech Incorporated (2009). *Spill Cleanup Report, Located at: Burlington Resources* [sic] *Randleman #1 Well Site, Section 13, Township 31N, Range 11W, San Juan County, New Mexico.* Prepared for ConocoPhillips. Report Dated February 2009. 3 pp (not including Figures, Tables, and Appendices).

New Mexico Energy, Minerals and Natural Resources Department (2002). *Case # 3R0-340, Randleman #1 Dehy Pit, San Juan County* [sic], *New Mexico.* Letter from NMEMNRD to Williams Field Services. Dated June 14, 2002. 6 pp.

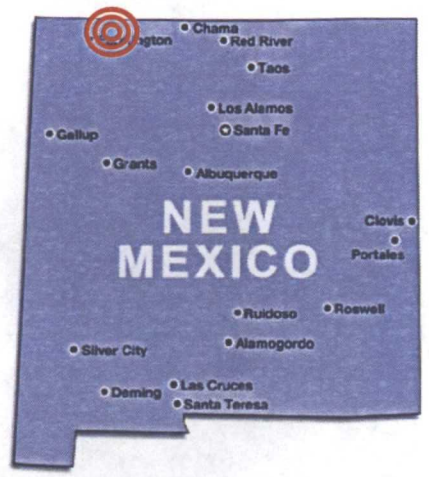
Williams Environmental Services (2002). *Randleman #1 Pit Remediation and Closure Report. Prepared for the New Mexico Oil Conservation Division.* Report Dated February 11, 2002. 3 pp (not including Figures, Tables, and Appendices).

FIGURES

ConocoPhillips - High Resolution Aerial Imagery 2008

FIGURE 1.

Site Location Map
ConocoPhillips
Randleman No. 1
Aztec, NM



ConocoPhillips
Randleman No.1 Site Location

0 225 450
Feet

N

TETRA TECH, INC.

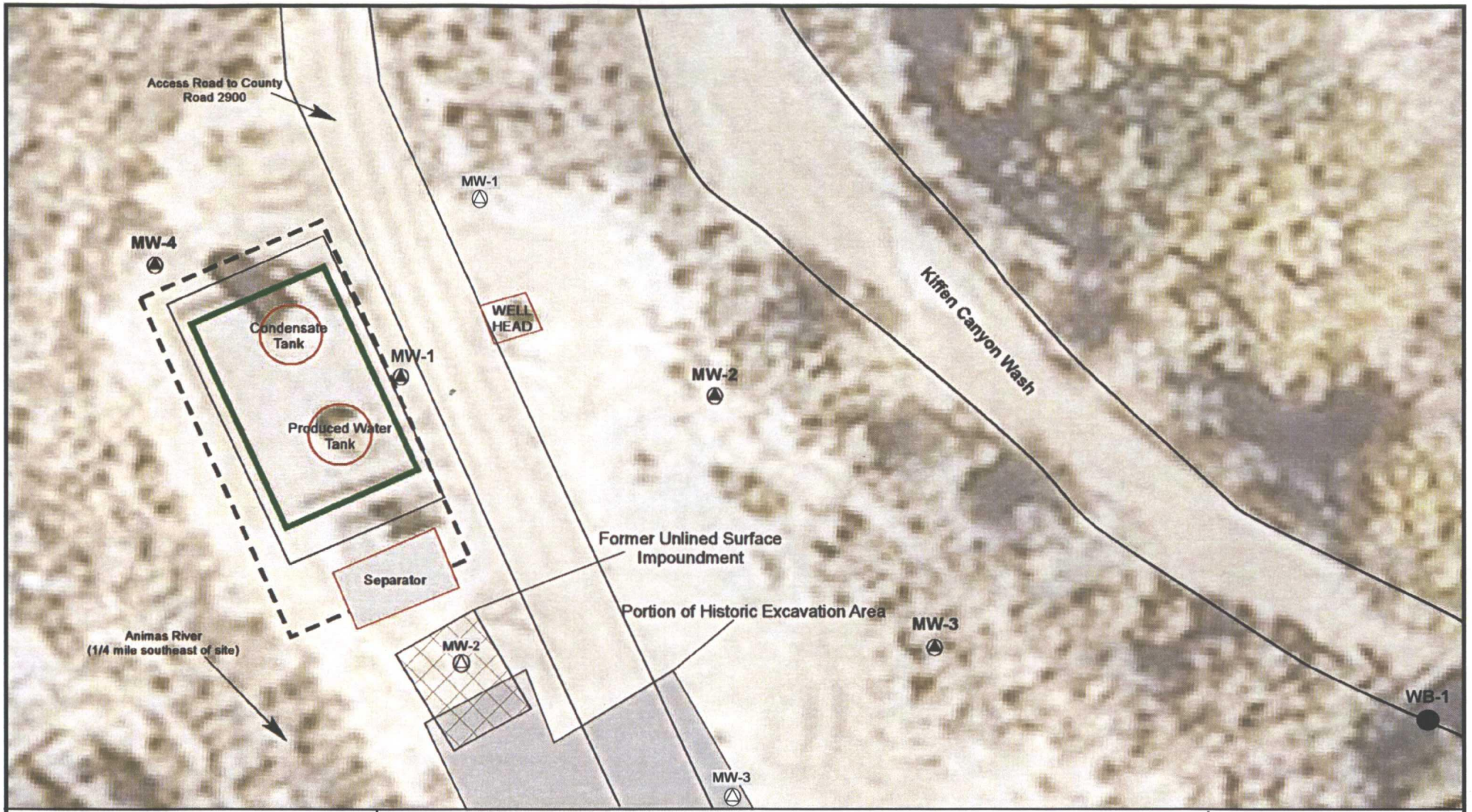


FIGURE 2:
SITE DETAIL MAP
CONOCOPHILLIPS COMPANY
RANDLEMAN #1
GAS PRODUCTION WELL
Sec 13, T31N, R11W
Aztec, New Mexico

LEGEND

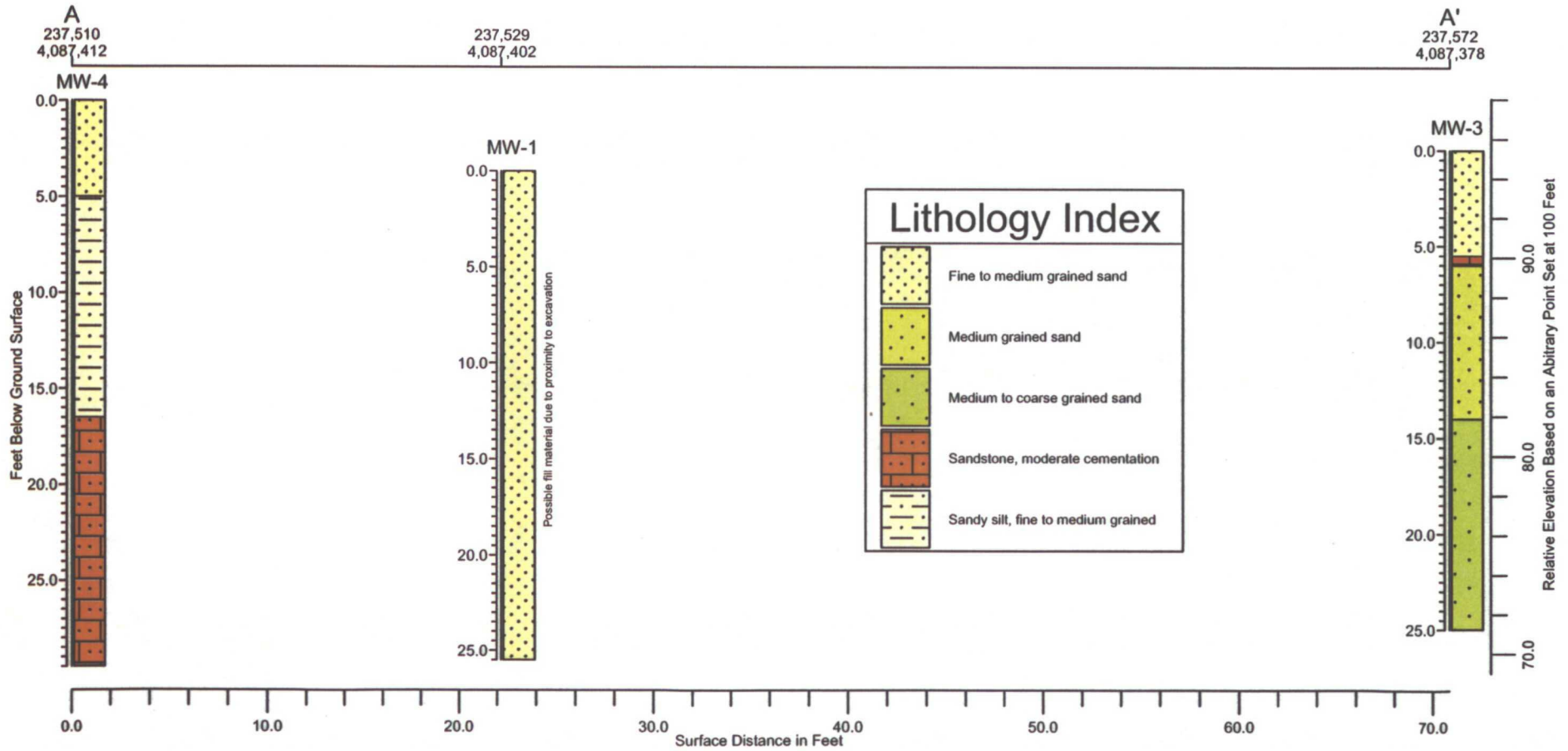
- GENERAL AREA of FEBRUARY 2009 EXCAVATION
- EQUIPMENT
- BERM
- MONITORING WELL
- APPROXIMATE LOCATION of HISTORIC MONITORING WELL (plugged and abandoned)
- KIFFEN CANYON WASH BORING LOCATION

0 15 30
FEET

N

TETRA TECH, INC.

Figure 3. Randleman #1 - Cross-Section A-A'



2/11/2010

TETRA TECH

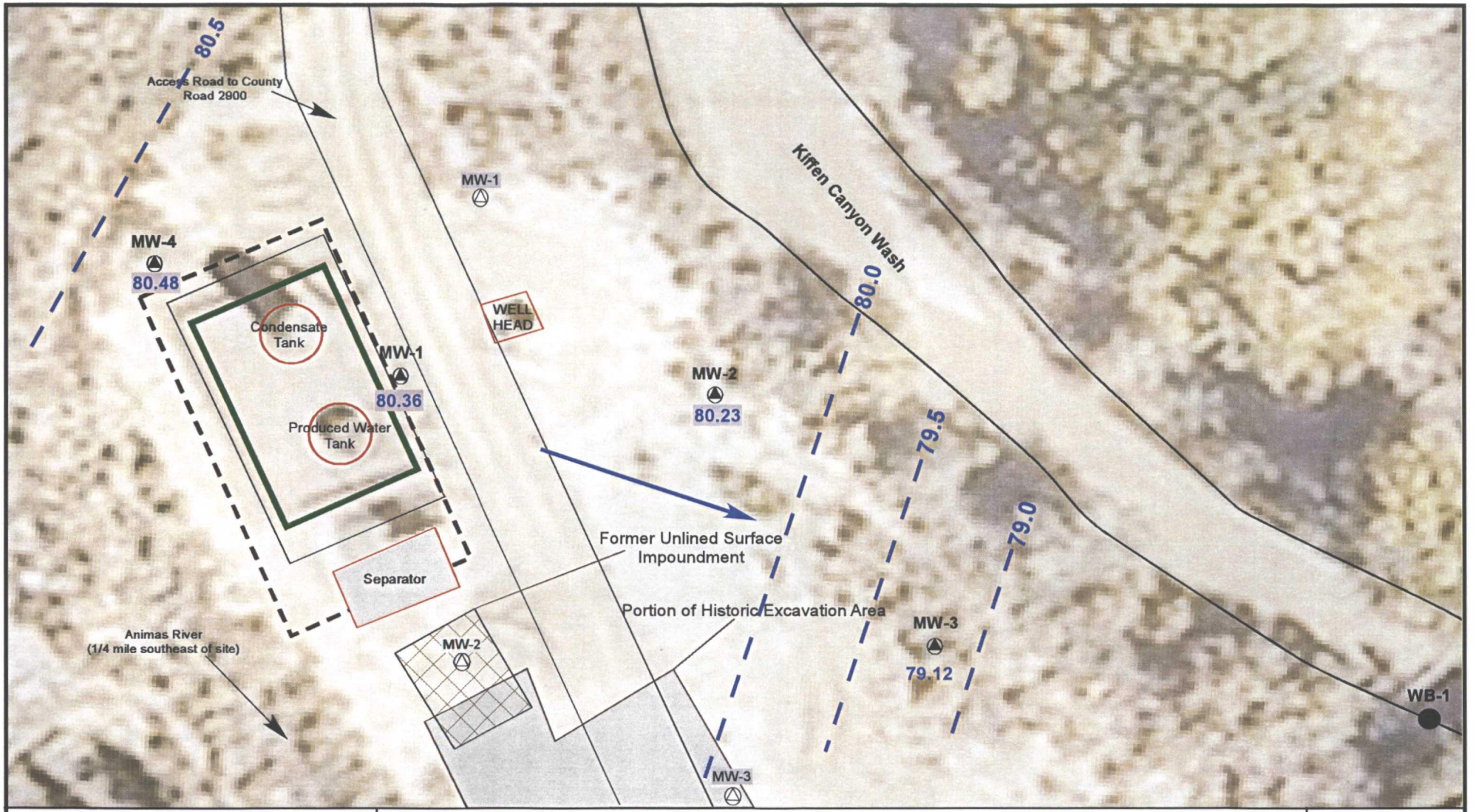


FIGURE 4:
GROUNDWATER ELEVATION MAP - September 2010
CONOCOPHILLIPS COMPANY
RANDLEMAN #1
GAS PRODUCTION WELL
Sec 13, T31N, R11W
Aztec, New Mexico

GENERAL AREA of EXCAVATION
BERM
MONITORING WELL
GROUNDWATER ELEVATION CONTOUR
GROUNDWATER FLOW DIRECTION
APPROXIMATE LOCATION of HISTORIC MONITORING WELL (plugged and abandoned)

80.80 GROUNDWATER ELEVATION (elevation relative to wellhead; set at an arbitrary 100 feet above mean sea level)

KIFFEN CANYON WASH BORING LOCATION

N

0 15 30
FEET

TETRA TECH, INC.

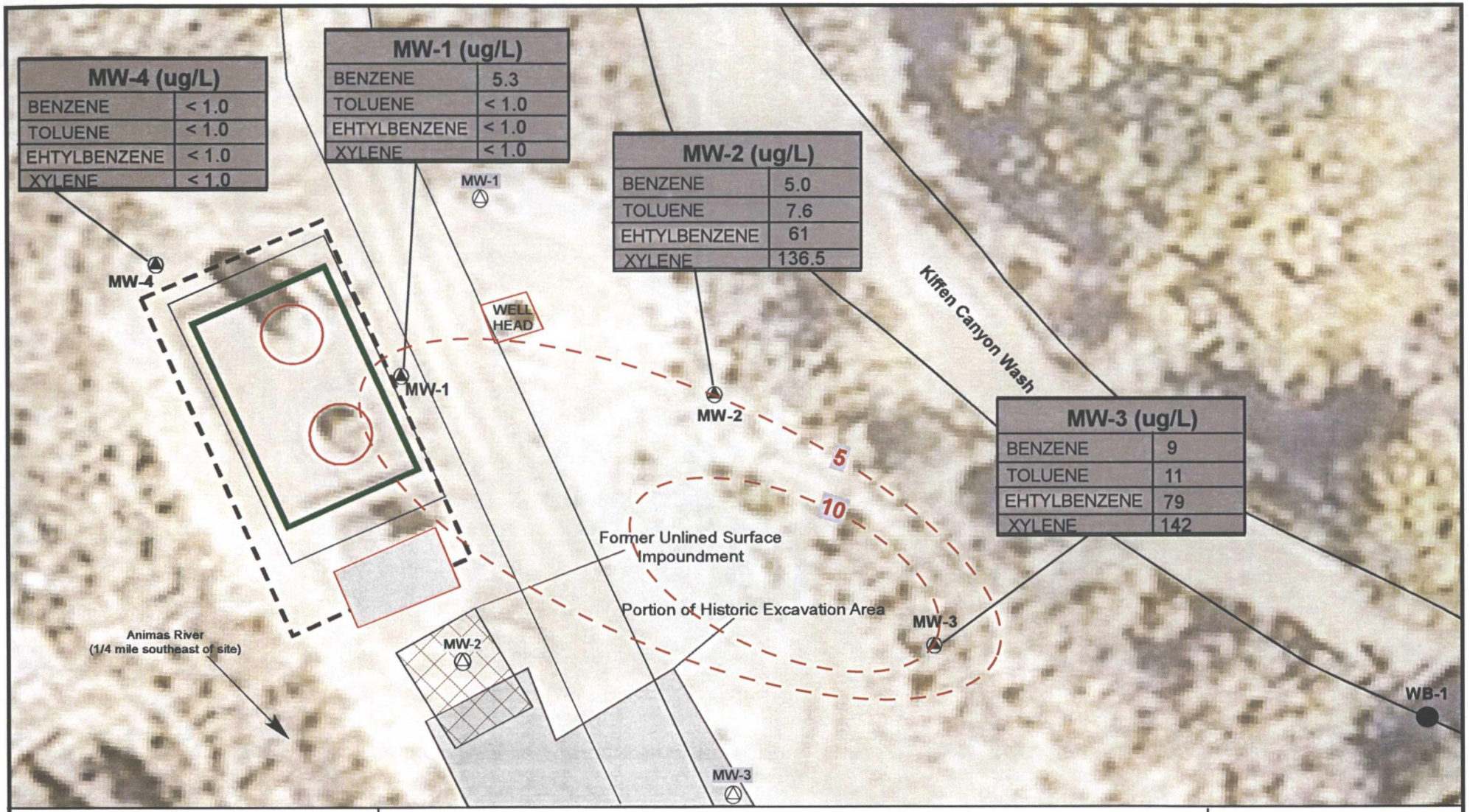


FIGURE 5:
BTEX GROUNDWATER CONCENTRATION MAP
September 2010
CONOCOPHILLIPS COMPANY
RANDLEMAN #1
GAS PRODUCTION WELL
Sec 13, T31N, R11W
Aztec, New Mexico

LEGEND

- EXCAVATION AREA
- BERM
- MONITORING WELL
- EQUIPMENT
- APPROXIMATE LOCATION of HISTORIC MONITORING WELL (plugged and abandoned)
- KIFFEN CANYON WASH BORING LOCATION
- BENZENE CONCENTRATION CONTOUR

N

0 15 30
FEET

TETRA TECH, INC.

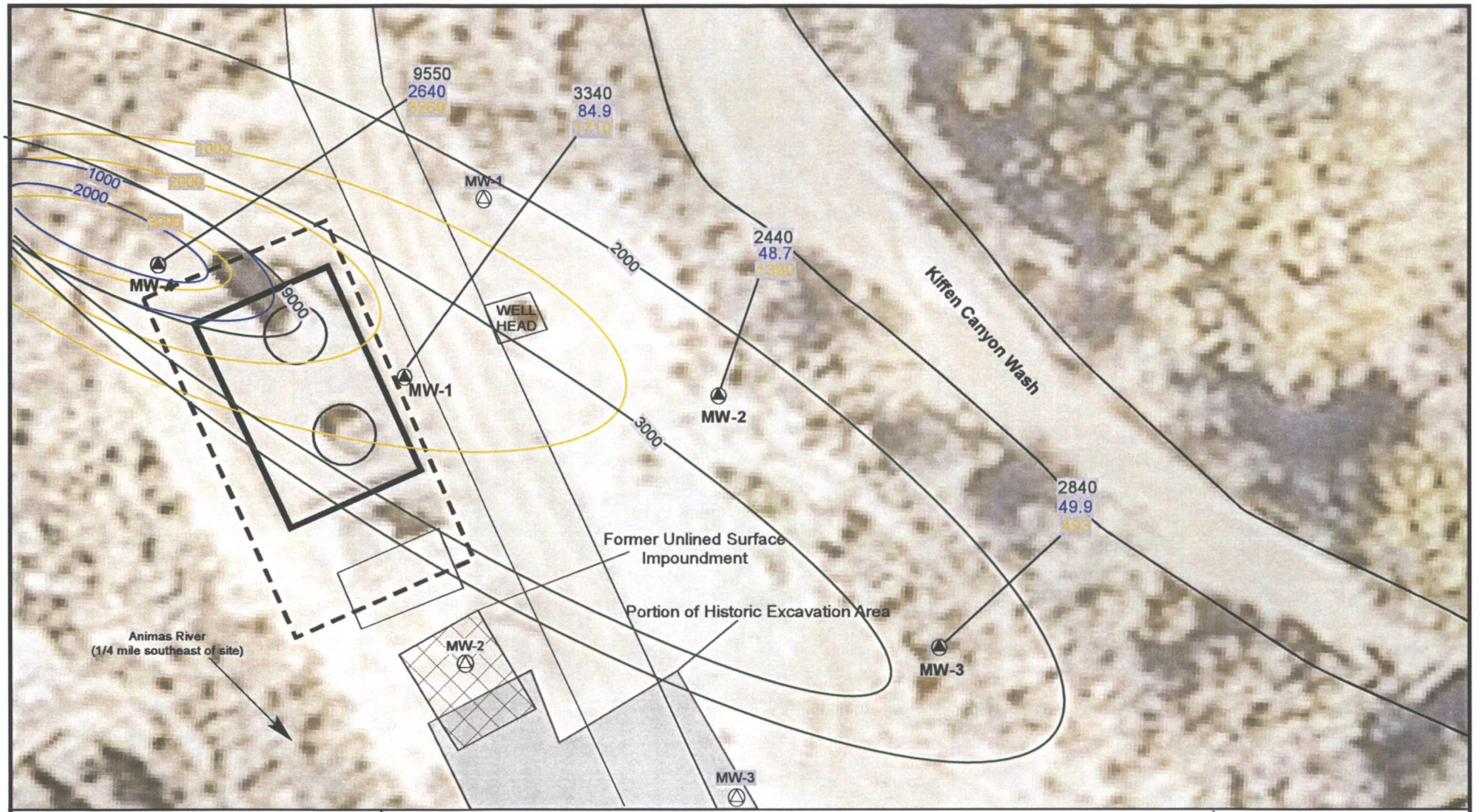


FIGURE 6:
Sulfate, Chloride, and TDS Isopleth Map

September 2010
CONOCOPHILLIPS COMPANY
RANDLEMAN #1
GAS PRODUCTION WELL
Sec 13, T31N, R11W
Aztec, New Mexico

LEGEND

- EXCAVATION AREA
- BERM/EQUIPMENT
- MONITORING WELL
- APPROXIMATE LOCATION of HISTORIC MONITORING WELL (plugged and abandoned)
- SULFATE
- CHLORIDE
- TDS

N

0 15 30
FEET

TETRA TECH, INC.

TABLES

Table 1. Randleman No. 1 Site History Timeline

DATE	ACTIVITY
September 20, 1951	Well spudded by Southern Union Gas Company.
August 1, 1952	Well acquired by Aztec Oil and Gas Company.
December 1, 1976	Southland Royalty Company acquired Aztec Oil and Gas Company.
November 22, 1985	Southland Royalty Company acquired by Burlington Resources.
April 1, 1997	An unlined surface impoundment was discovered to have been impacted by petroleum hydrocarbons. On April 29, 1997, excavation of the soil beneath the impoundment began; once complete, a total of 613 cubic yards of hydrocarbon impacted soil were removed and landfarmed at the nearby Randleman #3 site.
May 14, 1997	Three groundwater monitor wells were installed at the Site. Groundwater monitoring was initiated on a quarterly basis through March 1998.
April 1, 1998	Evaluation of groundwater monitoring results initiated another excavation of 2,220 cubic yards of hydrocarbon impacted soil "to address residual soil contamination extending to the south of the original excavated area" (Williams, 2002).
February 1, 2002	Quarterly groundwater monitoring was continued through September 2000, and after 4 consecutive quarters of groundwater quality monitoring results below New Mexico Water Quality Control Commission (NMWQCC) groundwater quality standards for benzene, toluene, ethylbenzene, and total xylenes (BTEX), Williams Environmental Services (Williams) requested that the New Mexico Oil Conservation Division (OCD) grant closure status for the Site.
June 1, 2002	OCD granted closure for the Site, provided that Williams plug and abandon all Site groundwater monitoring wells according to OCD standards (NMEMNRD, 2002). The historical excavation area and historical groundwater monitor wells are displayed in Figure 2.
March 31, 2006	ConocoPhillips Company acquired Burlington Resources and all assets.
February 23, 2009	Approximately 60 barrels of condensate were found to have spilled from a hole located on the back side of an on-Site condensate tank into the bermed area. The spilled fluids remained in the berm and none of the condensate was recovered. Form C-141 stated that the spill impacted the soil on the ground surface around the tank, that the production tank was to be removed, and the affected soils were to be excavated.
February 26, 2009	Envirotech Inc. of Farmington, NM (Envirotech) performed the soil excavation and collected soil samples for analysis. The area of release was excavated to approximately 42 feet by 51 feet by 7 feet deep. 7 composite soil samples were collected from the excavation and were analyzed for total petroleum hydrocarbons (TPH) using EPA Method 418.1. Additionally, organic vapors were measured using a Photoionization Detector (PID). TPH results ranged from 8 parts per million (ppm) in the north wall sample to 1,080 ppm in the south wall sample. The OCD recommended action level for TPH at the Site was determined to be 100 ppm. Organic vapor concentrations ranged from 6.8 ppm from the north wall sample, to 898 ppm in the south wall sample. Due to high levels of TPH and organic vapors, the excavation was continued on February 27, 2009.
February 27, 2009	Envirotech continued the excavation and sampling activities. Samples collected from the north, west, and east ends of the excavation on February 26, 2009 were found to be below OCD action levels for TPH, the focus of the excavation on February 27, 2009 was the south wall, the southeast wall, and the bottom of the southeast corner. The final excavation measured 81 feet by 43 feet by 20 feet deep (total depth is given for the deepest part of the excavation; other areas determined to be below OCD action levels went to approximately 8 feet bgs). Eight soil samples were collected and analyzed in the field for TPH and organic vapors. Excavation continued until all samples were found to be below 100 ppm for both TPH and organic vapors.
March 2, 2009	Groundwater began to seep into the southeast corner of the excavation at 20 feet bgs. A vacuum truck was contracted to remove groundwater from the excavation. After removal of groundwater, a soil sample from the southeast corner of the excavation was collected. TPH and organic vapor results were found to be above OCD action levels. More water was then removed from the excavation, and additional soil removal was performed. A groundwater sample was collected from the area where water continued to seep into the excavation, and was analyzed for volatile organic compounds by EPA Method 8260. The groundwater sample was found to contain benzene, total xylenes and total naphthalenes above New Mexico Water Quality Control Commission (NMWQCC) groundwater quality standards. Once this sample had been obtained, the excavation caved in, making further water removal impossible (Envirotech, 2009). A total of 611 cubic yards of soil were romoved from the Site. Clean fill was used to backfill the excavation.
June 9 through 11, 2009	Tetra Tech installed four groundwater monitor wells at the Site; MW-1, MW-2, MW-3 and MW-4.
June 12, 2009	Tetra Tech conducted the first groundwater monitoring event at the Site.
June 17, 2009	Depth to water measurements were taken by Tetra Tech in Site monitor wells to determine if hydrocarbons were accumulating in the water column. Hydrocarbon sheen was detected in MW-2 and MW-3.

Table 1. Randleman No. 1 Site History Timeline

June 18, 2009	Hydrocarbon-absorbent socks were placed in monitor wells MW-2 and MW-3 by Tetra Tech.
September 23, 2009	Second quarterly groundwater monitoring event at the Site conducted by Tetra Tech.
October 1, 2009	Tetra Tech on Site to hand auger one boring near the Kiffen Canyon Wash, which is located downgradient and east of the Site. Groundwater and soil samples collected from boring.
December 16, 2009	Third quarterly groundwater monitoring event at the Site conducted by Tetra Tech.
April 1, 2010	Fourth quarterly groundwater monitoring event at the Site conducted by Tetra Tech.
June 9, 2010	Fifth quarterly groundwater monitoring event at the Site conducted by Tetra Tech.
September 20, 2010	Sixth quarterly groundwater monitoring event at the Site conducted by Tetra Tech. Lock and cap were observed missing from MW-4 -this was reported and replaced while on site. The ground near MW-3 has shifted and the casing is sticking out of the completion. As a result, the PVC had to be cut and the site was completely re-surveyed by Tetra Tech.

Table 2. Groundwater Elevation Data Summary - ConocoPhillips Company Randleman No. 1

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	25.5	9 - 24	95.19	6/12/2009	13.98	81.21
				6/14/2009	13.96	81.23
				9/23/2009	13.97	81.22
				12/16/2009	14.30	80.89
				4/1/2010	14.39	80.80
				6/9/2010	13.99	81.20
			94.90	9/20/2010	14.54	80.36
MW-2	23.80	8.9 - 23.8	96.79	6/12/2009	15.57	81.22
				6/14/2009	15.63	81.16
				9/23/2009	15.67	81.12
				12/16/2009	16.41	80.38
				4/1/2010	16.75	80.04
				6/9/2010	15.71	81.08
			96.51	9/20/2010	16.28	80.23
MW-3	22.00	6.5 - 21.5	96.31	6/12/2009	16.00	80.31
				6/14/2009	15.97	80.34
				9/23/2009	15.78	80.53
				12/16/2009	16.77	79.54
				4/1/2010	16.79	79.52
				6/9/2010	15.89	80.42
			96.07	9/20/2010	16.95	79.12
MW-4	29.50	11 - 26	98.83	6/12/2009	17.68	81.15
				6/14/2009	17.52	81.31
				9/23/2009	17.56	81.27
				12/16/2009	17.86	80.97
				4/1/2010	17.94	80.89
				6/9/2010	17.57	81.26
			98.54	9/20/2010	18.06	80.48

ft = Feet
TOC = Top of casing
bgs = below ground surface
* Elevation relative to an arbitrary data point of 100 feet; resurveyed during 9/20/10 sampling event

Table 3. ConocoPhillips Company - Randleman No. 1 - GroundwaterBaseline Analytical Results Summary - June 2009

Constituent			Sample ID (samples collected on June 12, 2009)					
Ions	**Method**	**Units**	**MW-1**	**MW-2**	**MW-3**	**Duplicate**	**MW-4**	**NMWQCC Groundwater Quality Standard**
Bromide	E300.0	mg/L	< 0.5	<0.5	<0.5	NA	< 0.5	NE
Chloride	E300.0	mg/L	119	40.1	40.3	NA	**2,310**	250
Fluoride	E300.0	mg/L	0.518	0.621	<0.5	NA	0.652	1.6
Orthophospate (as P)	E300.0	mg/L	< 0.5	< 0.5	<0.5	NA	< 0.5	NE
Sulfate	E300.0	mg/L	**1,690**	**1,360**	**1,510**	NA	**4,190**	600
Nitrate (as N)	E300.0	mg/L	0.78	0.52	< 0.5	NA	< 0.5	10
Nitrite (as N)	E300.0	mg/L	< 0.5	< 0.5	< 0.5	NA	< 0.5	NE
Metals, Total	**Method**	**Units**	**MW-1**	**MW-2**	**MW-3**	**Duplicate**	**MW-4**	**NMWQCC Groundwater Quality Standard**
Mercury	SW7470A	mg/L	<0.0002	<0.0002	<0.0002	NA	< 0.0002	NE
Aluminum	SW6010B	mg/L	9.22*	2.99*	1.1*	NA	13.6*	NE
Boron	SW6010B	mg/L	0.135	<0.1	0.107	NA	0.523	NE
Calcium	SW6010B	mg/L	473	528	527	NA	496	NE
Iron	SW6010B	mg/L	6.81*	3.7*	1.65*	NA	20*	NE
Magnesium	SW6010B	mg/L	27.1	19.7	23.9	NA	32.2	NE
Potassium	SW6010B	mg/L	7.31	7.53	6	NA	19.1	NE
Sodium	SW6010B	mg/L	454	196	242	NA	2720	NE
Strontium	SW6010B	mg/L	8.51	8.54	10.5	NA	11.6	NE
Tin	SW6010B	mg/L	<0.005	<0.005	0.0061	NA	<0.005	NE
Antimony	SW6020A	mg/L	< 0.005	<0.005	<0.005	NA	< 0.005	NE
Arsenic	SW6020A	mg/L	< 0.005	0.00759	< 0.005	NA	<0.005	NE
Barium	SW6020A	mg/L	0.0857	0.107	0.0537	NA	0.131	NE
Beryllium	SW6020A	mg/L	< 0.004	<0.004	<0.004	NA	0.00468	NE
Cadmium	SW6020A	mg/L	< 0.005	< 0.005	< 0.005	NA	<0.005	NE
Chromium	SW6020A	mg/L	0.00601	< 0.005	< 0.005	NA	0.117*	NE
Cobalt	SW6020A	mg/L	0.0157	< 0.005	< 0.005	NA	0.0312	NE
Copper	SW6020A	mg/L	0.022	0.00699	< 0.005	NA	0.041	NE
Lead	SW6020A	mg/L	0.0124	0.00561	< 0.005	NA	0.0418	NE
Manganese	SW6020A	mg/L	4.79*	3.56*	3*	NA	4.92*	NE
Molybdenum	SW6020A	mg/L	< 0.01	<0.01	<0.01	NA	0.0146	NE
Nickel	SW6020A	mg/L	0.0185	0.0107	0.00971	NA	0.0372	NE
Selenium	SW6020A	mg/L	< 0.005	< 0.005	< 0.005	NA	0.00558	NE
Silver	SW6020A	mg/L	< 0.005	< 0.005	< 0.005	NA	< 0.005	NE
Thallium	SW6020A	mg/L	< 0.005	< 0.005	< 0.005	NA	< 0.005	NE
Vanadium	SW6020A	mg/L	0.012	0.00592	< 0.005	NA	0.0269	NE
Zinc	SW6020A	mg/L	0.0322	0.0152	<0.01	NA	0.103	NE
SVOCS (detections only)	**Method**	**Units**	**MW-1**	**MW-2**	**MW-3**	**Duplicate**	**MW-4**	**NMWQCC Groundwater Quality Standard**
2,4-Dimethylphenol	8270C	µg/L	<5	<5	18	NA	<5	NE
2-Methylnaphthalene	8270C	µg/L	<5	13	12	NA	<5	see
Naphthalene	8270C	µg/L	<5	14	20	NA	<5	below
Sum of 2-Methylnaphthalene & Naphthalene	8270C	µg/L	–	27	**32**	NA	–	30
Benzyl alcohol	8270C	µg/L	<5	6.8	<5		<5	NE
2-Methylphenol	8270C	µg/L	<5	<5	7.2	NA	<5	NE
3&4-Methylphenol	8270C	µg/L	<5	<5	8.3	NA	<5	NE
VOCs (detections and BTEX only)	**Method**	**Units**	**MW-1**	**MW-2**	**MW-3**	**Duplicate**	**MW-4**	**NMWQCC Groundwater Quality Standard**
1,2,4-Trimethylbenzene	8260B	µg/L	< 5	300	440	NA	< 5	NE
1,3,5-Trimethylbenzene	8260B	µg/L	< 5	96	140	NA	< 5	NE
4-Isopropyltoluene	8260B	µg/L	< 5	7.2	6.3	NA	< 5	NE
Isopropylbenzene	8260B	µg/L	< 5	24	46	NA	< 5	NE
Naphthalene	8260B	µg/L	< 5	21	**36**	NA	< 5	30
n-Butylbenzene	8260B	µg/L	< 5	5.2	< 5	NA	< 5	NE
n-Propylbenzene	8260B	µg/L	< 5	25	48	NA	< 5	NE
sec-Butylbenzene	8260B	µg/L	< 5	6.6	6.1	NA	< 5	NE
Benzene	8260B	µg/L	5.1	9.4	**10**	**10**	< 5	10
Toluene	8260B	µg/L	7.6	**1,100**	**1,400**	**1,400**	< 5	750
Ethylbenzene	8260B	µg/L	< 5	180	490	540	< 5	750
Total Xylenes	8260B	µg/L	9.7	**2,280**	**4,050**	**4,300**	< 5	620
Other	**Method**	**Units**	**MW-1**	**MW-2**	**MW-3**	**Duplicate**	**MW-4**	**NMWQCC Groundwater Quality Standard**
Alkalinity (as Calcium Carbonate)	SM2320B	mg/L	165	215	99	NA	200	NE
Diesel Range Organics	SW8015B	mg/L	< 0.1	0.76	1.2	NA	< 0.1	NE
Gasoline Range Organics	SW8015B	mg/L	0.22	11	21	NA	< 0.1	NE

Notes:

MW = monitoring well
NMWQCC = New Mexico Water Quality Control Commission
Constituents in **BOLD** are in excess of NMWQCC groundwater quality standards
SVOCs = semi-volatile organic compounds
VOCs = volatile organic compounds
mg/L = milligrams per liter
µg/L = micrograms per liter
P = phosphate
N = nitrogen
NE = not established
NA = not analyzed
* = Concentration of total metals. Cannot be compared directly to the NMWQCC standard for dissolved metals; but were used to determine which metals to use dissolved metals analyses for during future quarterly sampling events.

Table 4. ConocoPhillips Randleman No. 1 - Quarterly Groundwater Analytical Results Summary

Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	Naphthalene (µg/L)	Chloride (mg/L)	Sulfate (mg/L)	Aluminum (mg/L)	Iron (mg/L)	Chromium (mg/L)	Manganese (mg/L)	Total Dissolved Solids (mg/L)
MW-1	6/14/2009	5.1	7.6	< 5	9.7	< 5	119	**1690**	9.22*	6.81*	.00601*	4.79*	NA
	9/23/2009	18	5.4	1.3	11.6	< 1	80.5	**1640**	< 0.1	< 0.02	< 0.005	0.17	**2880**
	12/16/2009	< 1	< 1	< 1	< 1	NA	127	**1960**	NA	NA	NA	0.108	**3140**
	4/1/2010	< 1	< 1	< 1	< 1	NA	72.3	**1440**	NA	NA	NA	0.0849	**2850**
	6/9/2010	< 1	< 1	< 1	< 1	NA	83.8	**1450**	NA	NA	NA	0.114	**3340**
	9/20/2010	5.3	< 1	< 1	< 1	NA	84.9	**1710**	NA	NA	NA	**0.207**	**4070**
MW-2	6/14/2009	9.4	**1100**	180	**2280**	21	40.1	**1360**	2.99*	3.7*	< 0.005*	3.56*	NA
	9/23/2009	7.7	< 1	110	**720**	16	39.4	**1390**	< 0.1	0.0239	< 0.005	**6.82**	**2480**
	12/16/2009	**20**	7.9	240	**777.8**	NA	63.3	**1510**	NA	NA	NA	**5.26**	**2390**
	4/1/2010	9	27	180	547	NA	56.5	**1170**	NA	NA	NA	**4.1**	**2460**
	6/9/2010	3.8	9.3	99	265.6	NA	48.7	**1280**	NA	NA	NA	**3.24**	**2590**
	9/20/2010	5.0	7.6	61	136.5	NA	48.7	**1390**	NA	NA	NA	**2.7**	**2440**
MW-3	6/14/2009	**10**	**1400**	490	**4050**	**36**	40.3	**1510**	1.1*	1.65*	< 0.005*	3*	NA
	9/23/2009	**13**	8.5	89	320	3.9	64.5	**1500**	< 0.1	0.0486	< 0.005	**1.11**	**2720**
	12/16/2009	**18**	17	96	280	NA	99.1	**1920**	NA	NA	NA	**0.932**	**2560**
	4/1/2010	**18**	76	190	590	NA	5.34	**796**	NA	NA	NA	**1.04**	**1650**
	6/9/2010	**12**	20	24	69	NA	30.8	**989**	NA	NA	NA	0.193	**2200**
	9/20/2010	9.0	11	79	142	NA	49.9	493	NA	NA	NA	**0.818**	**2840**
MW-4	6/14/2009	< 5	< 5	< 5	< 5	< 5	**2310**	**4190**	13.9*	20*	0.117*	4.92*	NA
	9/23/2009	< 1	< 1	< 1	< 1	< 1	**2130**	**3320**	< 0.1	0.0308	< 0.005	**2.73**	**8600**
	12/16/2009	< 1	< 1	< 1	< 1	NA	**3430**	**4110**	NA	NA	NA	**1.8**	**9600**
	4/1/2010	< 1	< 1	< 1	< 1	NA	**2350**	**3110**	NA	NA	NA	**1.52**	**8560**
	6/9/2010	< 1	< 1	< 1	< 1	NA	**2190**	**2710**	NA	NA	NA	**1.06**	**4720**
	9/20/2010	< 1	< 1	< 1	< 1	NA	**2640**	**3260**	NA	NA	NA	**1.24**	**9550**
NMWQCC Standards		**10 (µg/L)**	**750 (µg/L)**	**750 (µg/L)**	**620 (µg/L)**	**30 (µg/L)**	**250 (mg/L)**	**600 (mg/L)**	**5 (mg/L)**	**1 (mg/L)**	**0.05 (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 Randleman 1 Page 1 of 4

ject No.

Site Location Aztec, NM

Site/Well No. MW-1 Coded/ Replicate No. Date 9/20/10

Weather Overcast Time Sampling Began Time Sampling Completed 1010

EVACUATION DATA

Description of Measuring Point (MP) Top of Casing

Height of MP Above/Below Land Surface MP Elevation 95.19

Total Sounded Depth of Well Below MP ~~25.5~~ 23.68 Water-Level Elevation 80.65

Held ____ Depth to Water Below MP 14.54 Diameter of Casing 2"

Wet ____ Water Column in Well 9.14 Gallons Pumped/Bailed Prior to Sampling 4.5

Gallons per Foot 0.16

Gallons in Well 1.46 x 3 = 4.38 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)	DO %	ORP (mV)	Volume (gal.)
1005	15.48	6.80	3299	2.143	3.95	39.0	65.7	3.75
1006	15.92	6.77	3232	~~3.172~~ 2.096	3.13	31.9	70.7	4.25
1008	15.68	6.75	3230	2.099	2.89	29.8	76.8	4.50

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOAs	HCl
Chloride, Sulfate, TDS	32 oz Plastic	None
Dissolved MN	16 oz Plastic	None

Remarks H_2O is light brown, w/ fines. No odor or sheen observed

Sampling Personnel CM & CB

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 Randleman 1 Page 2 of 4

Project No.

Site Location Aztec, NM

Site/Well No. MW-2 Coded/ Replicate No. Date 9/20/10

Weather overcast Time Sampling Began Time Sampling Completed 1040

EVACUATION DATA

Description of Measuring Point (MP) Top of Casing

Height of MP Above/Below Land Surface MP Elevation 96.79

Total Sounded Depth of Well Below MP ~~23.8~~ 26.39 Water-Level Elevation 80.51

Held ____ Depth to Water Below MP 16.28 Diameter of Casing 2"

Wet ____ Water Column in Well 10.11 Gallons Pumped/Bailed Prior to Sampling 5 gallons

Gallons per Foot 0.16

Gallons in Well 1.617 x 3 = 4.85 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)	DO %	ORP (mV)	Volume (gal.)
1034	13.13	7.45	2294	1.491	2.38	22.8	-233.9	4.0
1036	12.99	7.45	2285	1.485	2.31	22.3	-214.4	4.25
1037	13.06	7.44	2282	1.484	2.27	21.3	-214.8	4.75

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOAs	HCl
Chloride, Sulfate, TDS	32 oz Plastic	None
Dissolved MN	16 oz Plastic	None

Remarks H_2O is light to dark gray with sulfer odor

Sampling Personnel CM & CB

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 Randleman 1 Page 3 of 4

ject No.

Site Location Aztec, NM

Site/Well No. MW-3 Coded/ Replicate No. 1100 Date 9/20/10

Weather overcast Time Sampling Began Time Sampling Completed 1055

EVACUATION DATA

Description of Measuring Point (MP) Top of Casing

Height of MP Above/Below Land Surface MP Elevation 96.31

Total Sounded Depth of Well Below MP ~~22~~ 24.57 Water-Level Elevation 79.36

Held ____ Depth to Water Below MP 16.95 Diameter of Casing 2"

Wet ____ Water Column in Well 7.32 Gallons Pumped/Bailed Prior to Sampling 3.75 gallons

Gallons per Foot 0.16

Gallons in Well 1.17 x 3 = 3.51 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)	DO %	ORP (mV)	Volume (gal.)
1050	13.06	7.21	2.281	1.483	13.02	108	-282.3	3.0
1051	13.73	7.22	2.282	1.485	6.02	51.09	-284	3.25
1052	13.72	7.23	2.282	1.48	5.30	51.3	-276.4	3.50

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOAs	HCl
Chloride, Sulfate, TDS	32 oz Plastic	None
Dissolved MN	16 oz Plastic	None

Remarks water is black with strong hydrocarbon/sulfer odor

Sampling Personnel CM & CB

Well Casing Volumes

Gal./ft.			
1¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
1½" = 0.10	2½" = 0.24	3"½ = 0.50	6" = 1.46

TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name Randleman 1 Page 4 of 4

Ject No.

Site Location Aztec, NM

Site/Well No. MW-4 Coded/ Replicate No. Date 9/2/10

Weather Overcast Time Sampling Began Time Sampling Completed 0955

EVACUATION DATA

Description of Measuring Point (MP) Top of Casing

Height of MP Above/Below Land Surface MP Elevation 98.83

Total Sounded Depth of Well Below MP ~~28.5~~ 28.21 Water-Level Elevation 80.77

Held Depth to Water Below MP ~~18.06~~ 18.06 Diameter of Casing 2"

Wet Water Column in Well ~~11.44~~ 10.15 Gallons Pumped/Bailed Prior to Sampling 5.0 gallons

Gallons per Foot 0.16

Gallons in Well ~~1.83 x 3 =~~ ~~5.49~~ 1.62 x 3 = 4.8 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)	DO %	ORP (mV)	Volume (gal.)
0950	14.81	7.22	11678	7.591	2.60	27.1	11.6	4.25
0952	14.77	7.23	11683	7.592	2.30	23.9	-23.1	4.6
0954	14.85	7.20	11603	7.541	2.38	24.9	-24.9	4.75
								5.0

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOAs	HCl
Chloride, Sulfate, TDS	32 oz Plastic	None
Dissolved MN	16 oz Plastic	None

Remarks H_2O is light brown with fines. No odor or sheen observed

Sampling Personnel Colleen Brown & Christine 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 Report

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

Certificate of Analysis

October 7, 2010

Workorder: H10090508

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

Project: Randleman #1

Project Number: Randleman #1

Site: Randleman #1

PO Number: ENFOS

NELAC Cert. No.: T104704205-09-3

This Report Contains A Total Of 25 Pages

Excluding Any Attachments

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

Certificate of Analysis

October 7, 2010

Workorder: H10090508

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

Project: Randleman #1
Project Number: Randleman #1
Site: Randleman #1
PO Number: ENFOS
NELAC Cert. No.: T104704205-09-3

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:

Per the Conoco Phillips TSM Revision 0, a copy of the internal chain of custody is to be included in final data package. However, due to LIMS limitations, this cannot be provided at this time.

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

Certificate of Analysis

October 7, 2010

Workorder: H10090508

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

Project: Randleman #1

Project Number: Randleman #1

Site: Randleman #1

PO Number: ENFOS

NELAC Cert. No.: T104704205-09-3

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

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: H10090508 : Randleman #1 Project Number: Randleman #1

Lab ID	Sample ID	Matrix	COC ID	Date/Time Collected	Date/Time Received
H10090508001	MW-4	Water		9/20/2010 09:55	9/21/2010 09:25
H10090508002	MW-1	Water		9/20/2010 10:10	9/21/2010 09:25
H10090508003	MW-2	Water		9/20/2010 10:40	9/21/2010 09:25
H10090508004	MW-3	Water		9/20/2010 10:55	9/21/2010 09:25
H10090508005	Duplicate	Water		9/20/2010 11:00	9/21/2010 15:11
H10090508006	Trip Blank	Water		9/20/2010 14:15	9/21/2010 15:11

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

ANALYTICAL RESULTS

Workorder: H10090508 : Randleman #1 Project Number: Randleman #1

Lab ID: **H10090508001** Date/Time Received: 9/21/2010 09:25 Matrix: Water
Sample ID: **MW-4** Date/Time Collected: 9/20/2010 09:55

VOLATILES

Analysis Desc: SW-846 8260B — SW-846 5030Analytical Batches:
Batch: 2675 SW-846 8260B on 09/30/2010 14:11 by LKT

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.13	1			2675
Ethylbenzene	ND		1.0	0.48	1			2675
Toluene	ND		1.0	0.13	1			2675
m,p-Xylene	ND		1.0	0.58	1			2675
o-Xylene	ND		1.0	0.35	1			2675
Xylenes, Total	ND		1.0	0.35	1			2675
4-Bromofluorobenzene (S)	99.6 %		74-125		1			2675
1,2-Dichloroethane-d4 (S)	108 %		70-130		1			2675
Toluene-d8 (S)	97.9 %		82-118		1			2675

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B — Preparation Batches:
Batch: 2082 SW-846 3010A on 09/22/2010 10:30 by R_V
Analytical Batches:
Batch: 1641 SW-846 6010B on 09/30/2010 21:21 by EBG

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Manganese	1.24		0.00500	0.000300	1		2082	1641

Analysis Desc: EPA 300.0 — Analytical Batches:
Batch: 1475 EPA 300.0 on 10/04/2010 19:06 by GLN DF = 500
Batch: 1476 EPA 300.0 on 10/04/2010 23:19 by GLN DF = 500

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Chloride	2540		250	63.0	500			1475
Sulfate	3260		250	21.8	500			1476

WET CHEMISTRY

Analysis Desc: SM 2540 C — Analytical Batches:
Batch: 1816 SM 2540 C on 09/22/2010 12:00 by MMAL

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis

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

ANALYTICAL RESULTS

Workorder: H10090508 : Randleman #1 Project Number: Randleman #1

Lab ID: **H10090508001** Date/Time Received: 9/21/2010 09:25 Matrix: Water
Sample ID: **MW-4** Date/Time Collected: 9/20/2010 09:55

Parameters	Results	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Residue, Filterable (TDS)	9550		100	39.4	10			1816

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

ANALYTICAL RESULTS

Workorder: H10090508 : Randleman #1 Project Number: Randleman #1

Lab ID: **H10090508002** Date/Time Received: 9/21/2010 09:25 Matrix: Water
Sample ID: **MW-1** Date/Time Collected: 9/20/2010 10:10

VOLATILES

Analysis Desc: SW-846 8260B — SW-846 5030Analytical Batches:
Batch: 2675 SW-846 8260B on 09/30/2010 17:15 by LKT

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	5.3		1.0	0.13	1			2675
Ethylbenzene	ND		1.0	0.48	1			2675
Toluene	ND		1.0	0.13	1			2675
m,p-Xylene	ND		1.0	0.58	1			2675
o-Xylene	ND		1.0	0.35	1			2675
Xylenes, Total	ND		1.0	0.35	1			2675
4-Bromofluorobenzene (S)	105 %		74-125		1			2675
1,2-Dichloroethane-d4 (S)	104 %		70-130		1			2675
Toluene-d8 (S)	102 %		82-118		1			2675

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B — Preparation Batches:
Batch: 2082 SW-846 3010A on 09/22/2010 10:30 by R_V
Analytical Batches:
Batch: 1641 SW-846 6010B on 09/30/2010 21:27 by EBG

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Manganese	0.207		0.00500	0.000300	1		2082	1641

Analysis Desc: EPA 300.0 — Analytical Batches:
Batch: 1475 EPA 300.0 on 10/04/2010 19:23 by GLN DF = 20.
Batch: 1476 EPA 300.0 on 10/04/2010 23:36 by GLN DF = 500.

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Chloride	84.9		10.0	2.52	20			1475
Sulfate	1710		250	21.8	500			1476

WET CHEMISTRY

Analysis Desc: SM 2540 C — Analytical Batches:
Batch: 1816 SM 2540 C on 09/22/2010 12:00 by MMAL

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis

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

ANALYTICAL RESULTS

Workorder: H10090508 : Randleman #1 Project Number: Randleman #1

Lab ID: **H10090508002** Date/Time Received: 9/21/2010 09:25 Matrix: Water

Sample ID: **MW-1** Date/Time Collected: 9/20/2010 10:10

Parameters	Results	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Residue, Filterable (TDS)	4070		100	39.4	10			1816

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

ANALYTICAL RESULTS

Workorder: H10090508 : Randleman #1 Project Number: Randleman #1

Lab ID: **H10090508003** Date/Time Received: 9/21/2010 09:25 Matrix: Water
Sample ID: **MW-2** Date/Time Collected: 9/20/2010 10:40

VOLATILES

Analysis Desc: SW-846 8260B
SW-846 5030Analytical Batches:
Batch: 2675 SW-846 8260B on 09/30/2010 17:46 by LKT

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	5.0		1.0	0.13	1			2675
Ethylbenzene	61		1.0	0.48	1			2675
Toluene	7.6		1.0	0.13	1			2675
m,p-Xylene	130		1.0	0.58	1			2675
o-Xylene	6.5		1.0	0.35	1			2675
Xylenes, Total	136.5		1.0	0.35	1			2675
4-Bromofluorobenzene (S)	110 %		74-125		1			2675
1,2-Dichloroethane-d4 (S)	100 %		70-130		1			2675
Toluene-d8 (S)	97.3 %		82-118		1			2675

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B
Preparation Batches:
Batch: 2082 SW-846 3010A on 09/22/2010 10:30 by R_V
Analytical Batches:
Batch: 1641 SW-846 6010B on 09/30/2010 20:26 by EBG

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Manganese	2.70		0.00500	0.000300	1		2082	1641

Analysis Desc: EPA 300.0
Analytical Batches:
Batch: 1475 EPA 300.0 on 10/04/2010 21:36 by GLN DF = 10
Batch: 1476 EPA 300.0 on 10/04/2010 23:53 by GLN DF = 500

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Chloride	25.5		5.00	1.26	10			1475
Sulfate	1390		250	21.8	500			1476

WET CHEMISTRY

Analysis Desc: SM 2540 C
Analytical Batches:
Batch: 1816 SM 2540 C on 09/22/2010 12:00 by MMAL

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis

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

ANALYTICAL RESULTS

Workorder: H10090508 : Randleman #1 Project Number: Randleman #1

Lab ID: **H10090508003** Date/Time Received: 9/21/2010 09:25 Matrix: Water

Sample ID: **MW-2** Date/Time Collected: 9/20/2010 10:40

Parameters	Results	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Residue, Filterable (TDS)	2440		100	39.4	10			1816

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

ANALYTICAL RESULTS

Workorder: H10090508 : Randleman #1 Project Number: Randleman #1

Lab ID: **H10090508004** Date/Time Received: 9/21/2010 09:25 Matrix: Water
Sample ID: **MW-3** Date/Time Collected: 9/20/2010 10:55

VOLATILES

Analysis Desc: SW-846 8260B
SW-846 5030Analytical Batches:
Batch: 2675 SW-846 8260B on 09/30/2010 18:16 by LKT

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	9.0		1.0	0.13	1			2675
Ethylbenzene	79		1.0	0.48	1			2675
Toluene	11		1.0	0.13	1			2675
m,p-Xylene	88		1.0	0.58	1			2675
o-Xylene	54		1.0	0.35	1			2675
Xylenes, Total	142		1.0	0.35	1			2675
4-Bromofluorobenzene (S)	105 %		74-125		1			2675
1,2-Dichloroethane-d4 (S)	102 %		70-130		1			2675
Toluene-d8 (S)	99.3 %		82-118		1			2675

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B
Preparation Batches:
Batch: 2082 SW-846 3010A on 09/22/2010 10:30 by R_V
Analytical Batches:
Batch: 1641 SW-846 6010B on 09/30/2010 21:33 by EBG

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Manganese	0.818		0.00500	0.000300	1		2082	1641

Analysis Desc: EPA 300.0
Analytical Batches:
Batch: 1475 EPA 300.0 on 10/04/2010 23:01 by GLN DF = 20.
Batch: 1476 EPA 300.0 on 10/05/2010 00:44 by GLN DF = 500.

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Chloride	49.9		10.0	2.52	20			1475
Sulfate	493		250	21.8	500			1476

WET CHEMISTRY

Analysis Desc: SM 2540 C
Analytical Batches:
Batch: 1816 SM 2540 C on 09/22/2010 12:00 by MMAL

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis

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

ANALYTICAL RESULTS

Workorder: H10090508 : Randleman #1 Project Number: Randleman #1

Lab ID: **H10090508004** Date/Time Received: 9/21/2010 09:25 Matrix: Water

Sample ID: **MW-3** Date/Time Collected: 9/20/2010 10:55

Parameters	Results	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Residue, Filterable (TDS)	2840		100	39.4	10			1816

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

ANALYTICAL RESULTS

Workorder: H10090508 : Randleman #1 Project Number: Randleman #1

Lab ID: **H10090508005** Date/Time Received: 9/21/2010 15:11 Matrix: Water

Sample ID: **Duplicate** Date/Time Collected: 9/20/2010 11:00

VOLATILES

Analysis Desc: SW-846 8260B SW-846 5030Analytical Batches:

Batch: 2675 SW-846 8260B on 09/30/2010 18:47 by LKT

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	8.4		1.0	0.13	1			2675
Ethylbenzene	78		1.0	0.48	1			2675
Toluene	11		1.0	0.13	1			2675
m,p-Xylene	86		1.0	0.58	1			2675
o-Xylene	51		1.0	0.35	1			2675
Xylenes, Total	137		1.0	0.35	1			2675
4-Bromofluorobenzene (S)	121 %		74-125		1			2675
1,2-Dichloroethane-d4 (S)	102 %		70-130		1			2675
Toluene-d8 (S)	102 %		82-118		1			2675

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

ANALYTICAL RESULTS

Workorder: H10090508 : Randleman #1 Project Number: Randleman #1

Lab ID: **H10090508006** Date/Time Received: 9/21/2010 15:11 Matrix: Water

Sample ID: **Trip Blank** Date/Time Collected: 9/20/2010 14:15

VOLATILES

Analysis Desc: SW-846 8260B SW-846 5030Analytical Batches:

Batch: 2675 SW-846 8260B on 09/30/2010 13:40 by LKT

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.13	1			2675
Ethylbenzene	ND		1.0	0.48	1			2675
Toluene	ND		1.0	0.13	1			2675
m,p-Xylene	ND		1.0	0.58	1			2675
o-Xylene	ND		1.0	0.35	1			2675
Xylenes, Total	ND		1.0	0.35	1			2675
4-Bromofluorobenzene (S)	109 %		74-125		1			2675
1,2-Dichloroethane-d4 (S)	103 %		70-130		1			2675
Toluene-d8 (S)	103 %		82-118		1			2675

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

QUALITY CONTROL DATA

Workorder: H10090508 : Randleman #1 Project Number: Randleman #1

QC Batch: MSV/2674 Analysis Method: SW-846 8260B

QC Batch Method: SW-846 5030 Preparation: 09/30/2010 00:00 by LKT

Associated Lab Samples: H10090438008 H10090508001 H10090508002 H10090508003 H10090508004 H10090508005 H10090508006 H10090580001 H10090580002 H10090580003 H10090580005 H10090580006 H10090581005 H10090624004

METHOD BLANK: 73074

Analysis Date/Time Analyst: 09/30/2010 09:59 LKT

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)	%	108		74-125
1,2-Dichloroethane-d4 (S)	%	103		70-130
Toluene-d8 (S)	%	101		82-118

LABORATORY CONTROL SAMPLE: 73075

Analysis Date/Time Analyst: 09/30/2010 09:29 LKT

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Benzene	ug/l	20	18.3	91.7	74-123
Ethylbenzene	ug/l	20	18.5	92.4	72-127
Toluene	ug/l	20	18.4	91.8	74-126
m,p-Xylene	ug/l	40	37.7	94.2	71-129
o-Xylene	ug/l	20	19.3	96.5	74-130
Xylenes, Total	ug/l	60	57.0	95.0	71-130
4-Bromofluorobenzene (S)	%			110	74-125
1,2-Dichloroethane-d4 (S)	%			96.5	70-130
Toluene-d8 (S)	%			101	82-118

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 73078 73079 Original: H10090508001

MS Analysis Date/Time Analyst: 09/30/2010 14:42 LKT

MSD Analysis Date/Time Analyst: 09/30/2010 15:13 LKT

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Benzene	ug/l	ND	20	18.4	17.2	92.0	85.9	70-124	6.9	20
Ethylbenzene	ug/l	ND	20	18.6	18.6	93.0	92.8	35-175	0.2	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: H10090508 : Randleman #1 Project Number: Randleman #1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 73078 73079 Original: H10090508001

MS Analysis Date/Time Analyst: 09/30/2010 14:42 LKT

MSD Analysis Date/Time Analyst: 09/30/2010 15:13 LKT

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Toluene	ug/l	ND	20	18.2	17.4	91.2	87.1	70-131	4.6	20
m,p-Xylene	ug/l	ND	40	35.4	34.3	88.5	85.6	35-175	3.3	20
o-Xylene	ug/l	ND	20	19.2	18.2	96.1	91.2	35-175	5.3	20
Xylenes, Total	ug/l	ND	60	54.63	52.49	91.1	87.5	35-175	4.0	20
4-Bromofluorobenzene (S)	%	99.6				116	115	74-125		
1,2-Dichloroethane-d4 (S)	%	108				97.6	103	70-130		
Toluene-d8 (S)	%	97.9				99.7	101	82-118		

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: H10090508 : Randleman #1 Project Number: Randleman #1

QC Batch: DIGM/2082 Analysis Method: SW-846 6010B

QC Batch Method: SW-846 3010A Preparation: 09/22/2010 10:30 by R_V

Associated Lab Samples: H10090508001 H10090508002 H10090508003 H10090508004

METHOD BLANK: 70771

Analysis Date/Time Analyst: 09/30/2010 20:14 EBG

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

LABORATORY CONTROL SAMPLE: 70772

Analysis Date/Time Analyst: 09/30/2010 20:20 EBG

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Manganese	mg/l	0.10	0.1002	100	80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 70773 70774 Original: H10090508003

MS Analysis Date/Time Analyst: 09/30/2010 20:32 EBG

MSD Analysis Date/Time Analyst: 09/30/2010 20:38 EBG

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Manganese	mg/l	2.7	0.10	2.85	2.80	NC	NC	75-125	NC	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: H10090508 : Randleman #1 Project Number: Randleman #1

QC Batch: IC/1475 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Associated Lab Samples: H10090508001 H10090508002 H10090508003 H10090508004 H10090682001 H10090689001 H10090698001

METHOD BLANK: 74036

Analysis Date/Time Analyst: 10/04/2010 08:05 GLN

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

LABORATORY CONTROL SAMPLE: 74037

Analysis Date/Time Analyst: 10/04/2010 08:22 GLN

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Chloride	mg/l	10	9.77	97.7	85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 74038 74039 Original: H10090689001

MS Analysis Date/Time Analyst: 10/04/2010 15:23 GLN

MSD Analysis Date/Time Analyst: 10/04/2010 15:40 GLN

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Chloride	mg/l	35.5	100	137.0	136.7	101	101	80-120	0.2	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: H10090508 : Randleman #1 Project Number: Randleman #1

QC Batch: IC/1476 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Associated Lab Samples: H10090508001 H10090508002 H10090508003 H10090508004

METHOD BLANK: 74178

Analysis Date/Time Analyst: 10/04/2010 08:05 GLN

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

LABORATORY CONTROL SAMPLE: 74179

Analysis Date/Time Analyst: 10/04/2010 08:22 GLN

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Sulfate	mg/l	10	10.01	100	85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 74180 74181 Original: H10090508003

MS Analysis Date/Time Analyst: 10/05/2010 00:10 GLN

MSD Analysis Date/Time Analyst: 10/05/2010 00:27 GLN

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Sulfate	mg/l	1390	5000	6427	6455	101	101	80-120	0.4	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: H10090508 : Randleman #1 Project Number: Randleman #1

QC Batch: WETS/1816 Analysis Method: SM 2540 C

QC Batch Method: SM 2540 C

Associated Lab Samples: H10090507001 H10090508001 H10090508002 H10090508003 H10090508004

METHOD BLANK: 70809

Analysis Date/Time Analyst: 09/22/2010 12:00 MMAL

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

LABORATORY CONTROL SAMPLE & LCSD: 70810 70811

LCS Analysis Date/Time Analyst: 09/22/2010 12:00 MMAL

LCSD Analysis Date/Time 09/22/2010 12:00 MMAL

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD
Residue, Filterable (TDS)	mg/l	200	199.0	200.0	99.5	100	95-107	0.5	10

SAMPLE DUPLICATE: 70812 Original: H10090508001

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	DF
WET CHEMISTRY						10
Residue, Filterable (TDS)	mg/l	9550	9510	0.4	10	10

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

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: H10090508 : Randleman #1 Project Number: Randleman #1

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
H10090508001	**MW-4**	SW-846 3010A	DIGM/2082	SW-846 6010B	ICP/1641
H10090508002	**MW-1**	SW-846 3010A	DIGM/2082	SW-846 6010B	ICP/1641
H10090508003	**MW-2**	SW-846 3010A	DIGM/2082	SW-846 6010B	ICP/1641
H10090508004	**MW-3**	SW-846 3010A	DIGM/2082	SW-846 6010B	ICP/1641
H10090508001	**MW-4**	SM 2540 C	WETS/1816		
H10090508002	**MW-1**	SM 2540 C	WETS/1816		
H10090508003	**MW-2**	SM 2540 C	WETS/1816		
H10090508004	**MW-3**	SM 2540 C	WETS/1816		
H10090508001	**MW-4**	SW-846 5030	MSV/2674	SW-846 8260B	MSV/2675
H10090508002	**MW-1**	SW-846 5030	MSV/2674	SW-846 8260B	MSV/2675
H10090508003	**MW-2**	SW-846 5030	MSV/2674	SW-846 8260B	MSV/2675
H10090508004	**MW-3**	SW-846 5030	MSV/2674	SW-846 8260B	MSV/2675
H10090508005	**Duplicate**	SW-846 5030	MSV/2674	SW-846 8260B	MSV/2675
H10090508006	**Trip Blank**	SW-846 5030	MSV/2674	SW-846 8260B	MSV/2675
H10090508001	**MW-4**	EPA 300.0	IC/1475		
H10090508002	**MW-1**	EPA 300.0	IC/1475		
H10090508003	**MW-2**	EPA 300.0	IC/1475		
H10090508004	**MW-3**	EPA 300.0	IC/1475		
H10090508001	**MW-4**	EPA 300.0	IC/1476		
H10090508002	**MW-1**	EPA 300.0	IC/1476		
H10090508003	**MW-2**	EPA 300.0	IC/1476		
H10090508004	**MW-3**	EPA 300.0	IC/1476		

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

Sample Receipt Checklist

WorkOrder:	H10090508	Received By	LOG
Date and Time	09/21/2010 09:25	Carrier Name:	FEDEXS
Temperature:	1.5°C	Chilled By:	Water Ice

Airbill - Temp: /

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*)?	YES

*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

1 of 2

Analysis Request and Chain of Custody Record

8880 Interchange Drive, Houston, TX 77054

SPL Workorder No: H10090508

Company Name: Tetra Tech / Conoco Phillips	Sampling Event Description:
Contact: Kelly Blanchard	Quarterly: X
Address: 6121 Indian School Rd. NE, Ste. 200	Semi-Annual:
Phone/Fax: (505) 237-8440 / (505) 237-8656	WC-Waste Char:
Email Address: kelly.blanchard@tetratech.com	Other (describe below):
Invoice To:	
Purchase Order No:	
Project Name/No: Randleman#1	QA/QC Level
Site Address:	TRRP: LVL 3:
Sampled By: Christine Mathews	STD: X Other:

SAMPLE ID	DATE	TIME	Water	Soil	Sludge	Other	Number Containers	Container Type	Preservative	BTEX	Sulfate, Cld.TDS	Dissolved Mn				
MW-4	9.20.10	955	X				1	32oz P	Ø		X					
MW-4	9.20.10	955	X				1	16oz P	Ø			X				
Duplicate	9.20.10	1100	X				3	VOA	HCl	X						
Trip Blank	9.20.10	1415	X				2	VOA	HCl	X						

TAT: 24hr ☐ 72hr ☐ 48hr ☐ 10 day ☒ Other ☐

Special Detection Limits (Specify): please filter & preserve metals container befor analysis

Special Reporting Requirements (Specify):

Consultant Remarks:

Laboratory Remarks:

PM review: 1.5-

	Date	Time	
Relinquished by Sampler: Christine Mathews	9.20.10	1430	Received by:
Relinquished by:	Date	Time	Received by:
Relinquished by:	9/21/10	0805	Received by: SPL, Inc

Report ID: H10090508_6089
Printed: 10/07/2010 17:15

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

2 of 2

Analysis Request and Chain of Custody Record

8880 Interchange Drive, Houston, TX 77054

SPL Workorder No: H10090508

Company Name: Tetra Tech / Conoco Phillips	
Contact: Kelly Blanchard	
Address: 6121 Indian School Rd. NE, Ste. 200	
Phone/Fax: (505) 237-8440 / (505) 237-8666	
Email Address: kelly.blanchard@tetratech.com	
Invoice To	
Purchase Order No	
Project Name/No: Randleman#1	
Site Address	
Sampled By: Christie Mathews	

Sampling Event Description

- Quarterly: X
- Semi-Annual:
- WC-Waste Char.:
- Other (describe below):

QA/QC Level

- TRRP:
- LVL 3:
- STD: X
- Other:

SAMPLE ID	DATE	TIME	Water	Soil	Sludge	Other	Number Containers	Container Type	Preservative	BTEX	Sulfate, Cld.TDS	Dissolved Mn
MW-1	9.20.10	1010	X				3	VOA	HCl	X		
MW-1	9.20.10	1010	X				1	32 oz P	Ø		X	
MW-1	9.20.10	1010	X				1	16 oz P	Ø			X
MW-2	9.20.10	1040	X				3	VOA	HCl	X		
MW-2	9.20.10	1040	X				1	32 oz P	Ø		X	
MW-2	9.20.10	1040	X				1	16 oz P	Ø			X
MW-3	9.20.10	1055	X				3	VOA	HCl	X		
MW-3	9.20.10	1055	X				1	32 oz P	Ø		X	
MW-3	9.20.10	1055	X				1	16 oz P	Ø			X
MW-4	9.20.10	955	X				3	VOA	HCl	X		

TAT

- 24hr:
- 72hr:
- 48hr:
- 10 day: X
- Other:

Special Detection Limits (Specify): please filter & preserve metals container prior to analysis

Special Reporting Requirements (Specify)

Consultant Remarks

Laboratory Remarks

1.5c

PM review:

Relinquished by Sampler	Date	Time	Received by
Christie Mathews	9.20.10	1430	
Relinquished by	Date	Time	Received by
Relinquished by	Date	Time	Received by SPL Inc.
	9/21/10	905	

Report ID: H10090508_6089
Printed: 10/07/2010 17:15