3RP-340

QTR Groundwater Report

DATE:
AUG 2010

TETRA TECH, INC.

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

August 19, 2010

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

RE: ConocoPhillips Company Randleman #1 - Groundwater Monitoring Report, Aztec, New Mexico

Dear Mr. von Gonten:

Enclosed please find one copy of the above-referenced document as compiled by Tetra Tech, Inc., for this Aztec-area 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/Geologist

Cc: Brandon Powell, NMOCD

Enclosures (1)

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

August 2010

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

1.0 INTRODUCTION

This report discusses the groundwater sampling event performed by Tetra Tech, Inc. (Tetra Tech) on April 1, 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; approximately 10 gallons of water were removed. After removal of collected 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 8260. 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 absorbent socks will be monitored and replaced as necessary during subsequent monitoring events. 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 April 1, 2010. 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 April 1, 2010 groundwater elevation is presented as **Figure 4**.

2.2 Groundwater Sampling Methodology

During the April 1, 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.

April 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 April 1, 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. Exceedences 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); the groundwater sample collected from MW-4, the up gradient monitoring well, was found to contain chloride at concentration of 2,350 mg/L.
- **Sulfate**
  - The NMWQCC domestic water supply groundwater quality standard for sulfate is 600 mg/L; groundwater samples collected from Monitor Wells MW-1, MW-2, MW-3 and MW-4 were found to contain sulfate at concentrations of 1,440 mg/L, 1,170 mg/L, 796 mg/L, and 3,110 mg/L, respectively.
- **Manganese**
  - The NMWQCC domestic water supply groundwater quality standard for manganese is 0.2 milligrams per liter (mg/L). Groundwater samples collected from Monitor Wells MW-2, MW-3, and MW-4 were found to contain concentrations of manganese above the standard at 4.1 mg/L, 1.04 mg/L, and 1.52 mg/L, respectively.

- **Benzene**
  - The human health NMWQCC groundwater quality standard for benzene is 10 µg/L. Groundwater samples collected from Monitor Well MW-3 was above the standard with a concentration of 18 µg/L.
- **Total Xylenes**
  - The human health NMWQCC groundwater quality standard for total xylenes is 620 µg/L. The groundwater samples collected from all Monitor Wells were below the NMWQCC standard for total xylenes; representing the first 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. Groundwater samples collected from Monitor Wells MW-1, MW-2, MW-3 and MW-4 were above the standard with concentrations of 2,850 µg/L; 2,460 µg/L; 1,650 µg/L and 4,720 µg/L, respectively.

The corresponding laboratory analytical report for the April 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**.

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

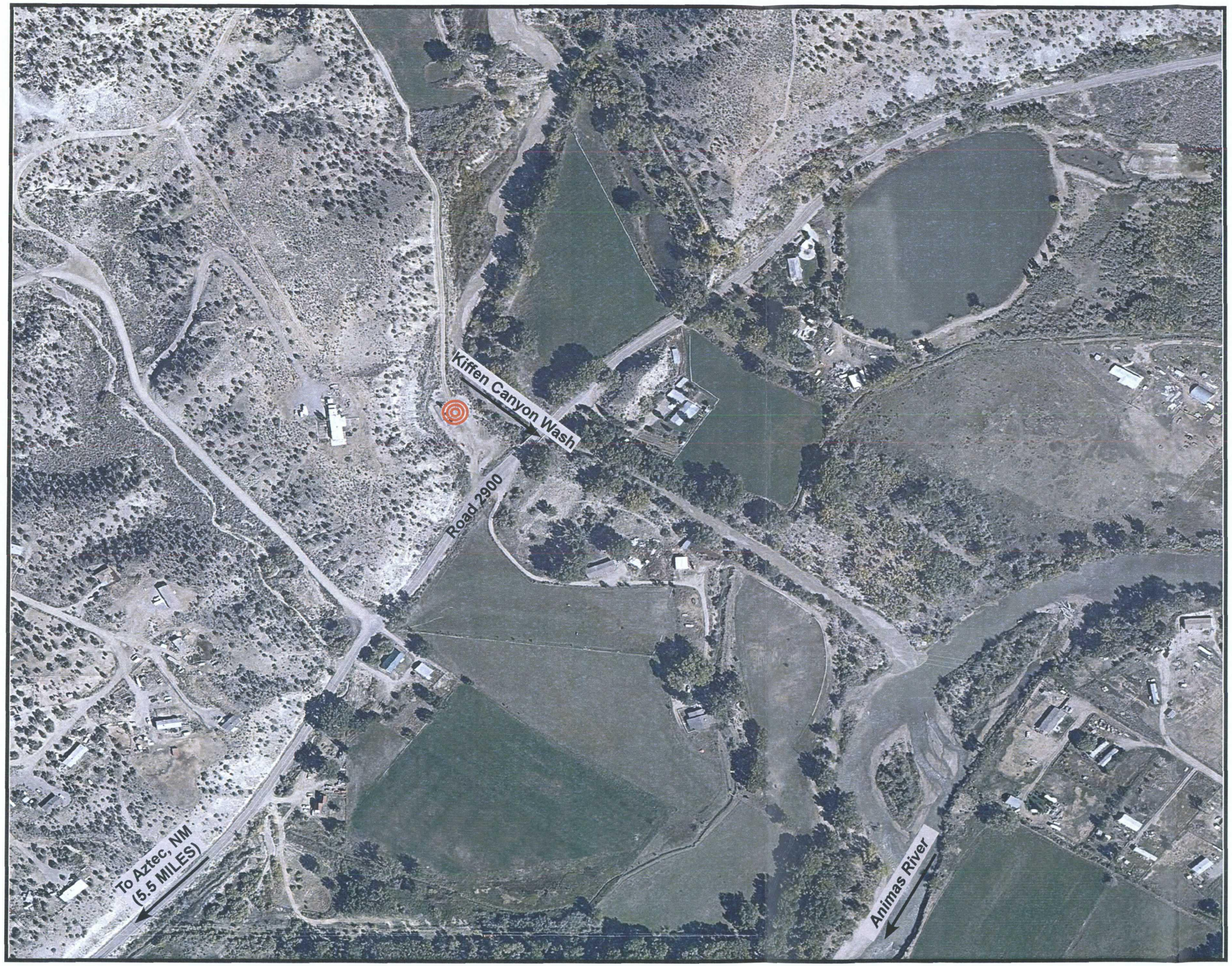
Envirotech Incorporated (2009). *Spill Cleanup Report, Located at: Burlington Resources* [sic] *Randleman #1 Well Site, Section 13, Township 31N, Range 11W, San Juan County, New Mexico.* Prepared for ConocoPhillips. Report Dated February 2009. 3 pp (not including Figures, Tables, and Appendices).

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

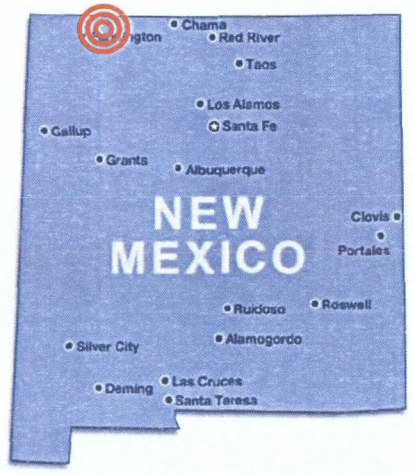
1. Site Location Map
2. Site Detail Map
3. Generalized Geologic Cross Section
4. Groundwater Elevation Map – April 2010
5. BTEX Groundwater Concentration Map – April 2010



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.

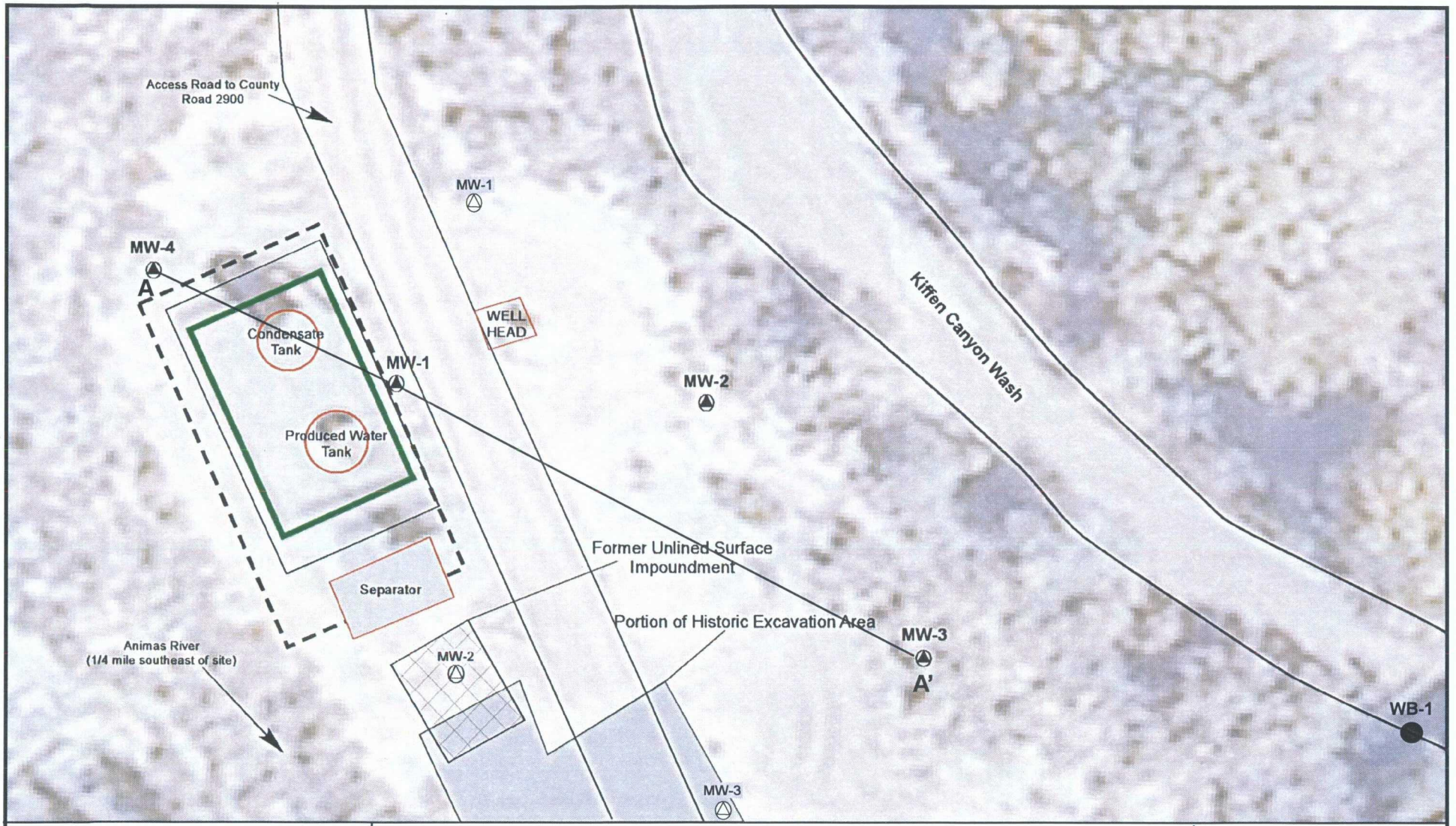


FIGURE 2:
SITE DETAIL MAP
CONOCOPHILLIPS COMPANY
RANDLEMAN #1
GAS PRODUCTION WELL
Sec 13, T31N, R11W
Aztec, New Mexico

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

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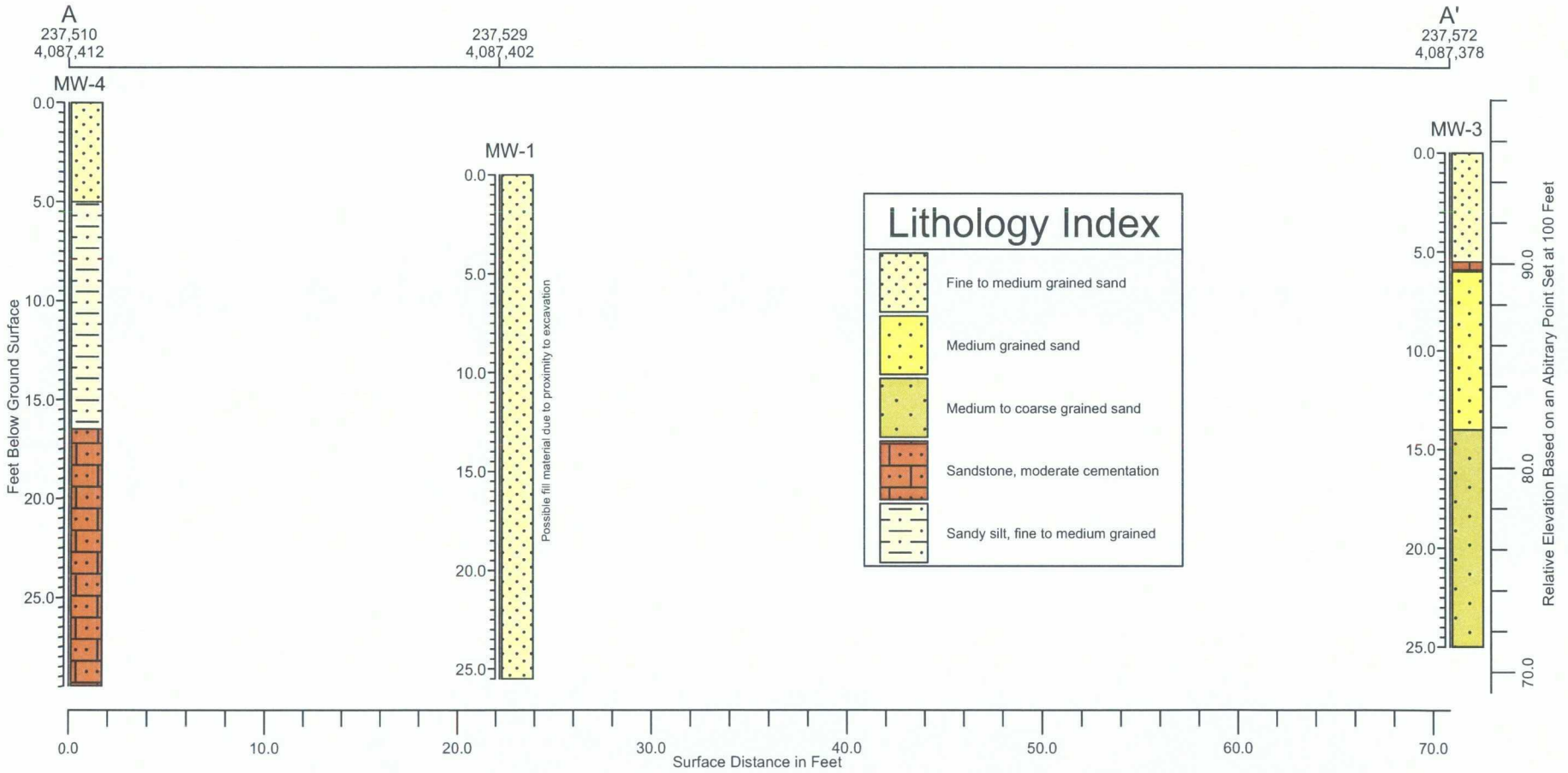
TETRA TECH, INC.

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



2/11/2010

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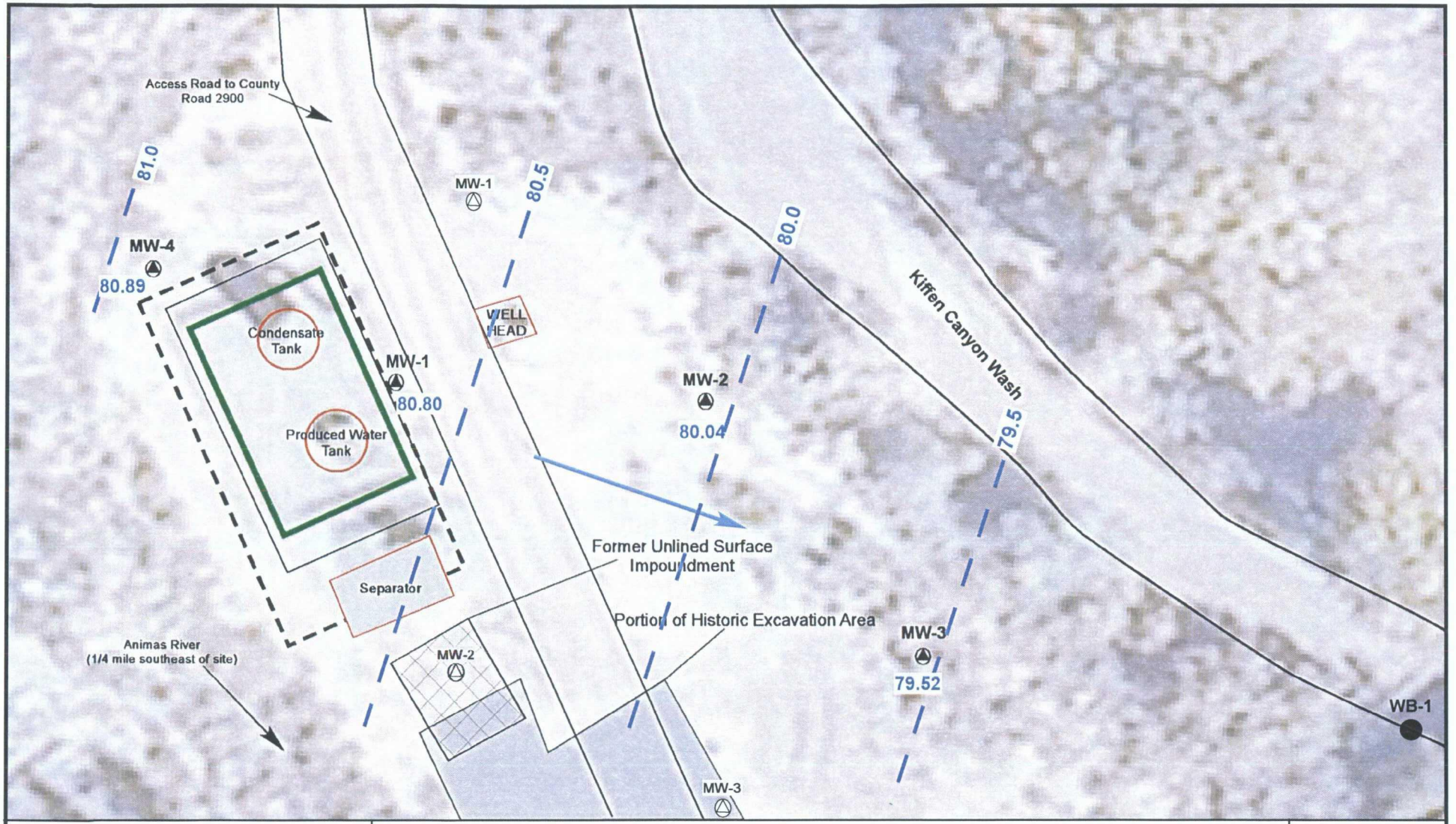

FIGURE 4:
GROUNDWATER ELEVATION MAP - April 2010
CONOCOPHILLIPS COMPANY
RANDLEMAN #1
GAS PRODUCTION WELL
Sec 13, T31N, R11W
Aztec, New Mexico

- 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.

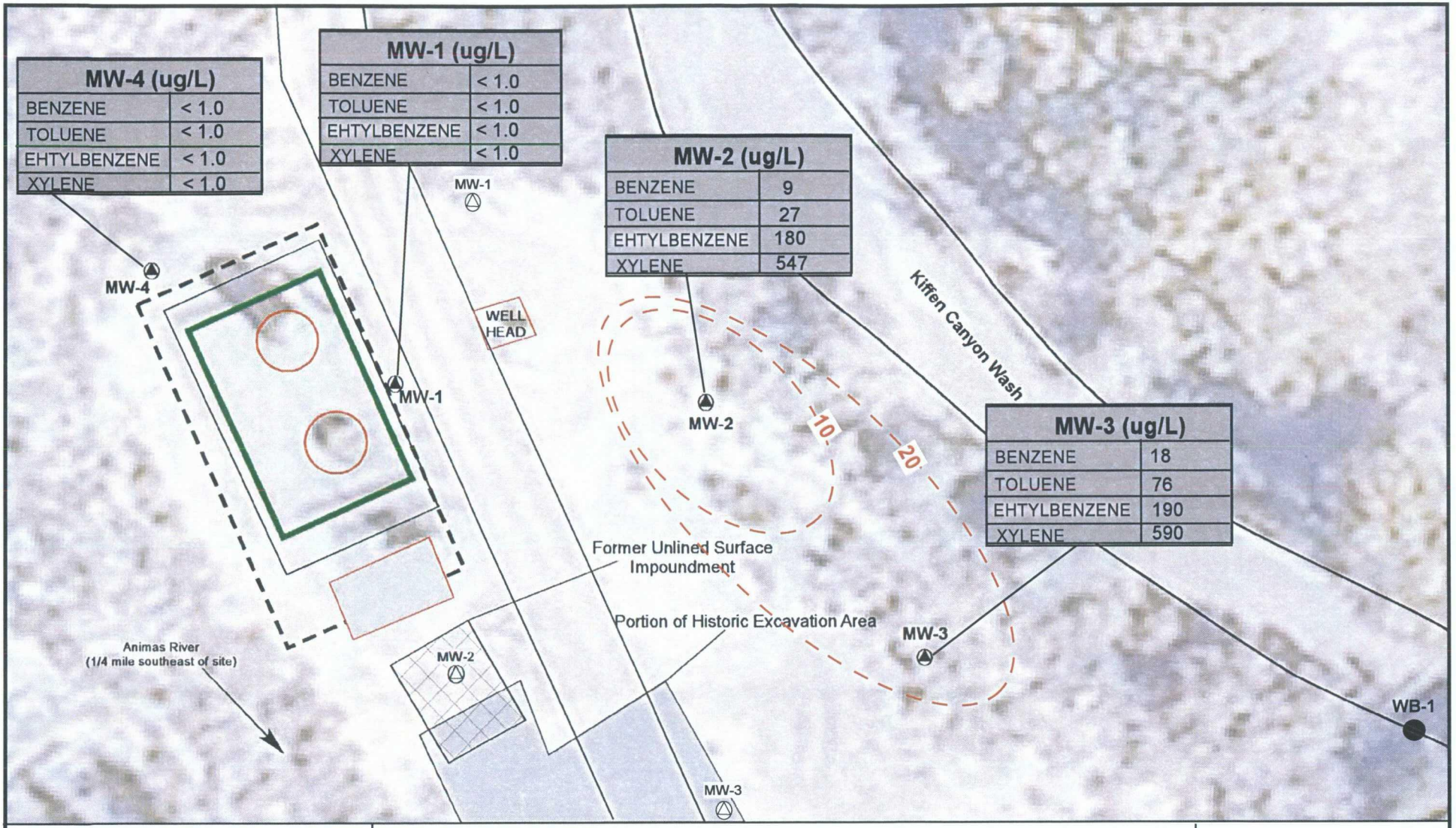

FIGURE 5:
BTEX GROUNDWATER CONCENTRATION MAP
April 2010
CONOCOPHILLIPS COMPANY
RANDLEMAN #1
GAS PRODUCTION WELL
Sec 13, T31N, R11W
Aztec, New Mexico

LEGEND

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

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0 15 30
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TETRA TECH, INC.

TABLES

Table 1. Randleman #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 to 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 that 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 continue 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. At the end of the day, the 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 below100 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; approximately 10 gallons of water were removed. 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 installs 4 groundwater monitor wells at the Site; MW-1, MW-2, MW-3 and MW-4.
June 12, 2009	Tetra Tech conducts 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 #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.

Table 2. Groundwater Elevation Data Summary - ConocoPhillips Company Randleman #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
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
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
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

ft = Feet
TOC = Top of casing
bgs = below ground surface
* Elevation relative to an arbitrary data point of 100 feet

Table 3. ConocoPhillips Company - Randleman #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**
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**
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**
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	**3,430**	**4,110**	NA	NA	NA	**1.8**	**9600**
	4/1/2010	< 1	< 1	< 1	< 1	NA	**2,350**	**3,110**	NA	NA	NA	**1.52**	**8560**
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

Project No.

Site Location Aztec, NM

Site/Well No. MW-1 Coded/ Replicate No. ~~dup~~ N/A Date 4-1-10

Weather Cloudy, 40° Time Sampling Began 1330 Time Sampling Completed 1345

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 25.5 Water-Level Elevation

Held Depth to Water Below MP 14.39 Diameter of Casing 2"

Wet Water Column in Well 11.11 Gallons Pumped/Bailed Prior to Sampling 5.5

Gallons per Foot 0.16

Gallons in Well 1.78 x 3 = 5.33

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)
1325	11.23	7.03	3363	2.168	2.08	-45.8
1335	11.05	7.06	3362	2.185	2.24	-46.6
1339	11.34	7.09	3352	2.22	2.20	-46.6

DO%
19.4
20.8
20.5

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

Sampling Personnel C. Mathews, K Blanchard

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. Duplicate (1415) Date 4-1-10

Weather Cloudy i windy ~40° Time Sampling Began 1345 Time Sampling Completed 1405

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 23.8 Water-Level Elevation

Held Depth to Water Below MP 16.75 Diameter of Casing 2"

Wet Water Column in Well 7.05 Gallons Pumped/Bailed Prior to Sampling 3.5

Gallons per Foot 0.16

Gallons in Well 1.13 x3 =3.38 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)	Qty.
2.5 ~~1355~~	9.88	7.57	2602	1.704	1.40	-244.1	12.5
3 1357	10.09	7.55	2653	1.728	11.32	-242.8	11.8
3.5 ~~1359~~	10.25	7.53	2747	1.802	1.47	-239.4	13.2

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 H2O dark gray-black, strong weathered bio odor, very very slight discontinuous sheen observed

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: Randleman 1 — Page 3 of 4

Project No.:

Site Location: Aztec, NM

Site/Well No.: MW-3 — Coded/Replicate No.: — — Date: 4-1-10

Weather: Cloudy, windy, 40° — Time Sampling Began: ~~1208~~ 1408 — Time Sampling Completed: 1420

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: 22 — Water-Level Elevation: —

Held: — Depth to Water Below MP: 16.79 — Diameter of Casing: 2"

Wet: — Water Column in Well: 5.3 — Gallons Pumped/Bailed Prior to Sampling: 2.75

Gallons per Foot: 0.16

Gallons in Well: 0.85 x 3 = 2.54 — 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%
1412	8.98	7.27	1821	1.18 ~~1.17~~	2.05	-214.7	18.2
1414	8.92	7.35	1824	1.186	2.11	-214.5	18.3
1416	8.97	7.41	1828	1.188	2.47	-200.0	21.2

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: H2O dark gray, strong weathered odor, very fine white suspended solids no sheen

Sampling Personnel: C. Mathews, R. Blanchard

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 4 of 4

Project No.

Site Location Aztec, NM

Site/Well No. MW-4 Coded/ Replicate No. — Date 4-1-10

Weather Cold, windy ~40° cloudy Time Sampling Began 13:10 Time Sampling Completed 1325

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 29.5 Water-Level Elevation

Held Depth to Water Below MP 17.94 Diameter of Casing 2"

Wet Water Column in Well 11.56 Gallons Pumped/Bailed Prior to Sampling 5.75

Gallons per Foot 0.16

Gallons in Well 1.85 x 3 = 5.54 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%
4	13:18	13.20	7.18	12289	7.997	1.74	+48.4	16.9
4.75	13:19	13.23	7.18	12262	7.970	1.58	-52.5	15.7
5.5	13:21	13.26	7.18	12267	7.980	1.42	-54.3	14.0

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

Sampling Personnel C. Mathews, K. Blanchard

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

April 15, 2010

Workorder: H10040051

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

Project: Randleman No.1

Project Number: Randleman No.1

Site: Aztec, NM

PO Number: ENFOS #4512439414

NELAC Cert. No.: T104704205-09-1

This Report Contains A Total Of 26 Pages

Excluding Any Attachments

SPL Inc.
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Houston, TX 77054
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Certificate of Analysis

April 15, 2010

Workorder: H10040051

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

Project: Randleman No.1

Project Number: Randleman No.1

Site: Aztec, NM

PO Number: ENFOS #4512439414

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.
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Houston, TX 77054
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Fax: (713) 660-8975

Certificate of Analysis

April 15, 2010

Workorder: H10040051

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

Project: Randleman No.1

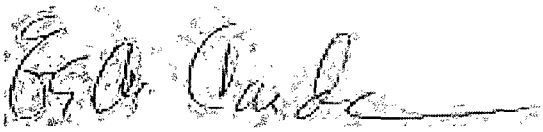
Project Number: Randleman No.1

Site: Aztec, NM

PO Number: ENFOS #4512439414

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: H10040051 : Randleman No.1 Project Number: Randleman No.1

Lab ID	Sample ID	Matrix	COC ID	Date/Time Collected	Date/Time Received
H10040051001	MW-1	Water		4/1/2010 13:45	4/2/2010 09:15
H10040051002	MW-2	Water		4/1/2010 14:05	4/2/2010 09:15
H10040051003	MW-3	Water		4/1/2010 14:20	4/2/2010 09:15
H10040051004	MW-4	Water		4/1/2010 13:25	4/2/2010 09:15
H10040051005	Duplicate	Water		4/1/2010 14:15	4/2/2010 09:15
H10040051006	Trip Blank	Water		4/1/2010 14:30	4/2/2010 09:15

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ANALYTICAL RESULTS

Workorder: H10040051 : Randleman No.1 | Project Number: Randleman No.1

Lab ID: **H10040051001** | Date/Time Received: 4/2/2010 09:15 | Matrix: Water

Sample ID: **MW-1** | Date/Time Collected: 4/1/2010 13:45

Analysis Desc: EPA 300.0 | Analytical Batches:

Batch: 1239 EPA 300.0 on 04/02/2010 16:55 by CFS DF = 1000.

Batch: 1245 EPA 300.0 on 04/09/2010 13:31 by CFS DF = 10.

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Chloride	72.3		5.00	1.26	10			1245
Sulfate	1440		500	43.5	1000			1239

WET CHEMISTRY

Analysis Desc: SM 2540 C | Analytical Batches:

Batch: 1544 SM 2540 C on 04/05/2010 16:40 by CFS

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Residue, Filterable (TDS)	2850		20.0	7.88	2			1544

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 17:14 by EBG

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Manganese	0.0849		0.00500	0.000300	1		1638	1334

VOLATILES

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

Batch: 1715 SW-846 8260B on 04/07/2010 18:42 by JMC

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.10	1			1715
Ethylbenzene	ND		1.0	0.15	1			1715
Toluene	ND		1.0	0.29	1			1715
m,p-Xylene	ND		1.0	0.18	1			1715
o-Xylene	ND		1.0	0.13	1			1715
Xylenes, Total	ND		1.0	0.13	1			1715
4-Bromofluorobenzene (S)	92.2 %		74-125		1			1715

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ANALYTICAL RESULTS

Workorder: H10040051 : Randleman No.1 Project Number: Randleman No.1

Lab ID: **H10040051001** Date/Time Received: 4/2/2010 09:15 Matrix: Water

Sample ID: **MW-1** Date/Time Collected: 4/1/2010 13:45

Parameters	Results	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
1,2-Dichloroethane-d4 (S)	97.6 %		70-130		1			1715
Toluene-d8 (S)	96.4 %		82-118		1			1715

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ANALYTICAL RESULTS

Workorder: H10040051 : Randleman No.1 — Project Number: Randleman No.1

Lab ID: **H10040051002** — Date/Time Received: 4/2/2010 09:15 — Matrix: Water

Sample ID: **MW-2** — Date/Time Collected: 4/1/2010 14:05

Analysis Desc: EPA 300.0

Analytical Batches:

Batch: 1239 EPA 300.0 on 04/02/2010 17:11 by CFS DF = 1000.

Batch: 1245 EPA 300.0 on 04/09/2010 13:48 by CFS DF = 10.

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Chloride	56.5		5.00	1.26	10			1245
Sulfate	1170		500	43.5	1000			1239

WET CHEMISTRY

Analysis Desc: SM 2540 C

Analytical Batches:

Batch: 1544 SM 2540 C on 04/05/2010 16:40 by CFS

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Residue, Filterable (TDS)	2460		20.0	7.88	2			1544

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 17:20 by EBG

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Manganese	4.10		0.00500	0.000300	1		1638	1334

VOLATILES

Analysis Desc: SW-846 8260B

SW-846 5030Analytical Batches:

Batch: 1715 SW-846 8260B on 04/07/2010 19:10 by JMC DF = 1.

Batch: 1733 SW-846 8260B on 04/11/2010 21:56 by JMC DF = 10.

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	9.0		1.0	0.10	1			1715
Ethylbenzene	180		10	1.5	10			1733
Toluene	87		1.0	0.29	1			1715
m,p-Xylene	520		10	1.8	10			1733
o-Xylene	27		1.0	0.13	1			1715

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ANALYTICAL RESULTS

Workorder: H10040051 : Randleman No.1 | Project Number: Randleman No.1

Lab ID: **H10040051002** | Date/Time Received: 4/2/2010 09:15 | Matrix: Water

Sample ID: **MW-2** | Date/Time Collected: 4/1/2010 14:05

Parameters	Results	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Xylenes, Total	27		1.0	0.13	1			1715
4-Bromofluorobenzene (S)	94.4 %		74-125		10			1733
4-Bromofluorobenzene (S)	99.1 %		74-125		1			1715
1,2-Dichloroethane-d4 (S)	94.7 %		70-130		1			1715
1,2-Dichloroethane-d4 (S)	99.2 %		70-130		10			1733
Toluene-d8 (S)	99.5 %		82-118		10			1733
Toluene-d8 (S)	101 %		82-118		1			1715

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ANALYTICAL RESULTS

Workorder: H10040051 : Randleman No.1 | Project Number: Randleman No.1

Lab ID: **H10040051003** | Date/Time Received: 4/2/2010 09:15 | Matrix: Water

Sample ID: **MW-3** | Date/Time Collected: 4/1/2010 14:20

Analysis Desc: EPA 300.0 | Analytical Batches:

Batch: 1239 EPA 300.0 on 04/02/2010 17:28 by CFS DF = 1000.

Batch: 1245 EPA 300.0 on 04/09/2010 16:18 by CFS DF = 1.

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Chloride	5.34		0.500	0.126	1			1245
Sulfate	796		500	43.5	1000			1239

WET CHEMISTRY

Analysis Desc: SM 2540 C | Analytical Batches:

Batch: 1544 SM 2540 C on 04/05/2010 16:40 by CFS

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Residue, Filterable (TDS)	1650		10.0	3.94	1			1544

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 17:25 by EBG

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Manganese	1.04		0.00500	0.000300	1		1638	1334

VOLATILES

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

Batch: 1715 SW-846 8260B on 04/07/2010 19:37 by JMC DF = 1.

Batch: 1733 SW-846 8260B on 04/11/2010 22:23 by JMC DF = 10.

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	18		1.0	0.10	1			1715
Ethylbenzene	190		1.0	0.15	1			1715
Toluene	76		1.0	0.29	1			1715
m,p-Xylene	390		10	1.8	10			1733
o-Xylene	200		1.0	0.13	1			1715

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ANALYTICAL RESULTS

Workorder: H10040051 : Randleman No.1 | Project Number: Randleman No.1

Lab ID: **H10040051003** | Date/Time Received: 4/2/2010 09:15 | Matrix: Water

Sample ID: **MW-3** | Date/Time Collected: 4/1/2010 14:20

Parameters	Results	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Batch Information Analysis
Xylenes, Total	590		1.0	0.13	10			1733
4-Bromofluorobenzene (S)	96.6 %		74-125		10			1733
4-Bromofluorobenzene (S)	97.7 %		74-125		1			1715
1,2-Dichloroethane-d4 (S)	92.2 %		70-130		1			1715
1,2-Dichloroethane-d4 (S)	94.8 %		70-130		10			1733
Toluene-d8 (S)	95.5 %		82-118		1			1715
Toluene-d8 (S)	102 %		82-118		10			1733

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ANALYTICAL RESULTS

Workorder: H10040051 : Randleman No.1 — Project Number: Randleman No.1

Lab ID: **H10040051004** — Date/Time Received: 4/2/2010 09:15 — Matrix: Water
Sample ID: **MW-4** — Date/Time Collected: 4/1/2010 13:25

Analysis Desc: EPA 300.0 — Analytical Batches:
Batch: 1239 EPA 300.0 on 04/02/2010 17:45 by CFS DF = 1000
Batch: 1245 EPA 300.0 on 04/09/2010 14:21 by CFS DF = 200

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Chloride	2350		100	25.2	200			1245
Sulfate	3110		500	43.5	1000			1239

WET CHEMISTRY

Analysis Desc: SM 2540 C — Analytical Batches:
Batch: 1544 SM 2540 C on 04/05/2010 16:40 by CFS

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Residue, Filterable (TDS)	8560		50.0	19.7	5			1544

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 17:31 by EBG

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Manganese	1.52		0.00500	0.000300	1		1638	1334

VOLATILES

Analysis Desc: SW-846 8260B — SW-846 5030Analytical Batches:
Batch: 1715 SW-846 8260B on 04/07/2010 20:05 by JMC

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.10	1			1715
Ethylbenzene	ND		1.0	0.15	1			1715
Toluene	ND		1.0	0.29	1			1715
m,p-Xylene	ND		1.0	0.18	1			1715
o-Xylene	ND		1.0	0.13	1			1715
Xylenes, Total	ND		1.0	0.13	1			1715
4-Bromofluorobenzene (S)	93.9 %		74-125		1			1715

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ANALYTICAL RESULTS

Workorder: H10040051 : Randleman No.1 | Project Number: Randleman No.1

Lab ID: **H10040051004** | Date/Time Received: 4/2/2010 09:15 | Matrix: Water

Sample ID: **MW-4** | Date/Time Collected: 4/1/2010 13:25

Parameters	Results	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
1,2-Dichloroethane-d4 (S)	102 %		70-130		1			1715
Toluene-d8 (S)	98 %		82-118		1			1715

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ANALYTICAL RESULTS

Workorder: H10040051 : Randleman No.1 | Project Number: Randleman No.1

Lab ID: **H10040051005** | Date/Time Received: 4/2/2010 09:15 | Matrix: Water

Sample ID: **Duplicate** | Date/Time Collected: 4/1/2010 14:15

VOLATILES

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

Batch: 1715 SW-846 8260B on 04/07/2010 20:32 by JMC DF = 1.

Batch: 1733 SW-846 8260B on 04/11/2010 22:51 by JMC DF = 10.

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	8.6		1.0	0.10	1			1715
Ethylbenzene	190		10	1.5	10			1733
Toluene	40		1.0	0.29	1			1715
m,p-Xylene	520		10	1.8	10			1733
o-Xylene	13		1.0	0.13	1			1715
Xylenes, Total	533		1.0	0.13	10			1733
4-Bromofluorobenzene (S)	94.9 %		74-125		10			1733
4-Bromofluorobenzene (S)	97.8 %		74-125		1			1715
1,2-Dichloroethane-d4 (S)	93.3 %		70-130		1			1715
1,2-Dichloroethane-d4 (S)	94.7 %		70-130		10			1733
Toluene-d8 (S)	98.1 %		82-118		1			1715
Toluene-d8 (S)	100 %		82-118		10			1733

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ANALYTICAL RESULTS

Workorder: H10040051 : Randleman No.1 | Project Number: Randleman No.1

Lab ID: **H10040051006** | Date/Time Received: 4/2/2010 09:15 | Matrix: Water

Sample ID: **Trip Blank** | Date/Time Collected: 4/1/2010 14:30

VOLATILES

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

Batch: 1715 SW-846 8260B on 04/07/2010 18:14 by JMC

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.10	1			1715
Ethylbenzene	ND		1.0	0.15	1			1715
Toluene	ND		1.0	0.29	1			1715
m,p-Xylene	ND		1.0	0.18	1			1715
o-Xylene	ND		1.0	0.13	1			1715
Xylenes, Total	ND		1.0	0.13	1			1715
4-Bromofluorobenzene (S)	94 %		74-125		1			1715
1,2-Dichloroethane-d4 (S)	103 %		70-130		1			1715
Toluene-d8 (S)	101 %		82-118		1			1715

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QUALITY CONTROL DATA

Workorder: H10040051 : Randleman No.1 Project Number: Randleman No.1

QC Batch: IC/1239 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Associated Lab Samples: H10040051001 H10040051002 H10040051003 H10040051004

METHOD BLANK: 37459

Analysis Date/Time Analyst: 04/02/2010 16:21 CFS

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

LABORATORY CONTROL SAMPLE: 37460

Analysis Date/Time Analyst: 04/02/2010 16:38 CFS

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Sulfate	mg/l	10	10.33	103	85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 37461 37462 Original: H10040051004

MS Analysis Date/Time Analyst: 04/02/2010 18:01 CFS

MSD Analysis Date/Time Analyst: 04/02/2010 18:18 CFS

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Sulfate	mg/l	3110	10000	12930	12930	98.2	98.2	80-120	0.0	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.

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QUALITY CONTROL DATA

Workorder: H10040051 : Randleman No.1 Project Number: Randleman No.1

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.

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QUALITY CONTROL DATA

Workorder: H10040051 : Randleman No.1 Project Number: Randleman No.1

QC Batch: WETS/1544 Analysis Method: SM 2540 C

QC Batch Method: SM 2540 C

Associated Lab Samples: H10040051001 H10040051002 H10040051003 H10040051004

METHOD BLANK: 37648

Analysis Date/Time Analyst: 04/05/2010 16:40 CFS

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

LABORATORY CONTROL SAMPLE & LCSD: 37649 37651

LCS Analysis Date/Time Analyst: 04/05/2010 16:40 CFS

LCSD Analysis Date/Time 04/05/2010 16:40 CFS

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD
Residue, Filterable (TDS)	mg/l	200	202.0	199.0	101	99.5	95-107	1.5	10

SAMPLE DUPLICATE: 37650 Original: H10040051004

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	DF
WET CHEMISTRY						5
Residue, Filterable (TDS)	mg/l	8560	8560	0.1	10	5

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.

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QUALITY CONTROL DATA

Workorder: H10040051 : Randleman No.1 Project Number: Randleman No.1

QC Batch: MSV/1714 Analysis Method: SW-846 8260B

QC Batch Method: SW-846 5030 Preparation: 04/07/2010 00:00 by JMC

Associated Lab Samples: H10040014001 H10040014002 H10040014005 H10040014006 H10040050001 H10040050002 H10040050003 H10040051001 H10040051002 H10040051003 H10040051004 H10040051005 H10040051006 H10040057016 H10040057017 H10040057018

METHOD BLANK: 38036

Analysis Date/Time Analyst: 04/07/2010 10:50 JMC

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)	%	94.9		74-125
1,2-Dichloroethane-d4 (S)	%	96.8		70-130
Toluene-d8 (S)	%	99.8		82-118

LABORATORY CONTROL SAMPLE: 38037

Analysis Date/Time Analyst: 04/07/2010 10:23 JMC

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Benzene	ug/l	20	19.7	98.5	74-123
Ethylbenzene	ug/l	20	20.0	100	72-127
Toluene	ug/l	20	19.2	96.1	74-126
m,p-Xylene	ug/l	40	40.2	100	71-129
o-Xylene	ug/l	20	20.0	100	74-130
Xylenes, Total	ug/l	60	60.19	100	71-130
4-Bromofluorobenzene (S)	%			100	74-125
1,2-Dichloroethane-d4 (S)	%			93.8	70-130
Toluene-d8 (S)	%			100	82-118

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 38042 38043 Original: H10040014002

MS Analysis Date/Time Analyst: 04/07/2010 11:46 JMC

MSD Analysis Date/Time Analyst: 04/07/2010 12:13 JMC

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Benzene	ug/l	ND	20	20.4	20.4	102	102	70-124	0.1	20
Ethylbenzene	ug/l	ND	20	20.4	19.7	102	98.3	35-175	3.9	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.

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QUALITY CONTROL DATA

Workorder: H10040051 : Randleman No.1 Project Number: Randleman No.1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 38042 38043 Original: H10040014002

MS Analysis Date/Time Analyst: 04/07/2010 11:46 JMC

MSD Analysis Date/Time Analyst: 04/07/2010 12:13 JMC

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Toluene	ug/l	ND	20	20.6	20.3	103	101	70-131	1.4	20
m,p-Xylene	ug/l	ND	40	41.9	40.0	105	99.9	35-175	4.7	20
o-Xylene	ug/l	ND	20	21.4	19.8	107	98.8	35-175	8.0	20
Xylenes, Total	ug/l	ND	60	63.3	59.75	106	99.6	35-175	5.8	20
4-Bromofluorobenzene (S)	%	92.8				103	95.5	74-125		30
1,2-Dichloroethane-d4 (S)	%	97.3				96.1	97.2	70-130		30
Toluene-d8 (S)	%	98				100	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.

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QUALITY CONTROL DATA

Workorder: H10040051 : Randleman No.1 Project Number: Randleman No.1

QC Batch: IC/1245 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Associated Lab Samples: H10040051001 H10040051002 H10040051003 H10040051004 H10040188001 H10040188002

METHOD BLANK: 38567

Analysis Date/Time Analyst: 04/09/2010 10:45 CFS

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

LABORATORY CONTROL SAMPLE: 38568

Analysis Date/Time Analyst: 04/09/2010 11:02 CFS

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Chloride	mg/l	10	9.328	93.3	85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 38569 38570 Original: H10040051003

MS Analysis Date/Time Analyst: 04/09/2010 16:35 CFS

MSD Analysis Date/Time Analyst: 04/09/2010 16:51 CFS

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Chloride	mg/l	5.34	10	15.31	15.2	99.7	98.6	80-120	0.8	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.

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QUALITY CONTROL DATA

Workorder: H10040051 : Randleman No.1 Project Number: Randleman No.1

QC Batch: MSV/1732 Analysis Method: SW-846 8260B

QC Batch Method: SW-846 5030 Preparation: 04/11/2010 00:00 by JMC

Associated Lab Samples: H10040050002 H10040051002 H10040051003 H10040051005 H10040157001 H10040157002 H10040157003 H10040157004 H10040163001 H10040163002 H10040163003

METHOD BLANK: 38623

Analysis Date/Time Analyst: 04/11/2010 15:30 JMC

Parameter	Units	Blank Result	Qualifiers	Reporting Limit
Ethylbenzene	ug/l	ND		1.0
m,p-Xylene	ug/l	ND		1.0
Xylenes, Total	ug/l	ND		1.0
4-Bromofluorobenzene (S)	%	89.9		74-125
1,2-Dichloroethane-d4 (S)	%	98.5		70-130
Toluene-d8 (S)	%	102		82-118

LABORATORY CONTROL SAMPLE: 38624

Analysis Date/Time Analyst: 04/11/2010 15:03 JMC

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Ethylbenzene	ug/l	20	20.2	101	72-127
m,p-Xylene	ug/l	40	40.4	101	71-129
Xylenes, Total	ug/l	60	60.52	101	71-130
4-Bromofluorobenzene (S)	%			95.1	74-125
1,2-Dichloroethane-d4 (S)	%			91.6	70-130
Toluene-d8 (S)	%			99.9	82-118

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 38625 38626 Original: H10040157001

MS Analysis Date/Time Analyst: 04/11/2010 18:43 JMC

MSD Analysis Date/Time Analyst: 04/11/2010 19:10 JMC

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Ethylbenzene	ug/l	ND	20	18.3	16.3	91.7	81.3	35-175	11.9	20
m,p-Xylene	ug/l	ND	40	38.2	33.8	95.5	84.5	35-175	12.2	20
Xylenes, Total	ug/l	ND	60	56.99	51.07	95.0	85.1	35-175	11.0	20
4-Bromofluorobenzene (S)	%	94.4				95.2	96.1	74-125		30
1,2-Dichloroethane-d4 (S)	%	103				92.7	93.0	70-130		30
Toluene-d8 (S)	%	98.5				98.9	99.4	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.

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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%

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: H10040051 : Randleman No.1 Project Number: Randleman No.1

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
H10040051001	**MW-1**	EPA 300.0	IC/1239		
H10040051002	**MW-2**	EPA 300.0	IC/1239		
H10040051003	**MW-3**	EPA 300.0	IC/1239		
H10040051004	**MW-4**	EPA 300.0	IC/1239		
H10040051001	**MW-1**	SW-846 3010A	DIGM/1638	SW-846 6010B	ICP/1334
H10040051002	**MW-2**	SW-846 3010A	DIGM/1638	SW-846 6010B	ICP/1334
H10040051003	**MW-3**	SW-846 3010A	DIGM/1638	SW-846 6010B	ICP/1334
H10040051004	**MW-4**	SW-846 3010A	DIGM/1638	SW-846 6010B	ICP/1334
H10040051001	**MW-1**	SM 2540 C	WETS/1544		
H10040051002	**MW-2**	SM 2540 C	WETS/1544		
H10040051003	**MW-3**	SM 2540 C	WETS/1544		
H10040051004	**MW-4**	SM 2540 C	WETS/1544		
H10040051001	**MW-1**	SW-846 5030	MSV/1714	SW-846 8260B	MSV/1715
H10040051002	**MW-2**	SW-846 5030	MSV/1714	SW-846 8260B	MSV/1715
H10040051003	**MW-3**	SW-846 5030	MSV/1714	SW-846 8260B	MSV/1715
H10040051004	**MW-4**	SW-846 5030	MSV/1714	SW-846 8260B	MSV/1715
H10040051005	**Duplicate**	SW-846 5030	MSV/1714	SW-846 8260B	MSV/1715
H10040051006	**Trip Blank**	SW-846 5030	MSV/1714	SW-846 8260B	MSV/1715
H10040051001	**MW-1**	EPA 300.0	IC/1245		
H10040051002	**MW-2**	EPA 300.0	IC/1245		
H10040051003	**MW-3**	EPA 300.0	IC/1245		
H10040051004	**MW-4**	EPA 300.0	IC/1245		
H10040051002	**MW-2**	SW-846 5030	MSV/1732	SW-846 8260B	MSV/1733
H10040051003	**MW-3**	SW-846 5030	MSV/1732	SW-846 8260B	MSV/1733
H10040051005	**Duplicate**	SW-846 5030	MSV/1732	SW-846 8260B	MSV/1733

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

Sample Receipt Checklist

WorkOrder:	H10040051	Received By	LOG
Date and Time	04/02/2010 09:15	Carrier Name:	FEDEXS
Temperature:	2.0°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?	VOA Vials Not Present
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.
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Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

SPL, Inc.
Analysis Request & Chain of Custody Record

H10040051 — 230328 — Page 1 of 2

Client Name: Tetra Tech, Inc. / ConocoPhillips
Address: 6121 Indian School NE 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.: Randleman No. 1
Site Name:
Site Location: Aztec, NM
Invoice To: ConocoPhillips # 4512439414 Ph:

Key: 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 32=32; pres. 1=HCl 2=HNO3 3=H2SO4 X=other

SAMPLE ID	DATE	TIME	comp	grab	matrix	bottle	size	pres.	Number of Containers	BTEX	Dissolved Manganese	CLD, SO4, TDS
MW-1	4-1-10	1345		X	W	V	40	1	3	X		
MW-1	4-1-10	1345		X	W	P	16	Ø	1		X	
MW-1	4-1-10	1345		X	W	P	32	Ø	1			X
MW-2	4-1-10	1405		X	W	V	40	1	3	X		
MW-2	4-1-10	1405		X	W	P	16	Ø	1		X	
MW-2	4-1-10	1405		X	W	P	32	Ø	1			X
MW-3	4-1-10	1420		X	W	V	40	1	3	X		
MW-3	4-1-10	1420		X	W	P	16	Ø	1		X	
MW-3	4-1-10	1420		X	W	P	32	Ø	1			X
MW-4	4-1-10	1325		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: 2.0

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):

	date	time	
1. Relinquished by Sampler: [signature]	4-1-10	1600	2. Received by:
3. Relinquished by:			4. Received by:
5. Relinquished by:	4/2/10	0915	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

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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: 290529
1100400051
page 2 of 2

Client Name: Tetra Tech / ConocoPhillips
Address: 6121 Indian School Rd NE 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.: Randleman No. 1
Site Name:
Site Location: Aztec, NM
Invoice To: ConocoPhillips # 4512439414 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	Requested Analysis: BTEX	Dissolved Manganese	Cl, SO4, TDS
MW-4	4-1-10	1325		X	W	P	16	Ø	1		X	
MW-4	4-1-10	1325		X	W	P	32	Ø	1			X
Duplicate	4-1-10	1415		X	W	V	40	1	3	X		
Trip Blank	4-1-10	1430			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: 2.0c

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):

	date	time	
1. Relinquished by Sampler:	4-1-10	1600	2. Received by:
3. Relinquished by:	date	time	4. Received by:
5. Relinquished by:	date 4/2/10	time 0915	6. Received by Laboratory:

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