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**QUARTERLY GROUNDWATER  
MONITORING REPORT  
MARCH 2010 SAMPLING EVENT**

**FARMINGTON B COM NO. 1E NATURAL GAS  
WELL SITE  
FARMINGTON, SAN JUAN COUNTY,  
NEW MEXICO**

OCD # 3R0084

API # 30-045-24774

Prepared for:



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May 2010

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2. Groundwater Elevation Summary (May 2005 – December 2009)
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# QUARTERLY GROUNDWATER MONITORING REPORT DECEMBER 2009 SAMPLING EVENT FARMINGTON B COM NO. 1E NATURAL GAS WELL SITE FARMINGTON, SAN JUAN COUNTY, NEW MEXICO

## 1.0 INTRODUCTION

This report presents the results of quarterly groundwater monitoring completed by Tetra Tech, Inc. (Tetra Tech) on March 29, 2010, at the ConocoPhillips Company Farmington B Com No. 1E remediation site in Farmington, New Mexico (Site). This sampling event represents the first quarter of groundwater monitoring at the Site for 2010.

The Site is located on private property in southeast Farmington, New Mexico, near the corner of East Murray Drive and South Carlton Avenue. The Site consists of a gas production well and associated equipment and installations. The location and general features of the Site are presented as **Figures 1 and 2**, respectively. A generalized cross section of the site is included as **Figure 3**.

## 1.1 Site History

The history of the Site is outlined on **Table I** and discussed in more detail in the following paragraphs.

Conoco Inc., predecessor to ConocoPhillips Company, owned the property and operated the gas well between July 1991 and January 1997. Merrion Oil & Gas Company is the current property owner and well operator. A Phase II Environmental Site Assessment associated with the property transfer was conducted by On Site Technologies, Limited (On Site) in March 1997. Soil hydrocarbon impacts were confirmed north of a production storage tank and west of a separator/dehydrator pit (**Figure 2**). Impacts were described by On Site as limited to a former unlined pit area with hydrocarbon migration primarily occurring vertically through the soil profile due to the porous and permeable subsurface soils; lateral migration was considered minimal (On Site, 1997). Soil excavation of the two impacted areas occurred in September 1997. A total of 906 cubic yards of impacted soil were removed from two excavation areas. Of the 906 cubic yards, 328 were transported offsite and 578 were screened and placed back into the excavated areas along with clean fill. During backfill activities, approximately 10 gallons of liquid fertilizer was sprayed into both excavations to enhance insitu degradation of residual hydrocarbons (On Site, 1997).

Groundwater Monitor Wells MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6 were installed at the Site in February and August 1998 under the supervision of On Site. During 1998 and 1999, results from groundwater samples collected from MW-2 through MW-6 did not have BTEX concentrations in excess of New Mexico Water Quality Control Commission (NMWQCC) groundwater quality standards. On Site then requested that groundwater quality monitoring in Monitor Wells MW-2 through MW-6 be discontinued. The request was approved by the New Mexico Energy, Minerals, and Natural Resources Department (NMEMNRD) in a letter to Ms. Shirley Ebert of Conoco Inc. (NMEMNRD, 2000). Although Monitor Wells MW-2 through MW-6 showed no hydrocarbon impacts during 1998 and 1999,

light non-aqueous phase liquid (LNAPL) has been present in MW-1 since its installation and recovery has been ongoing. Souder Miller and Associates (Souder Miller) placed active and passive skimmers in MW-1 in May 2004. The passive skimmer collected a small amount of LNAPL; the active skimmer did not collect any LNAPL. Souder Miller determined that an active skimmer was not a viable method of LNAPL in MW-1 and proposed passive skimming or periodic hand bailing for recovery.

Tetra Tech began groundwater quality monitoring at the site in May 2005. Tetra Tech monitors MW-6 in addition to MW-1 since it is down-gradient to MW-1. Most recently, groundwater quality monitoring took place on March 29, 2010. Groundwater elevation measurements were collected from MW-1, MW-2, MW-3, MW-4, MW-5 and MW-6. A thin LNAPL sheen was encountered in MW-1 prior to sampling. Groundwater samples were collected from Monitor Wells MW-1 and MW-6 were shipped to Southern Petroleum Laboratories in Houston, Texas to be analyzed for the presence of BTEX and dissolved iron.

## 2.0 METHODOLOGY AND RESULTS

### 2.1 Groundwater Monitoring Methodology

#### Groundwater Elevation Measurements

On March 29, 2010, groundwater elevation measurements were recorded in Monitor Wells MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6 using a dual interface probe. Groundwater elevations are detailed in **Table 2**. A groundwater elevation contour map is presented as **Figure 4**. Based on March 2010 monitoring event data, groundwater flow is to the west and is consistent with historic records at this site. The Animas River is approximately  $\frac{3}{4}$  miles from the site and flows west.

#### Groundwater sampling

Monitor wells MW-1 and MW-6 were sampled representing the eighth round of consecutive quarterly groundwater monitoring at the Site. Approximately three well volumes were purged from each monitor well with a dedicated polyethylene 1.5-inch disposable bailer. Purge water was placed in a Merrion owned waste water storage tank. Groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain of custody documentation to Southern Petroleum Laboratories in Houston, Texas. The samples were analyzed for the presence of BTEX in accordance with Environmental Protection Agency (EPA) Method 8260B and dissolved iron according to EPA Method 6010B. Groundwater sampling field forms are included as **Appendix A**.

### 2.2 Groundwater Sampling Analytical Results

A sheen was encountered in MW-1 during the March 2010 sampling event. Groundwater sampling results from MW-1 were not found above laboratory detection limits for benzene, toluene or total xylenes. Ethylbenzene was detected at a concentration of 51 micrograms per liter ( $\mu\text{g/L}$ ); the NMWQCC groundwater quality standard for ethylbenzene is 750  $\mu\text{g/L}$ . Dissolved iron was detected at a concentration of 0.0803 milligrams per liter ( $\text{mg/L}$ ) in MW-1, the NMWQCC groundwater quality standard for iron is 1.0  $\text{mg/L}$ . BTEX constituents in MW-6 were not found above laboratory detection limits; and contained a dissolved iron concentration of 0.0200  $\text{mg/L}$ . **Table 3** presents the laboratory analytical results. The laboratory analytical reports are included as **Appendix B**, and a BTEX concentration map is included as **Figure 5**. The SMA historical analytical data is attached as **Appendix C**.

### 3.0 CONCLUSIONS

Although hydrocarbon sheen was observed in monitor well MW-1 during the monitoring event; BTEX constituents were either below laboratory detection limits or below NMWQCC groundwater quality standards. The last sampling event LNAPL was observed in MW-1 was January 2009. However, an LNAPL sheen was intermittently detectable during quarterly groundwater pumping events from 2005 into 2008 and is shown in a hydrograph of groundwater elevations in MW-1 and MW-6 (**Figure 6**). Generally, if MW-1 does not have an oil absorbent sock a hydrocarbon presence is observed at various times of year seasonally, and at various depths

Groundwater analytical results for Monitor Wells MW-1 and MW-6 continue to show BTEX concentrations below NMWQCC groundwater quality standards. 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 quality results are consistently below NMWQCC groundwater quality standards. Please contact Kelly Blanchard at 505-237-8440 or [kelly.blanchard@tetratech.com](mailto:kelly.blanchard@tetratech.com) if you have any questions or require additional information.

#### 4.0 REFERENCES

New Mexico Energy, Minerals, and Natural Resources Department. (2000). *Re: Farmington B Com #1E Well Site*. Letter to Ms. Shirley Ebert, Conoco, Inc. December 13, 2000.

On-Site Technologies, Ltd. (1997). *Annual Summary, Pit Closures and Groundwater Impact Updates, State of New Mexico, 1996*. Prepared for Conoco Inc., Midland Division. Report dated April 22, 1997. 21 pp.

On-Site Technologies, Ltd. (1997). *Re: Remediation Summary Farmington B Com #1E*. Letter Attn: Mr. Neal Goates, Senior Environmental Specialist, Conoco, Inc. November 26, 1997.

## **FIGURES**

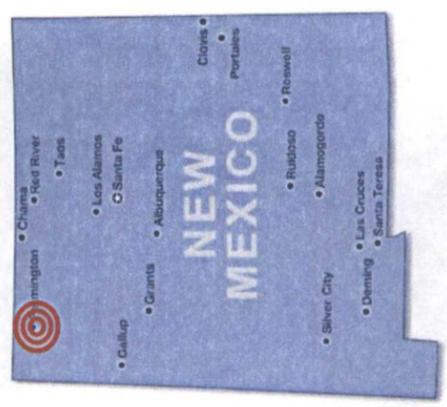
1. Site Location Map
2. Site Layout Map
3. Site Cross-Section
4. Groundwater Elevation Contour Map
5. BTEX Concentration Map
6. B-COM #1E Hydrograph



ConocoPhillips High Resolution Aerial Imagery

**FIGURE 1.**

Site Location Map  
 Farmington  
 B Com No.1E  
 Farmington, NM



ConocoPhillips  
 Company B Com #1E  
 Site Location



Section 15, T29N, R13W  
 San Juan County, NM



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**FIGURE 2:  
SITE LAYOUT MAP**

FARMINGTON  
B COM NO. 1E  
Section 15, T29N, R13W  
San Juan County, NM

**LEGEND**

- ⊕ WELLHEAD
- ⊙ MONITORING WELL
- FENCE
- FORMER SEPARATOR/DEHYDRATOR
- - - FORMER SEPARATOR/DEHYDRATOR PIT
- EXISTING MERRION OIL EQUIPMENT
- FORMER PIT EXCAVATION

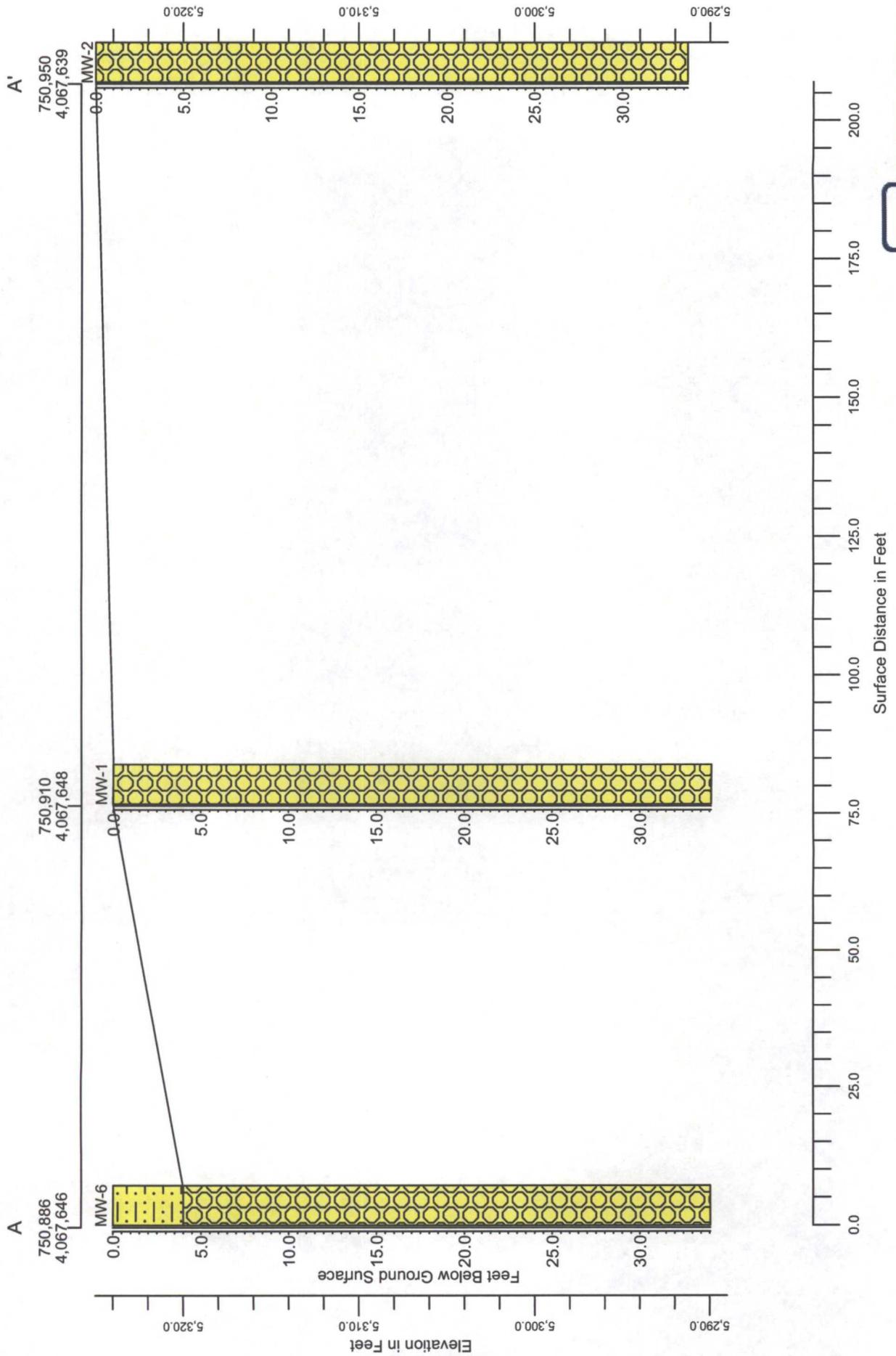
0 40 80  
FEET


TETRA TECH, INC.

Figure 3.

B Com No. 1E - Cross-Section A-A'





ConocoPhillips High Resolution Aerial Imagery

**FIGURE 4:  
GROUNDWATER ELEVATION  
CONTOUR MAP**

**3/29/2010**  
FARMINGTON B COM NO. 1E  
Section 15, T29N, R13W  
San Juan County, NM

**LEGEND**

- ⊕ WELLHEAD
- ⊙ MONITORING WELL
- FENCE
- GW CONTOUR LINE
- INFERRED GW CONTOUR LINE
- FORMER SEPARATOR/DEHYDRATOR
- FORMER SEPARATOR/DEHYDRATOR PIT
- EXISTING MERRION OIL PRODUCED WATER AND CONDENSATE TANKS
- FORMER PIT EXCAVATION



TETRA TECH, INC.



ConocoPhillips High Resolution Aerial Imagery

**FIGURE 5:  
BTEX CONCENTRATION  
MAP**

3/29/2010  
FARMINGTON  
B COM NO. 1E  
Section 15, T29N, R13W  
San Juan County, NM

**LEGEND**

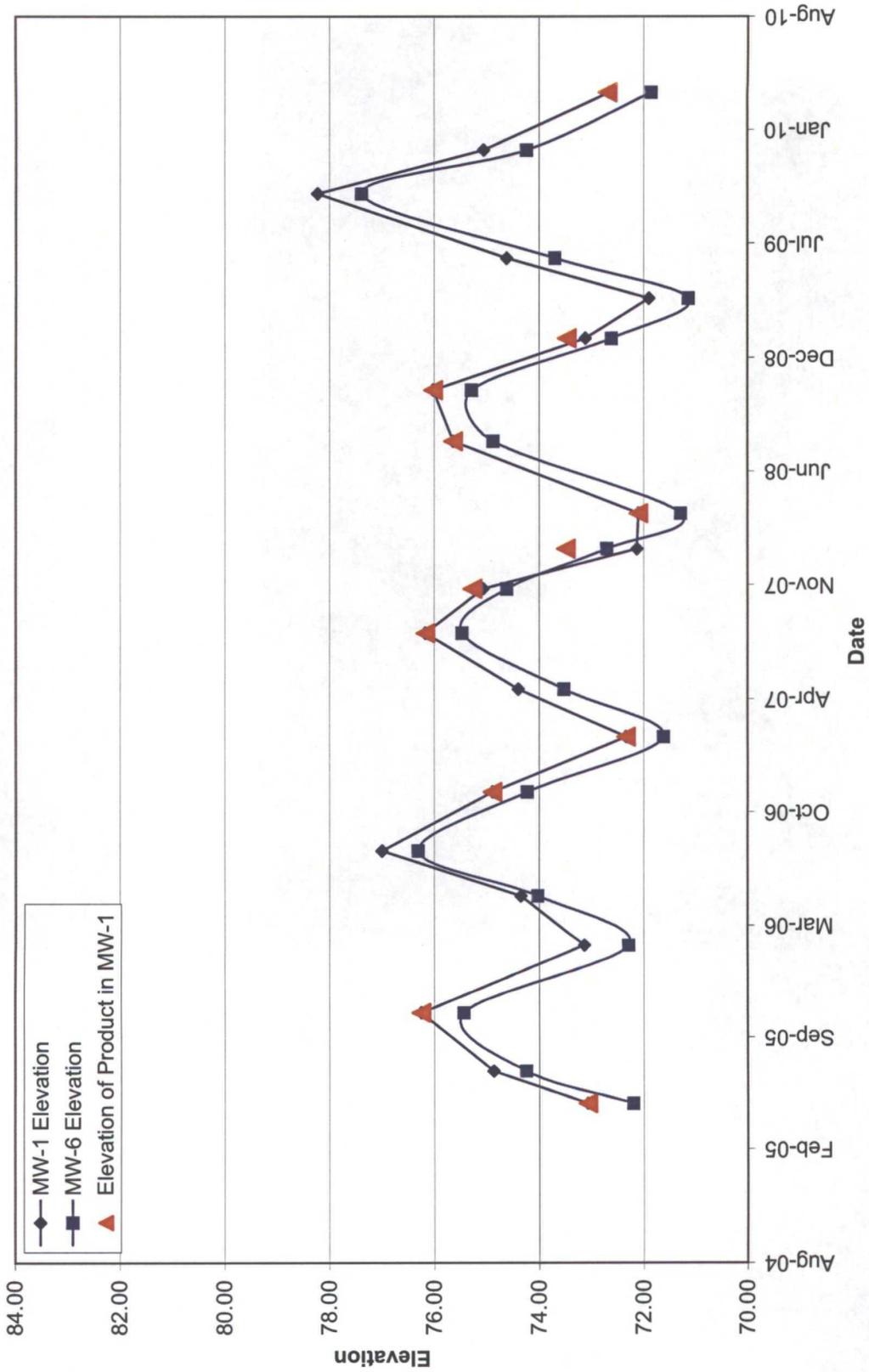
- ⊕ WELLHEAD
- ⊙ MONITORING WELL
- FENCE
- 0 40 80 FEET

- FORMER SEPARATOR/DEHYDRATOR
- FORMER SEPARATOR/DEHYDRATOR PIT
- EXISTING MERRION OIL PRODUCED WATER AND CONDENSATE TANKS
- FORMER PIT EXCAVATION



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FIGURE 6  
 FARMINGTON B-COM NO. 1E HYDROGRAPH



## **TABLES**

1. Site History Timeline
2. Groundwater Elevation Summary (May 2005 – October 2009)
3. Laboratory Analytical Data Summary (February 1998 – October 2009)

**Table 1. Site History Timeline - Farmington B Com No. 1E**

Date/Time Period	Event/Action	Description
February 18, 1982	Well Completed	Pioneer Production Corp. completed the Farmington B-COM No. 1E gas production well
July 1, 1991	Conoco Inc. well purchase	Conoco Inc. purchases wellsite from Mesa Operating Limited Partnership of Amarillo, Texas
January 1, 1997	Change of ownership	Conoco Inc. sold the property and mineral lease to Merrion Oil & Gas Co.
March, 1997	Site Assessment	Phase II Environmental Site Assessment is conducted by On Site Technologies. Three test holes advanced with Auger refusal encountered at 7 feet below ground surface (bgs) due to gravel and cobbles. No samples collected. On Site Technologies later excavates four additional test holes ranging in depth from 14 to 19 feet bgs. Soil samples are collected from each excavation. TPH and BTEX contamination is found in the vicinity of a former unlined pit.
September, 1997	Soil Excavation	On Site Technologies oversees soil excavation of two pits. 906 cubic yards of impacted soil were removed; of which 328 were disposed of offsite and 578 cubic yards were placed back in the pits along with clean fill. Approximately 10 gallons of liquid fertilizer was sprayed into each pit during backfill.
February and August 1998	Monitor Well Installation	Six monitor wells (MW-1 through MW-6) installed at the site under the supervision of On Site.
October 29, 2004	Groundwater Removal from Monitor Well MW-1	First removal of groundwater - 160 gallons removed by vacuum truck operated by Riley Industrial Services of Farmington, NM
November 1, 2004	Groundwater Removal from Monitor Well MW-1	40 gallons removed by vacuum truck operated by Riley Industrial Services of Farmington, NM
December 3, 2004	Groundwater Removal from Monitor Well MW-1	150 gallons removed by vacuum truck operated by Riley Industrial Services of Farmington, NM
May 9th and 10th, 2005	Monitor Well Sampling	Tetra Tech begins quarterly monitoring at the site. Groundwater samples collected from monitor wells MW-1 and MW-6. A sheen is noted in MW-1; an oil absorbant sock is placed in the well.
July 6, 2005	Groundwater Removal from Monitor Well MW-1	138 gallons removed by vacuum truck operated by Riley Industrial Services of Farmington, NM
October 19, 2005	Groundwater Removal from Monitor Well MW-1 and Monitor Well Sampling	Groundwater samples collected from monitor wells MW-1 and MW-6. 186 gallons removed from MW-1; a sheen is observed in purge water and oil absorbant sock is replaced.
February 16, 2006	Groundwater Removal from Monitor Well MW-1	144 gallons removed by vacuum truck operated by Riley Industrial Services of Farmington, NM
May 15, 2006		152 gallons removed by vacuum truck operated by Riley Industrial Services of Farmington, NM
August 2, 2006		457 gallons removed by vacuum truck operated by Riley Industrial Services of Farmington, NM
November 14, 2006		423 gallons removed by vacuum truck operated by Riley Industrial Services of Farmington, NM
November 14, 2006	Monitor Well Sampling	Third sampling of monitor wells MW-1 and MW-6 conducted by Tetra Tech
February 20, 2007	Groundwater Removal from Monitor Well MW-1	220 gallons removed vacuum truck operated by Riley Industrial Services of Farmington, NM
May 15, 2007		364 gallons removed by vacuum truck operated by Riley Industrial Services of Farmington, NM
August 21, 2007		684 gallons removed by vacuum truck operated by Riley Industrial Services of Farmington, NM
November 7, 2007		651 gallons removed by vacuum truck operated by Riley Industrial Services of Farmington, NM
November 7, 2007	Monitor Well Sampling	Fourth sampling of monitor wells MW-1 and MW-6 conducted by Tetra Tech
January 16, 2008	Groundwater Removal from Monitor Well MW-1	149 gallons removed by vacuum truck operated by Riley Industrial Services of Farmington, NM
March 18, 2008	Groundwater Removal from Monitor Well MW-1	93 gallons removed by vacuum truck operated by Riley Industrial Services of Farmington, NM
July 24, 2008	Monitor Well Sampling	Initiation of quarterly sampling for monitor wells MW-1 and MW-6
October 22, 2008	Monitor Well Sampling	Continuation of quarterly sampling for monitor wells MW-1 and MW-6

**Table 1. Site History Timeline - Farmington B Com No. 1E**

Date/Time Period	Event/Action	Description
January 21, 2009	Monitor Well Sampling	Continuation of quarterly sampling for monitor wells MW-1 and MW-6. Free product found in MW-1; oil absorbent sock placed in the well.
April 1, 2009	Monitor Well Sampling	Continuation of quarterly sampling for monitor wells MW-1 and MW-6. No free product detected in MW-1.
June 10, 2009	Monitor Well Sampling	Continuation of quarterly sampling for monitor wells MW-1 and MW-6. No free product detected in MW-1.
October 1, 2009	Monitor Well Sampling	Continuation of quarterly sampling for monitor wells MW-1 and MW-6. No free product detected in MW-1. <b>First quarter of compliance</b> with all COCs below NMWQCC standards.
December 17, 2009	Monitor Well Sampling	Continuation of quarterly sampling for monitor wells MW-1 and MW-6. No free product detected in MW-1. <b>Second quarter of compliance</b> with all COCs below NMWQCC standards.
March 29, 2010	Monitor Well Sampling	Continuation of quarterly sampling for monitor wells MW-1 and MW-6. A thin hydrocarbon sheen is detected in MW-1.

Table 2. Farmington B Com #1E  
Groundwater Elevation Summary

Well ID	Total Depth (ft. bgs)	Screen Interval (ft)	*Elevation (ft.) (TOC)	Date Measured	Depth to Water (ft. below TOC)	Depth to Product (ft. below TOC)**	Relative Groundwater Elevation (ft TOC)
MW-1	34.09	19.09 - 34.09	101.37	5/9/2005	28.30	Sheen	73.07
				7/6/2005	26.50	NA	74.87
				10/19/2005	25.12	Sheen	76.25
				2/16/2006	28.23	NA	73.14
				5/15/2006	27.02	NA	74.35
				8/2/2006	24.37	NA	77.00
				11/14/2006	26.48	Sheen	74.89
				2/20/2007	29.03	Sheen	72.34
				5/15/2007	26.97	NA	74.40
				8/21/2007	25.20	Sheen	76.17
				11/7/2007	26.30	26.1	75.07
				1/16/2008	29.24	27.88	72.13
				3/18/2008	29.27	29.27	72.10
				7/24/2008	25.73	Sheen	75.64
				10/22/2008	25.35	Sheen	76.02
				1/21/2009	28.25	27.90	73.12
				4/1/2009	29.47	NA	71.90
				6/10/2009	26.75	NA	74.62
				10/1/2009	23.14	NA	78.23
				12/17/2009	26.31	NA	75.06
3/29/2010	28.71	28.68	72.66				
MW-2	33.72	18.72 - 33.72	101.57	5/9/2005	27.28	NA	74.29
				7/6/2005	25.52	NA	76.05
				10/19/2005	24.30	NA	77.27
				2/16/2006	27.38	NA	74.19
				5/15/2006	25.62	NA	75.95
				8/2/2006	23.51	NA	78.06
				11/14/2006	26.08	NA	75.49
				2/20/2007	28.13	NA	73.44
				5/15/2007	25.86	NA	75.71
				8/21/2007	24.45	NA	77.12
				11/7/2007	25.31	NA	76.26
				1/16/2008	27.27	NA	74.30
				3/18/2008	28.68	NA	72.89
				7/24/2008	24.77	NA	76.80
				10/22/2008	24.55	NA	77.02
				1/21/2009	27.23	NA	74.34
				4/1/2009	28.76	NA	72.81
				6/10/2009	25.76	NA	75.81
				10/1/2009	22.22	NA	79.35
				12/17/2009	25.62	NA	75.95
3/29/2010	27.96	NA	73.61				

Table 2. Farmington B Com #1E  
Groundwater Elevation Summary

Well ID	Total Depth (ft. bgs)	Screen Interval (ft)	*Elevation (ft.) (TOC)	Date Measured	Depth to Water (ft. below TOC)	Depth to Product (ft. below TOC)**	Relative Groundwater Elevation (ft TOC)
MW-3	32.44	17.44 - 32.44	102.1	5/9/2005	27.81	NA	74.29
				7/6/2005	26.03	NA	76.07
				10/19/2005	25.06	NA	77.04
				2/16/2006	28.57	NA	73.53
				5/15/2006	26.15	NA	75.95
				8/2/2006	23.83	NA	78.27
				11/14/2006	26.75	NA	75.35
				2/20/2007	29.31	NA	72.79
				5/15/2007	26.23	NA	75.87
				8/21/2007	25.00	NA	77.10
				11/7/2007	26.12	NA	75.98
				1/16/2008	28.46	NA	73.64
				3/18/2008	29.97	NA	72.13
				7/24/2008	25.27	NA	76.83
				10/22/2008	25.35	NA	76.75
				1/21/2009	28.56	NA	73.54
				4/1/2009	30.20	NA	71.90
				6/10/2009	26.55	NA	75.55
				10/1/2009	23.00	NA	79.10
				12/17/2009	26.86	NA	75.24
3/29/2010	29.41	NA	72.69				
MW-4	32.72	17.72 - 32.72	101.4	5/9/2005	28.73	NA	72.67
				7/6/2005	26.66	NA	74.74
				10/19/2005	25.62	NA	75.78
				2/16/2006	28.91	NA	72.49
				5/15/2006	26.86	NA	74.54
				8/2/2006	24.59	NA	76.81
				11/14/2006	27.02	NA	74.38
				2/20/2007	29.61	NA	71.79
				5/15/2007	27.25	NA	74.15
				8/21/2007	25.56	NA	75.84
				11/7/2007	26.50	NA	74.90
				1/16/2008	28.55	NA	72.85
				3/18/2008	29.99	NA	71.41
				7/24/2008	26.02	NA	75.38
				10/22/2008	25.84	NA	75.56
				1/21/2009	28.69	NA	72.71
				4/1/2009	30.22	NA	71.18
				6/10/2009	27.31	NA	74.09
				10/1/2009	23.80	NA	77.60
				12/17/2009	27.07	NA	74.33
3/29/2010	29.51	NA	71.89				

Table 2. Farmington B Com #1E  
Groundwater Elevation Summary

Well ID	Total Depth (ft. bgs)	Screen Interval (ft)	*Elevation (ft.) (TOC)	Date Measured	Depth to Water (ft. below TOC)	Depth to Product (ft. below TOC)**	Relative Groundwater Elevation (ft TOC)
MW-5	34.09	19.09 - 34.09	100.52	5/9/2005	28.50	NA	72.02
				7/6/2005	26.32	NA	74.20
				10/19/2005	25.30	NA	75.22
				2/16/2006	28.62	NA	71.90
				5/15/2006	26.55	NA	73.97
				8/2/2006	24.23	NA	76.29
				11/14/2006	27.67	NA	72.85
				2/20/2007	29.34	NA	71.18
				5/15/2007	27.04	NA	73.48
				8/21/2007	25.21	NA	75.31
				11/7/2007	26.13	NA	74.39
				1/16/2008	28.18	NA	72.34
				3/18/2008	29.65	NA	70.87
				7/24/2008	25.73	NA	74.79
				10/22/2008	25.49	NA	75.03
				1/21/2009	28.38	NA	72.14
				4/1/2009	29.92	NA	70.60
				6/10/2009	27.09	NA	73.43
10/1/2009	23.50	NA	77.02				
12/17/2009	26.77	NA	73.75				
3/29/2010	29.21	NA	71.31				
MW-6	34.02	19.02 - 34.02	102.14	5/9/2005	29.94	NA	72.20
				7/6/2005	27.89	NA	74.25
				10/19/2005	26.70	NA	75.44
				2/16/2006	29.85	NA	72.29
				5/15/2006	28.11	NA	74.03
				8/2/2006	25.83	NA	76.31
				11/14/2006	27.91	NA	74.23
				2/20/2007	30.52	NA	71.62
				5/15/2007	28.61	NA	73.53
				8/21/2007	26.67	NA	75.47
				11/7/2007	27.52	NA	74.62
				1/16/2008	29.43	NA	72.71
				3/18/2008	30.85	NA	71.29
				7/24/2008	27.26	NA	74.88
				10/22/2008	26.85	NA	75.29
				1/21/2009	29.52	NA	72.62
				4/1/2009	31.00	NA	71.14
				6/10/2009	28.44	NA	73.70
10/1/2009	24.75	NA	77.39				
12/17/2009	27.90	NA	74.24				
3/29/2010	30.29	NA	71.85				

ft. = Feet

TOC = Top of casing

bgs = below ground surface

\* Relative Elevation

\*\* Where non-aqueous phase liquid (NAPL) is present, depth to water equals the Top of Casing elevation minus the depth to water, plus the NAPL thickness multiplied by 0.79.

NA - not applicable or not measured.

**Table 3. Farmington B Com No.1E Groundwater Laboratory Analytical Results Summary**

Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	Nitrate as N (mg/L)	Sulfate (mg/L)	Iron (mg/L)
MW-1	2/19/1998	210	34	370	2,044	NS	NS	NS
	6/12/1998	3" free product in bailer - not sampled						
	9/15/1998	free product - not sampled						
	12/29/1998	350	BDL	420	2,800	NS	NS	NS
	1/22/2004	free product - not sampled						
	5/9/2005	17	<0.7	74	250	<0.40	77.8	14.9*
	10/19/2005	34	<1.0	170	1400	0.15	39.9	15*
	11/14/2006	18	<0.7	190	1600	<0.015	145	8.8*
	11/7/2007	7	<0.7	120	250	<0.015	38.4	6.4*
	7/24/2008	<5.0	<5.0	90	35	<0.5	4.76	17.2*
	Duplicate	<5.0	<5.0	110	59	NS	NS	NS
	10/22/2008	<5.0	<5.0	88	165	<0.5	17	21.1*
	Duplicate	<5.0	<5.0	95	186	NS	NS	NS
	1/21/2009	free product - not sampled						
	4/1/2009	<5.0	<5.0	11	<5.0	NS	NS	5.26*
	6/10/2009	<5.0	<5.0	96	<5.0	NS	NS	9.8*
	10/1/2009	1.3	<1.0	58	142	NS	NS	0.233
	12/17/2009	1.4	<1.0	100	2.8	NS	NS	0.521
	3/29/2010	<1.0	<1.0	51	<1.0	NS	NS	0.0803
	MW-6	9/15/1998	BDL	BDL	BDL	BDL	NS	NS
12/29/1998		BDL	BDL	BDL	BDL	NS	NS	NS
3/3/1999		BDL	BDL	BDL	BDL	NS	NS	NS
6/15/1999		BDL	BDL	BDL	BDL	NS	NS	NS
9/15/1999		BDL	0.7	1.1	BDL	NS	NS	NS
12/14/1999		BDL	1.8	0.7	1.9	NS	NS	NS
1/22/2004		BDL	BDL	BDL	BDL	NS	NS	NS
5/9/2005		<0.5	<0.7	<0.8	<0.8	<0.4	97	15.9*
10/19/2005		<0.5	<0.7	<0.8	<0.8	5.4	52.6	1.4*
11/14/2006		<0.5	<0.7	<0.8	1	<0.015	159	5.8*
11/7/2007		<0.5	<0.7	<0.8	<0.8	<0.015	112	3*
7/24/2008		<5.0	<5.0	<5.0	<5.0	<0.5	44.4	28.5*
10/22/2008		<5.0	<5.0	<5.0	<5.0	<0.5	43.7	1.77*
1/21/2009		<5.0	<5.0	<5.0	<5.0	<0.5	31.1	9.59*
4/1/2009		<5.0	<5.0	<5.0	<5.0	NS	NS	16.2*
6/10/2009		<5.0	<5.0	<5.0	<5.0	NS	NS	3.86*
10/1/2009		<1.0	<1.0	<1.0	<1.0	NS	NS	<0.02
12/17/2009	<1.0	<1.0	<1.0	<1.0	NS	NS	0.0511	
3/29/2010	<1.0	<1.0	<1.0	<1.0	NS	NS	<0.0200	
<b>NMWQCC Standards</b>		<b>10 (µg/L)</b>	<b>750 (µg/L)</b>	<b>750 (µg/L)</b>	<b>620 (µg/L)</b>	<b>10 (mg/L)</b>	<b>600 (mg/L)</b>	<b>1 (mg/L)</b>

NMWQCC = New Mexico Water Quality Control Commission  
 mg/L = milligrams per liter (parts per million)  
 µg/L = micrograms per liter (parts per billion)  
 NE=Not Established  
 NS = not sampled

BDL = Below laboratory detection limits  
 <0.7 = Below laboratory detection limit of 0.7 µg/L  
 \* = Results reported for total ferrous iron, not comparable to NMWQCC standard for dissolved iron



**APPENDIX A**  
**GROUNDWATER SAMPLING FIELD FORMS**



# WATER SAMPLING FIELD FORM

Project Name B Com 1E

Page 1 of 2

Project No. \_\_\_\_\_

Site Location Farmington, NM

Site/Well No. MW-1 Coded/  
Replicate No. Dup @ 1430

Date 3-29-10

Weather Sunny breezy  
~60° Time Sampling  
Began 1350

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 34.09

Water-Level Elevation \_\_\_\_\_

Held \_\_\_\_\_ Depth to Water Below MP 29.71

Diameter of Casing 2"

Wet \_\_\_\_\_ Water Column in Well 5.38

Gallons Pumped/Bailed  
Prior to Sampling 2.75 gallons

Gallons per Foot 0.16

Gallons in Well .86 X 3

Sampling Pump Intake Setting  
(feet below land surface) \_\_\_\_\_

Purging Equipment Purge pump / Bailer = 2.58

### SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm <sup>3</sup> )	TDS (g/L)	DO (mg/L)	ORP (mV)

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
<u>BTEX</u>	<u>3 40mL VOA's</u>	<u>HCl</u>
<u>Fe</u>	<u>1 16 oz plastic</u>	<u>none</u>

Remarks petroleum yellow hydrocarbon product on probe, no parameters due to product

Sampling Personnel Kelly Blanchard, Christine Mathews

Well Casing Volumes			
Gal./ft.	1 ¼" = 0.077	<u>2" = 0.16</u>	3" = 0.37
	1 ½" = 0.10	2 ½" = 0.24	4" = 0.65
			3 ½" = 0.50
			6" = 1.46



# WATER SAMPLING FIELD FORM

Project Name B Com 1E

Page 2 of 2

Project No. \_\_\_\_\_

Site Location Farmington, NM

Site/Well No. MW-6 Coded/ Replicate No. \_\_\_\_\_

Date 3-29-10

Weather Sunny, breezy ~ 60° Time Sampling Began 13:20

Time Sampling Completed 1335

### 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 34.02

Water-Level Elevation \_\_\_\_\_

Held \_\_\_\_\_ Depth to Water Below MP 30.29

Diameter of Casing 2"

Wet \_\_\_\_\_ Water Column in Well 3.73

Gallons Pumped/Bailed Prior to Sampling 2.25 gallons

Gallons per Foot \_\_\_\_\_ 0.16

Gallons in Well .59 x 3

Sampling Pump Intake Setting (feet below land surface) \_\_\_\_\_

Purging Equipment Purge pump/Bailer = 1.79

### SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm³)	TDS (g/L)	DO (mg/L)	ORP (mV)
<u>1331</u>	<u>16.26</u>	<u>6.84</u>	<u>922</u>	<u>.599</u>	<u>2.70</u>	<u>27.4</u>
<u>1333</u>	<u>16.30</u>	<u>6.83</u>	<u>922</u>	<u>.599</u>	<u>2.26</u>	<u>22.9</u>
<u>1334</u>	<u>16.33</u>	<u>6.84</u>	<u>921</u>	<u>.599</u>	<u>2.32</u>	<u>-45.8</u>

DO%  
41.4  
42.4  
22.6

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
<u>BTEX</u>	<u>3 40mL VOA's</u>	<u>HCl</u>
<u>Fe</u>	<u>1 16 oz plastic</u>	<u>none</u>

Remarks Orangeish-brown sediment, no odor or sheen observed

Sampling Personnel Kelly Blanchard & Christine Matthews

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**  
**LABORATORY ANALYTICAL REPORT**



SPL Inc.  
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Fax: (713) 660-8975

### Certificate of Analysis

April 13, 2010

**Workorder: H10030520**

Christine Matthews  
Tetra Tech, Inc.  
6121 Indian School Road NE  
Suite 200  
Albuquerque, NM 87110

**Project: B-Com 1E**  
Project Number: B-Com 1E  
Site: Farmington, NM  
PO Number: ENFOS#4513176412  
NELAC Cert. No.: T104704205-09-1

This Report Contains A Total Of 15 Pages

Excluding Any Attachments



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## Certificate of Analysis

April 13, 2010

Workorder: H10030520

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6121 Indian School Road NE  
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Project: B-Com 1E  
Project Number: B-Com 1E  
Site: Farmington, NM  
PO Number: ENFOS#4513176412  
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.

This report shall not be reproduced except in full, without the written approval of the laboratory. The reported results are only representative of the samples submitted for testing.

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



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### Certificate of Analysis

April 13, 2010

**Workorder: H10030520**

Christine Matthews  
Tetra Tech, Inc.  
6121 Indian School Road NE  
Suite 200  
Albuquerque, NM 87110

**Project: B-Com 1E**  
Project Number: B-Com 1E  
Site: Farmington, NM  
PO Number: ENFOS#4513176412  
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.  
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### SAMPLE SUMMARY

Workorder: H10030520 : B-Com 1E

Project Number: B-Com 1E

Lab ID	Sample ID	Matrix	COC ID	Date/Time Collected	Date/Time Received
H10030520001	MW-1	Water		3/29/2010 14:20	3/30/2010 09:15
H10030520002	MW-6	Water		3/29/2010 13:35	3/30/2010 09:15
H10030520003	Duplicate	Water		3/29/2010 14:30	3/30/2010 09:15
H10030520004	Trip Blank	Water		3/29/2010 14:45	3/30/2010 09:15



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### ANALYTICAL RESULTS

Workorder: H10030520 : B-Com 1E

Project Number: B-Com 1E

Lab ID: H10030520001  
 Sample ID: MW-1

Date/Time Received: 3/30/2010 09:15 Matrix: Water  
 Date/Time Collected: 3/29/2010 14:20

#### ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B

Preparation Batches:

Batch: 1636 SW-846 3010A on 04/05/2010 13:00 by R\_V

Analytical Batches:

Batch: 1332 SW-846 6010B on 04/11/2010 06:11 by EBG

Parameters	Results					Batch Information	
	mg/l	Qual	Report Limit	MDL	DF	RegLmt	Prep Analysis
Iron	0.0803		0.0200	0.00640	1		1636 1332

#### VOLATILES

Analysis Desc: SW-846 8260B

SW-846 5030 Analytical Batches:

Batch: 1717 SW-846 8260B on 04/07/2010 16:47 by LKT

Parameters	Results					Batch Information	
	ug/l	Qual	Report Limit	MDL	DF	RegLmt	Prep Analysis
Benzene	ND		1.0	0.10	1		1717
Ethylbenzene	51		1.0	0.15	1		1717
Toluene	ND		1.0	0.29	1		1717
m,p-Xylene	ND		1.0	0.18	1		1717
o-Xylene	ND		1.0	0.13	1		1717
Xylenes, Total	ND		1.0	0.13	1		1717
4-Bromofluorobenzene (S)	105 %		74-125		1		1717
1,2-Dichloroethane-d4 (S)	102 %		70-130		1		1717
Toluene-d8 (S)	116 %		82-118		1		1717



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### ANALYTICAL RESULTS

Workorder: H10030520 : B-Com 1E

Project Number: B-Com 1E

Lab ID: **H10030520002**  
 Sample ID: **MW-6**

Date/Time Received: 3/30/2010 09:15 Matrix: Water  
 Date/Time Collected: 3/29/2010 13:35

#### ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B		Preparation Batches:						
		Batch: 1636 SW-846 3010A on 04/05/2010 13:00 by R_V						
		Analytical Batches:						
		Batch: 1332 SW-846 6010B on 04/11/2010 06:34 by EBG						
Parameters	Results					Batch Information		
	mg/l	Qual	Report Limit	MDL	DF	RegLmt	Prep	Analysis
Iron	ND		0.0200	0.00640	1		1636	1332

#### VOLATILES

Analysis Desc: SW-846 8260B		SW-846 5030 Analytical Batches:						
		Batch: 1717 SW-846 8260B on 04/07/2010 17:45 by LKT						
Parameters	Results					Batch Information		
	ug/l	Qual	Report Limit	MDL	DF	RegLmt	Prep	Analysis
Benzene	ND		1.0	0.10	1			1717
Ethylbenzene	ND		1.0	0.15	1			1717
Toluene	ND		1.0	0.29	1			1717
m,p-Xylene	ND		1.0	0.18	1			1717
o-Xylene	ND		1.0	0.13	1			1717
Xylenes, Total	ND		1.0	0.13	1			1717
4-Bromofluorobenzene (S)	106 %		74-125		1			1717
1,2-Dichloroethane-d4 (S)	101 %		70-130		1			1717
Toluene-d8 (S)	115 %		82-118		1			1717



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### ANALYTICAL RESULTS

Workorder: H10030520 : B-Com 1E

Project Number: B-Com 1E

Lab ID: H10030520003

Date/Time Received: 3/30/2010 09:15 Matrix: Water

Sample ID: Duplicate

Date/Time Collected: 3/29/2010 14:30

#### VOLATILES

Analysis Desc: SW-846 8260B

SW-846 5030 Analytical Batches:

Batch: 1717 SW-846 8260B on 04/07/2010 17:16 by LKT

Parameters	Results					Batch Information	
	ug/l	Qual	Report Limit	MDL	DF	RegLmt	Prep Analysis
Benzene	ND		1.0	0.10	1		1717
Ethylbenzene	56		1.0	0.15	1		1717
Toluene	ND		1.0	0.29	1		1717
m,p-Xylene	ND		1.0	0.18	1		1717
o-Xylene	ND		1.0	0.13	1		1717
Xylenes, Total	ND		1.0	0.13	1		1717
4-Bromofluorobenzene (S)	109 %		74-125		1		1717
1,2-Dichloroethane-d4 (S)	102 %		70-130		1		1717
Toluene-d8 (S)	111 %		82-118		1		1717



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### ANALYTICAL RESULTS

Workorder: H10030520 : B-Com 1E

Project Number: B-Com 1E

Lab ID: H10030520004

Date/Time Received: 3/30/2010 09:15 Matrix: Water

Sample ID: Trip Blank

Date/Time Collected: 3/29/2010 14:45

#### VOLATILES

Parameters	Results					Batch Information	
	ug/l	Qual	Report Limit	MDL	DF	RegLmt	Prep Analysis
Benzene	ND		1.0	0.10	1		1717
Ethylbenzene	ND		1.0	0.15	1		1717
Toluene	ND		1.0	0.29	1		1717
m,p-Xylene	ND		1.0	0.18	1		1717
o-Xylene	ND		1.0	0.13	1		1717
Xylenes, Total	ND		1.0	0.13	1		1717
4-Bromofluorobenzene (S)	96 %		74-125		1		1717
1,2-Dichloroethane-d4 (S)	99.7 %		70-130		1		1717
Toluene-d8 (S)	117 %		82-118		1		1717



**QUALITY CONTROL DATA**

Workorder: H10030520 : B-Com 1E

Project Number: B-Com 1E

QC Batch: DIGM/1636 Analysis Method: SW-846 6010B  
 QC Batch Method: SW-846 3010A Preparation: 04/05/2010 13:00 by R\_V  
 Associated Lab Samples: H10030520001 H10030520002

**METHOD BLANK: 37494**

Analysis Date/Time Analyst: 04/11/2010 06:00 EBG

Parameter	Units	Blank Result	Qualifiers	Reporting Limit
Iron	mg/l	ND		0.0200

**LABORATORY CONTROL SAMPLE: 37495**

Analysis Date/Time Analyst: 04/11/2010 06:05 EBG

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Iron	mg/l	1.0	1.046	105	80-120

**MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 37496 37497 Original: H10030520001**

MS Analysis Date/Time Analyst: 04/11/2010 06:17 EBG

MSD Analysis Date/Time Analyst: 04/11/2010 06:22 EBG

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Iron	mg/l	0.0803	1.0	1.077	1.092	99.7	101	75-125	1.4	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.



**QUALITY CONTROL DATA**

Workorder: H10030520 : B-Com 1E

Project Number: B-Com 1E

QC Batch: MSV/1716 Analysis Method: SW-846 8260B  
 QC Batch Method: SW-846 5030 Preparation: 04/07/2010 00:00 by LKT  
 Associated Lab Samples: H10030520001 H10030520002 H10030520003 H10030520004 H10040042001 H10040042002  
 H10040042003 H10040042004 H10040042006

METHOD BLANK: 38085

Analysis Date/Time Analyst: 04/07/2010 11:57 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)	%	97.4		74-125
1,2-Dichloroethane-d4 (S)	%	103		70-130
Toluene-d8 (S)	%	114		82-118

LABORATORY CONTROL SAMPLE: 38086

Analysis Date/Time Analyst: 04/07/2010 10:56 LKT

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Benzene	ug/l	20	18.8	93.9	74-123
Ethylbenzene	ug/l	20	16.8	83.9	72-127
Toluene	ug/l	20	17.7	88.3	74-126
m,p-Xylene	ug/l	40	33.0	82.5	71-129
o-Xylene	ug/l	20	16.5	82.6	74-130
Xylenes, Total	ug/l	60	49.53	82.6	71-130
4-Bromofluorobenzene (S)	%			102	74-125
1,2-Dichloroethane-d4 (S)	%			103	70-130
Toluene-d8 (S)	%			109	82-118

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 38087 38088 Original: H10040042001

MS Analysis Date/Time Analyst: 04/07/2010 14:51 LKT

MSD Analysis Date/Time Analyst: 04/07/2010 15:20 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	17.8	92.0	88.9	70-124	3.5	20
Ethylbenzene	ug/l	ND	20	16.8	16.3	84.1	81.7	35-175	2.9	20
Toluene	ug/l	ND	20	17.0	16.7	85.2	83.7	70-131	1.8	20

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



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### QUALITY CONTROL DATA

Workorder: H10030520 : B-Com 1E

Project Number: B-Com 1E

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 38087 38088 Original: H10040042001

MS Analysis Date/Time Analyst: 04/07/2010 14:51 LKT

MSD Analysis Date/Time Analyst: 04/07/2010 15:20 LKT

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
m,p-Xylene	ug/l	ND	40	33.1	32.3	82.8	80.8	35-175	2.4	20
o-Xylene	ug/l	ND	20	16.7	16.1	83.3	80.7	35-175	3.1	20
Xylenes, Total	ug/l	ND	60	49.76	48.46	82.9	80.8	35-175	2.6	20
4-Bromofluorobenzene (S)	%	99				104	104	74-125		30
1,2-Dichloroethane-d4 (S)	%	102				101	108	70-130		30
Toluene-d8 (S)	%	114				113	113	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.



### 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: H10030520 : B-Com 1E

Project Number: B-Com 1E

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
H10030520001	MW-1	SW-846 3010A	DIGM/1636	SW-846 6010B	ICP/1332
H10030520002	MW-6	SW-846 3010A	DIGM/1636	SW-846 6010B	ICP/1332
H10030520001	MW-1	SW-846 5030	MSV/1716	SW-846 8260B	MSV/1717
H10030520002	MW-6	SW-846 5030	MSV/1716	SW-846 8260B	MSV/1717
H10030520003	Duplicate	SW-846 5030	MSV/1716	SW-846 8260B	MSV/1717
H10030520004	Trip Blank	SW-846 5030	MSV/1716	SW-846 8260B	MSV/1717



### Sample Receipt Checklist

WorkOrder:	H10030520	Received By	LOG
Date and Time	03/30/2010 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? YES
13. Water - Preservation checked upon receipt(except VOA\*)? Not Applicable

\*VOA Preservation Checked After Sample Analysis

SPL Representative:  
Client Name Contacted:  
Client Instructions:

Contact Date & Time:



Analysis Request & Chain of Custody Record

SPL, Inc.

H10030520

290341

Page 1 of 1

Client Name: Terra Tech / Campbell Phillips  
 Address: 6121 Indian School Rd Ste 200 City: Albuquerque State: NM Zip: 87110  
 Phone/Fax: 505 237 8440  
 Client Contact: Kelly Blanchard Email: kelly.blanchard@terra-tech.com  
 Project Name/No.: B.com FE  
 Site Name: Farmington, NM  
 Site Location: Campbell Phillips # 4513  
 Invoice To: 76412 Ph: 1420  
 SAMPLE ID: MU-1 DATE: 3/29/10 TIME: 1420 comp: X grab: X  
 matrix: W bottle: 16 size: 40 pres: 1  
 W=water S=soil O=oil A=air SL=sludge E=encore X=other  
 P=plastic A=amber glass G=glass V=vial X=other  
 1=1 liter 4=4oz 40=vial 8=8oz 16=16oz X=other  
 1=HCl 2=HNO3 3=H2SO4 X=other  
 Number of Containers: BTEX  
Dissolved Fe  
 Requested Analysis: BTEX  
Dissolved Fe

SAMPLE ID	DATE	TIME	comp	grab	matrix	bottle	size	pres	Number of Containers	Requested Analysis
MU-1	3/29/10	1420	X	X	W	16	40	1	3	BTEX
MU-1	3/29/10	1420	X	X	W	16	40	1	3	Dissolved Fe
MU-6	3/29/10	1335	X	X	W	16	40	1	3	BTEX
MU-6	3/29/10	1335	X	X	W	16	40	1	3	Dissolved Fe
Duplicate	3/29/10	1430	X	X	W	16	40	1	3	BTEX
Trip Blank	3/29/10	1445	X	X	W	16	40	1	3	BTEX

Client/Consultant Remarks: Please Refer to previous notes on prior before analysis

Laboratory Remarks: MS

Requested TAT: Contract  
 1 Business Day  
 2 Business Days  
 Standard  
 Business Days  
 Other

Special Reporting Requirements Results: Fast  Email  Print  Special Detection Limits (specify):  
 Standard QC:  Level 3 QC  Level 4 QC  TX TRRP  LA RECAP

1. Relinquished by: Kelly Blanchard date: 3/29/10 time: 1500  
 2. Received by: W. J. ...  
 3. Relinquished by: Kelly Blanchard date: 3/29/10 time: 1500  
 4. Received by: W. J. ...  
 5. Relinquished by: W. J. ... date: 3/29/10 time: 1500

Rush TAT requires prior notice:  8880 Interchange Drive Houston, TX 77054 (713) 660-0901  
 500 Ambassador Cafery Parkway Scott, LA 70583 (337) 237-4775  
 459 Hughes Drive Traverse City, MI 49686 (231) 947-5777

**APPENDIX C**  
**HISTORICAL ANALYTICAL DATA**

Table 2  
 BTEX Ground Water Analytical Summary  
 Farmington B Com 1E  
 Unit O, Sec. 15 T29N, R13W

Sample Date	Sample ID#	Monitor Well	Remarks	BTEX per EPA 8020 (ppb)			
				Benzene	Toluene	Ethylbenzene	Total-Xylene
2/19/98	9802020-01A	MW#1	On Site Lab.	210.0	34.0	370.0	2044.0
6/12/98	3" of free product	in the bailer					
9/15/98	Not Sampled	free product	in well				
12/29/98	9812053-04A	Water	Taken	350.0	BDL	420	2800.0
No		Samples		in	1999		
1/22/04	Not Sampled	free product	in well				
2/19/98	9802020-02A	MW#2	On Site Lab.	2.4	5.3	16.0	470.0
6/12/98	9806055-02A			0.8	2.7	32.0	171.0
9/15/98	9809035-01A			1.3	2.5	39.0	33.3
12/29/98	9812053-05A			BDL	0.6	2.1	35.0
3/3/99	9903012-05A			BDL	BDL	64	119.0
6/15/99	9906055-05A			BDL	BDL	BDL	BDL
9/15/99	9909054-05A			BDL	BDL	4.1	68.1
12/14/99	9912018-05A			BDL	BDL	1.8	36.4
1/22/04	0401011-004A		lina ba Lab	BDL	BDL	BDL	BDL
2/19/98	9802020-03A	MW#3	On Site Lab.	0.9	1.2	1.6	5.3
06/12/98	9806055-01A			BDL	BDL	0.5	2.0
9/15/98	9809035-02A			BDL	BDL	BDL	BDL
12/29/98	9812053-06A			BDL	BDL	BDL	BDL
3/3/99	9903012-04A			BDL	BDL	BDL	BDL
6/15/99	9906055-04A			BDL	0.9	3.1	56.0
9/15/99	9909054-04A			BDL	0.6	BDL	BDL
12/14/99	9912018-04A			BDL	BDL	BDL	BDL
1/22/04	0401011-002A		lina ba Lab	BDL	BDL	BDL	BDL
WQCC	Action	Levels		10.0	750.0	750.0	620.0

Table 2  
 BTEX Ground Water Analytical Summary  
 Farmington B Com 1E  
 Unit O, Sec. 15 T29N, R13W

Sample Date	Sample ID#	Monitor Well	Remarks	BTEX per EPA 8020 (ppb)			
9/15/98	9809035-03A	MW#4	On Site Lab.	BDL	BDL	BDL	BDL
12/29/98	9812053-03A			BDL	BDL	0.6	BDL
3/3/99	9903012-03A			BDL	BDL	BDL	BDL
6/15/99	9906055-03A			BDL	BDL	BDL	BDL
9/15/99	9909054-03A			BDL	BDL	BDL	BDL
12/14/99	9912018-03A			BDL	0.7	BDL	BDL
3/27/00	0003041-01A			BDL	BDL	BDL	BDL
6/5/00	0006009-02A			BDL	BDL	BDL	BDL
9/11/00	0009020*01A			BDL	BDL	BDL	BDL
1/22/04	0401011-003A		lina ba Lab	BDL	BDL	BDL	BDL
9/15/98	9809035-04A	MW#5	On Site Lab.	BDL	BDL	BDL	BDL
12/29/98	9812053-02A			BDL	BDL	BDL	BDL
3/3/99	9903012-02A			BDL	BDL	BDL	BDL
6/15/99	9906055-02A			BDL	BDL	BDL	BDL
9/15/99	9909054-02A			BDL	BDL	BDL	BDL
12/14/99	9912018-02A			BDL	0.8	BDL	BDL
3/27/00	0003041-02A			BDL	BDL	BDL	BDL
6/5/00	0006009-01A			BDL	BDL	BDL	BDL
12/14/99	9912018-05A			BDL	BDL	1.8	36.4
1/22/04	0401011-005A		lina ba Lab	BDL	BDL	BDL	BDL
9/15/98	9809035-05A	MW#6	On Site Lab.	BDL	BDL	BDL	BDL
12/29/98	9812053-01A			BDL	BDL	BDL	BDL
3/3/99	9903012-01A			BDL	BDL	BDL	BDL
6/15/99	9906055-01A			BDL	BDL	BDL	BDL
9/15/99	9909054-01A			BDL	0.7	1.1	BDL
12/14/99	9912018-01A			BDL	1.8	0.7	1.9
1/22/04	0401011-006A		lina ba Lab	BDL	BDL	BDL	BDL
WQCC	Action	Levels		10.0	750.0	750.0	620.0

Table 2  
 BTEX Ground Water Analytical Summary  
 Farmington B Com 1E  
 Unit O, Sec. 15 T29N, R13W

Sample Date	Sample ID#	Monitor Well	Remarks	Anions ppm	Iron ppm	BOD	COD
1/22/04		MW#1	ina ba Lab		Not Sampled		
1/22/04	0401011-004	MW#2		65.1	BDL		
1/22/04	0401011-002	MW#3		73.3	BDL		
1/22/04	0401011-003	MW#4		67.7	BDL		
1/22/04	0401011-005	MW#5		86.8	BDL		
1/22/04	0401011-006	MW#6		28.2	0.194		