3R - 084

Q3 2009 GWMR

06/01/2010

TETRA TECH, INC.

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

June 1, 2010

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

RE: Farmington B-COM No. 1E, Farmington, New Mexico. 2009 Quarterly Groundwater Monitoring Report - Third Quarter 2009

Dear Mr. von Gonten:

Enclosed please find one (1) copy of each of the above-referenced documents as compiled by Tetra Tech, Inc., formerly Maxim Technologies, for this Farmington area site. This report supersedes any previously submitted reports for this quarter at this 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

Enclosures (1)

QUARTERLY GROUNDWATER MONITORING REPORT OCTOBER 2009 SAMPLING EVENT

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

OCD # 3R0084

API # 30-045-24774

Prepared for:

ConocoPhillips

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. 8690096.100

June 2010

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QUARTERLY GROUNDWATER MONITORING REPORT OCTOBER 2009 SAMPLING EVENT FARMINGTON B COM NO.1E GAS PRODUCTION 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 October 1, 2009, at the ConocoPhillips Farmington B Com No. 1E remediation site in Farmington, New Mexico (Site). This sampling event represents the third quarter of groundwater monitoring for 2009.

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 shown on **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 1** 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 recovery 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 October 1, 2009. Groundwater elevation measurements were collected from MW-1, MW-2, MW-3, MW-4, MW-5 and MW-6. Groundwater samples 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 October 1, 2009, 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 October 2009 monitoring event data, groundwater flow is to the west and is consistent with historic records at this site. The Animas River is approximately ¾ miles west of the Site and flows west.

Groundwater sampling

Monitor Wells MW-1 and MW-6 were sampled, representing the sixth round of quarterly groundwater monitoring at the Site. Approximately three well volumes were purged from each monitor well with dedicated polyethylene 1.5-inch disposable bailers. Purge water was placed in a Merrion owned produced water 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

During the October 2009 quarterly sampling event, toluene concentrations were not found above their respective laboratory detection limits in the groundwater quality sample collected from monitor well MW-1; ethylbenzene was detected at a concentration of 96 micrograms per liter (ug/L). The NMWQCC groundwater quality standard for ethylbenzene is 750 ug/L. The MW-1 sample contained 1.3ug/L benzene, which is below the NMWQCC standard of 10 ug/L. Xylenes were detected at a concentration of 142 ug/L. The NMWQCC groundwater quality standard for xylenes is 620 ug/L. Dissolved iron was detected at a concentration of 0.233 mg/L in MW-1, while the NMWQCC groundwater quality standard for iron is 1 mg/L. BTEX and iron constituents in MW-6 were not detected above the laboratory detection limits of 1.0 ug/L and 0.02 milligrams per liter (mg/L), respectively. **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 Souder Miller historical analytical data is attached as **Appendix C.**

3.0 CONCLUSIONS

Although LNAPL was found in Monitor Well MW-1 during the monitoring event conducted in January 2009, BTEX constituents in October 2009 samples were either below laboratory detection limits or were below NMWQCC groundwater quality standards. LNAPL sheen was intermittently detectable during quarterly groundwater pumping events from 2005 into 2008. The absence of LNAPL in MW-1 during subsequent 2009 sampling events could be the result of Tetra Tech's placement of an oil-absorbent sock in the well during the January 2009 sampling event. The sock was removed in April 2009.

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 if you have any questions or require additional information.

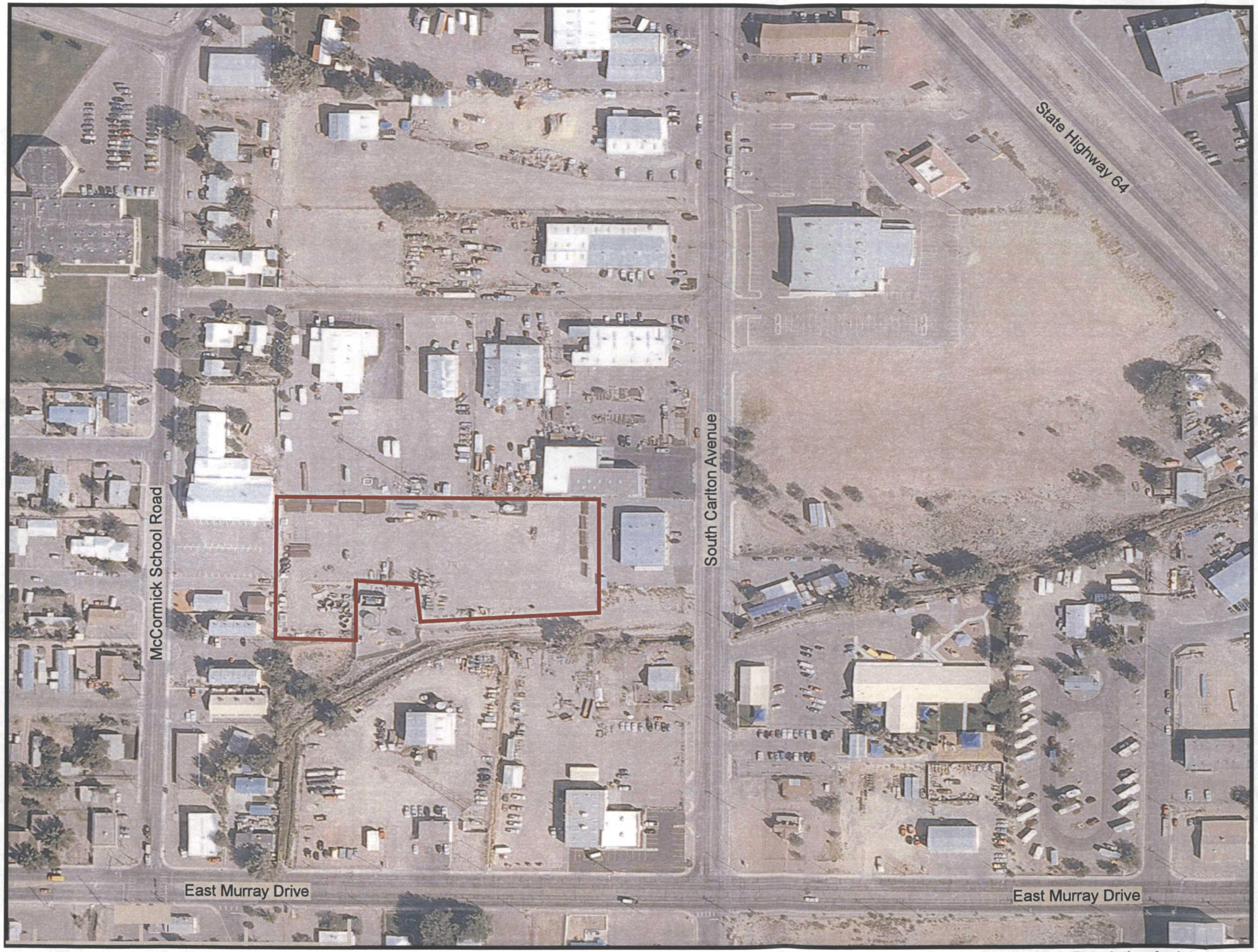
4.0 REFERENCES

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



ConocoPhillips High Resolution Aerial imagery

FIGURE 1.

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

ConocoPhillips
Company B Com #1E
Site Location

Feet
0 150 300

Section 15, T29N, R13W
San Juan County, NM

N

TETRA TECH, INC.

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

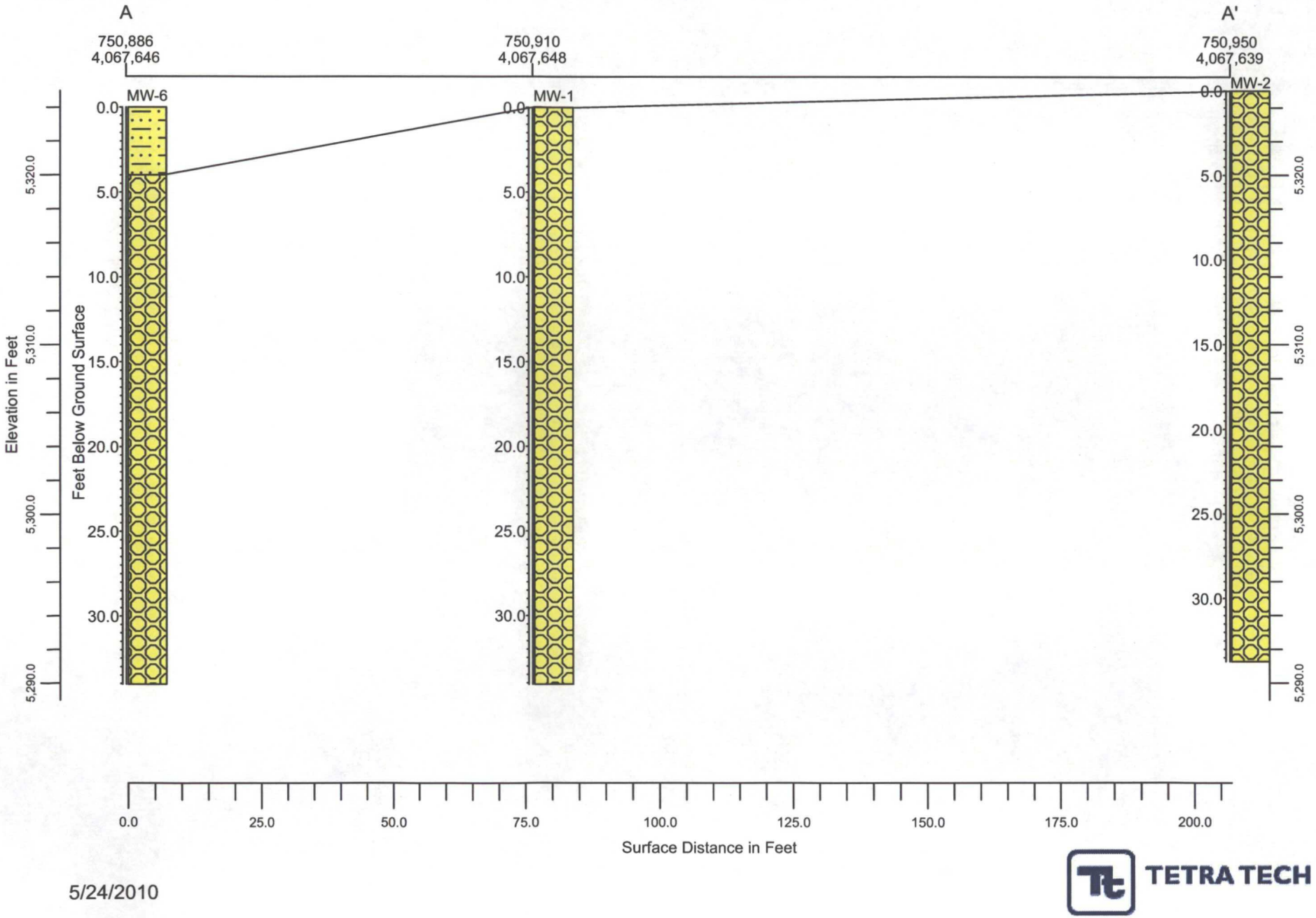
0 40 80
FEET

N

TETRA TECH, INC.

Figure 3.

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



5/24/2010

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FIGURE 4:
GROUNDWATER ELEVATION CONTOUR MAP
10/01/2009
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

N

TETRA TECH, INC.

FIGURE 5:
BTEX CONCENTRATION MAP
10/01/2009
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 PRODUCED WATER AND CONDENSATE TANKS
- FORMER PIT EXCAVATION

0 40 80
FEET

N

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TABLES

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-1and 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. **First quarter of compliance** with all COCs bellow NMWQCC standards.

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
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

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
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

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
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

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
MW-6	9/15/1998	BDL	BDL	BDL	BDL	NS	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
NMWQCC Standards		**10 (µg/L)**	**750 (µg/L)**	**750 (µg/L)**	**620 (µg/L)**	**10 (mg/L)**	**600 (mg/L)**	**1 (mg/L)**

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

TETRA TECH, INC.

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. 900 — Date 10-1-09

Weather Cool, sunny 45° — Time Sampling Began 830 — Time Sampling Completed 850

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 23.14 — Diameter of Casing 2"

Wet ____ Water Column in Well 10.95 — Gallons Pumped/Bailed Prior to Sampling 5.5 gallons

Gallons per Foot 0.16

Gallons in Well 1.75 X 3 = 5.25 — 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)

No parameters due to sheen, not good for YSI

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl
Fe (Dissolved)	~~1 500 mL amber~~ 16oz plastic	~~HCl~~ None

Remarks H2O slight yellow color, continuous product sheen on purge water surface, no NAPL detection with interface probe

Sampling Personnel

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 B Com 1E — Page 2 of 2

Project No.

Site Location Farmington, NM

Site/Well No. MW-6 — Coded/ Replicate No. — Date 10-1-09

Weather Cool sunny, 45° — Time Sampling Began 0850 — Time Sampling Completed 0858

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

Hold ____ Depth to Water Below MP 24.75 — Diameter of Casing 2"

Wet ____ Water Column in Well 9.27 — Gallons Pumped/Bailed Prior to Sampling 5 gallons

Gallons per Foot 0.16

Gallons in Well 1.48 X 3 = 4.45 — 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)
0850	18.08	7.07	1169	0.760	14.03	113.3
0852	17.80	7.060	1093	0.709	4.74	~~113.3~~ 112.3
0855	17.88	7.06	1098	0.713	3.38	114.4

turb

1100 Max 286.8

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl
Fe (dissolved)	~~1 500 mL amber~~ 1 4oz plastic	~~HCl~~ None

Remarks H_2O is brownish red with very slight discontinuous sheen, no odor

Sampling Personnel

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

LABORATORY ANALYTICAL REPORT

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Conoco Phillips

Certificate of Analysis Number:

09100102

Report To:		Project Name:	COP BCom #1E
Tetra Tech, Inc.		Site:	Farmington, NM
Kelly Blanchard		Site Address:	
6121 Indian School Road, N.E.			
Suite 200		PO Number:	4509596739
Albuquerque		State:	New Mexico
NM		State Cert. No.:	
87110-		Date Reported:	10/11/2009
ph: (505) 237-8440	fax:		

This Report Contains A Total Of 12 Pages

Excluding This Page, Chain Of Custody

And

Any Attachments

10/12/2009

Date

Test results meet all requirements of NELAC, unless specified in the narrative.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Case Narrative for:

Conoco Phillips

Certificate of Analysis Number:

09100102

Report To:		Project Name:	COP BCom #1E
Tetra Tech, Inc.		Site:	Farmington, NM
Kelly Blanchard		Site Address:	
6121 Indian School Road, N.E.			
Suite 200		PO Number:	4509596739
Albuquerque		State:	New Mexico
NM		State Cert. No.:	
87110-		Date Reported:	10/11/2009
ph: (505) 237-8440	fax:		

I. SAMPLE RECEIPT:

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

II: ANALYSES AND EXCEPTIONS:

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

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.

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 — Date
Project Manager

Test results meet all requirements of NELAC, unless specified in the narrative.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Conoco Phillips

Certificate of Analysis Number:

09100102

Report To: Tetra Tech, Inc.
Kelly Blanchard
6121 Indian School Road, N.E.
Suite 200
Albuquerque
NM
87110-
ph: (505) 237-8440 fax: (505) 881-3283

Fax To:

Project Name: COP BCom #1E
Site: Farmington, NM
Site Address:
PO Number: 4509596739
State: New Mexico
State Cert. No.:
Date Reported: 10/11/2009

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
MW-6	09100102-01	Water	10/1/2009 8:58:00 AM	10/2/2009 9:15:00 AM	331982	☐
MW-1	09100102-02	Water	10/1/2009 8:50:00 AM	10/2/2009 9:15:00 AM	331982	☐
Duplicate	09100102-03	Water	10/1/2009 9:00:00 AM	10/2/2009 9:15:00 AM	331982	☐
Trip Blank	09100102-04	Water	10/1/2009 4:00:00 PM	10/2/2009 9:15:00 AM	331982	☐

E Cardenas

10/12/2009

Erica Cardenas
Project Manager

Date

Kesavalu M. Bagawandoss Ph.D., J.D.
Laboratory Director

Ted Yen
Quality Assurance Officer

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: MW-6 **Collected:** 10/01/2009 8:58 **SPL Sample ID:** 09100102-01

Site: Farmington, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
METALS BY METHOD 6010B, DISSOLVED			**MCL**	**SW6010B**	**Units: mg/L**		
Iron	ND		0.02	1	10/10/09 16:58	EG	5240019

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3005A	10/02/2009 15:00	R_V	1.00

VOLATILE ORGANICS BY METHOD 8260B			**MCL**	**SW8260B**	**Units: ug/L**		
Benzene	ND		1	1	10/05/09 16:54	E_G	5232943
Ethylbenzene	ND		1	1	10/05/09 16:54	E_G	5232943
Toluene	ND		1	1	10/05/09 16:54	E_G	5232943
m,p-Xylene	ND		1	1	10/05/09 16:54	E_G	5232943
o-Xylene	ND		1	1	10/05/09 16:54	E_G	5232943
Xylenes,Total	ND		1	1	10/05/09 16:54	E_G	5232943
Surr: 1,2-Dichloroethane-d4	100		% 78-116	1	10/05/09 16:54	E_G	5232943
Surr: 4-Bromofluorobenzene	113		% 74-125	1	10/05/09 16:54	E_G	5232943
Surr: Toluene-d8	109		% 82-118	1	10/05/09 16:54	E_G	5232943

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: MW-1 **Collected:** 10/01/2009 8:50 **SPL Sample ID:** 09100102-02

Site: Farmington, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
METALS BY METHOD 6010B, DISSOLVED			**MCL**	**SW6010B**	**Units: mg/L**		
Iron	0.233		0.02	1	10/10/09 17:03	EG	5240020

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3005A	10/02/2009 15:00	R_V	1.00

VOLATILE ORGANICS BY METHOD 8260B				MCL	SW8260B	Units: ug/L	
Benzene	1.3		1	1	10/05/09 17:18	E_G	5232944
Ethylbenzene	58		1	1	10/05/09 17:18	E_G	5232944
Toluene	ND		1	1	10/05/09 17:18	E_G	5232944
m,p-Xylene	140		1	1	10/05/09 17:18	E_G	5232944
o-Xylene	2		1	1	10/05/09 17:18	E_G	5232944
Xylenes,Total	142		1	1	10/05/09 17:18	E_G	5232944
Surr: 1,2-Dichloroethane-d4	101	%	78-116	1	10/05/09 17:18	E_G	5232944
Surr: 4-Bromofluorobenzene	110	%	74-125	1	10/05/09 17:18	E_G	5232944
Surr: Toluene-d8	106	%	82-118	1	10/05/09 17:18	E_G	5232944

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: Duplicate **Collected:** 10/01/2009 9:00 **SPL Sample ID:** 09100102-03

Site: Farmington, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
VOLATILE ORGANICS BY METHOD 8260B			**MCL**	**SW8260B**	**Units: ug/L**		
Benzene	1.3		1	1	10/05/09 17:42	E_G	5232945
Ethylbenzene	56		1	1	10/05/09 17:42	E_G	5232945
Toluene	ND		1	1	10/05/09 17:42	E_G	5232945
m,p-Xylene	140		1	1	10/05/09 17:42	E_G	5232945
o-Xylene	2		1	1	10/05/09 17:42	E_G	5232945
Xylenes,Total	142		1	1	10/05/09 17:42	E_G	5232945
Surr: 1,2-Dichloroethane-d4	100		% 78-116	1	10/05/09 17:42	E_G	5232945
Surr: 4-Bromofluorobenzene	109		% 74-125	1	10/05/09 17:42	E_G	5232945
Surr: Toluene-d8	106		% 82-118	1	10/05/09 17:42	E_G	5232945

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: Trip Blank **Collected:** 10/01/2009 16:00 **SPL Sample ID:** 09100102-04

Site: Farmington, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
VOLATILE ORGANICS BY METHOD 8260B			**MCL**	**SW8260B**	**Units: ug/L**		
Benzene	ND		1	1	10/05/09 13:19	E_G	5232977
Ethylbenzene	ND		1	1	10/05/09 13:19	E_G	5232977
Toluene	ND		1	1	10/05/09 13:19	E_G	5232977
m,p-Xylene	ND		1	1	10/05/09 13:19	E_G	5232977
o-Xylene	ND		1	1	10/05/09 13:19	E_G	5232977
Xylenes,Total	ND		1	1	10/05/09 13:19	E_G	5232977
Surr: 1,2-Dichloroethane-d4	102		% 78-116	1	10/05/09 13:19	E_G	5232977
Surr: 4-Bromofluorobenzene	113		% 74-125	1	10/05/09 13:19	E_G	5232977
Surr: Toluene-d8	108		% 82-118	1	10/05/09 13:19	E_G	5232977

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

Quality Control Documentation

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Conoco Phillips

COP BCom #1E

Analysis: Metals by Method 6010B, Dissolved
Method: SW6010B
WorkOrder: 09100102
Lab Batch ID: 94319

Method Blank

RunID: ICP2_091010A-5240009 Units: mg/L
Analysis Date: 10/10/2009 16:14 Analyst: EG
Preparation Date: 10/02/2009 15:00 Prep By: R_V Method: SW3005A

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09100102-01B	MW-6
09100102-02B	MW-1

Analyte	Result	Rep Limit
Iron	ND	0.02

Laboratory Control Sample (LCS)

RunID: ICP2_091010A-5240010 Units: mg/L
Analysis Date: 10/10/2009 16:18 Analyst: EG
Preparation Date: 10/02/2009 15:00 Prep By: R_V Method: SW3005A

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Iron	1.000	1.055	105.5	80	120

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 09100020-01
RunID: ICP2_091010A-5240012 Units: mg/L
Analysis Date: 10/10/2009 16:27 Analyst: EG
Preparation Date: 10/02/2009 15:00 Prep By: R_V Method: SW3005A

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Iron	ND	1	1.079	107.1	1	1.037	102.9	3.970	20	75	125

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report 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.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Conoco Phillips
COP BCom #1E

Analysis: Volatile Organics by Method 8260B
Method: SW8260B
WorkOrder: 09100102
Lab Batch ID: R285579

Method Blank

RunID: L_091005C-5232939 Units: ug/L
Analysis Date: 10/05/2009 12:55 Analyst: E_G

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Toluene	ND	1.0
m,p-Xylene	ND	1.0
o-Xylene	ND	1.0
Xylenes,Total	ND	1.0
Surr: 1,2-Dichloroethane-d4	100.6	78-116
Surr: 4-Bromofluorobenzene	112.4	74-125
Surr: Toluene-d8	108.5	82-118

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09100102-01A	MW-6
09100102-02A	MW-1
09100102-03A	Duplicate
09100102-04A	Trip Blank

Laboratory Control Sample (LCS)

RunID: L_091005C-5232938 Units: ug/L
Analysis Date: 10/05/2009 11:59 Analyst: E_G

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	20.0	20.8	104	74	123
Ethylbenzene	20.0	22.1	111	72	127
Toluene	20.0	21.4	107	74	126
m,p-Xylene	40.0	44.9	112	71	129
o-Xylene	20.0	22.0	110	74	130
Xylenes,Total	60.0	66.9	111	71	130
Surr: 1,2-Dichloroethane-d4	50.0	51.2	102	78	116
Surr: 4-Bromofluorobenzene	50.0	53.5	107	74	125
Surr: Toluene-d8	50.0	52.8	106	82	118

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 09091284-04
RunID: L_091005C-5232941 Units: ug/L
Analysis Date: 10/05/2009 15:43 Analyst: E_G

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report 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.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Conoco Phillips
COP BCom #1E

Analysis: Volatile Organics by Method 8260B **WorkOrder:** 09100102
Method: SW8260B **Lab Batch ID:** R285579

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	ND	20	18.1	90.7	20	16.6	83.2	8.63	22	70	124
Ethylbenzene	ND	20	18.9	94.3	20	17.5	87.7	7.24	20	76	122
Toluene	ND	20	19.0	94.8	20	17.8	88.8	6.55	24	80	117
m,p-Xylene	ND	40	38.7	96.8	40	36.4	91.0	6.17	20	69	127
o-Xylene	ND	20	19.2	96.1	20	18.0	89.9	6.65	20	84	114
Xylenes,Total	ND	60	57.9	96.5	60	54.4	90.6	6.33	20	69	127
Surr: 1,2-Dichloroethane-d4	ND	50	50.5	101	50	51.4	103	1.68	30	78	116
Surr: 4-Bromofluorobenzene	ND	50	53.6	107	50	53.6	107	0.0242	30	74	125
Surr: Toluene-d8	ND	50	53.9	108	50	53.8	108	0.202	30	82	118

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B/V - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
TNTC - Too numerous to count

QC results presented on the QC Summary Report 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.

Sample Receipt Checklist

And

Chain of Custody

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Sample Receipt Checklist

Workorder:	09100102	Received By:	T_B
Date and Time Received:	10/2/2009 9:15:00 AM	Carrier name:	Fedex-Priority
Temperature:	1.5°C	Chilled by:	Water Ice

1.	Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2.	Custody seals intact on shippping container/cooler?	Yes ☑	No ☐	Not Present ☐
3.	Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4.	Chain of custody present?	Yes ☑	No ☐	
5.	Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
6.	Chain of custody agrees with sample labels?	Yes ☑	No ☐	
7.	Samples in proper container/bottle?	Yes ☑	No ☐	
8.	Sample containers intact?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test?	Yes ☑	No ☐	
10.	All samples received within holding time?	Yes ☑	No ☐	
11.	Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
12.	Water - VOA vials have zero headspace?	Yes ☑	No ☐	VOA Vials Not Present ☐
13.	Water - Preservation checked upon receipt (except VOA*)?	Yes ☐	No ☐	Not Applicable ☑

*VOA Preservation Checked After Sample Analysis

SPL Representative: _____ Contact Date & Time: _____

Client Name Contacted: _____

Non Conformance Issues: _____

Client Instructions: _____

SPL, Inc.
Analysis Request & Chain of Custody Record

SPL Workorder No. 331982
09100102
page 1 of 1

Client Name: TetraTech / ConocoPhillips
Address: 6121 Indian School Rd Ste 200
City Albuquerque State NM Zip 87110
Phone/Fax: 505.237.8440 505.237.8656
Client Contact: Kelly Blanchard Email: Kelly.blanchard@tetratech.com
Project Name/No.: B-Com 1E
Site Name:
Site Location: Farmington, NM
Invoice To: ConocoPhillips 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 ONLY	Requested Analysis: Dissolved Fe
MW-6	10-1-09	858		X	W	V	40	1	3	X	
MW-6	10-1-09	858		X	W	P	16	NONE	1		X
MW-1	10-1-09	850		X	W	V	40	1	3	X	
MW-1	10-1-09	850		X	W	P	16	NONE	1		X
Duplicate	10-1-09	900		X	W	V	40	1	3	X	
Trip Blank	10-1-09	1600	—	—	W	V	40	1	2		
							PUSH				

Client/Consultant Remarks: Please filter and preserve dissolved Fe bottles

Laboratory remarks:

Intact? Y N
Ice? Y N
Temp: 1.5

Requested TAT
- 1 Business Day
- 2 Business Days
- 3 Business Days
- Contract
- Standard
- 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:	10-1-09	1630	2. Received by:
3. Relinquished by:	date	time	4. Received by:
5. Relinquished by:	date 10/2/09	time 9:15	6. Received by Laboratory:

8880 Interchange Drive
Houston, TX 77054 (713) 660-0901

500 Ambassador Caffery Parkway
Scott, LA 70583 (337) 237-4775

459 Hughes Drive
Traverse City, MI 49686 (231) 947-5777

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			350.0	BDL	420	2800.0
No	Water	Samples	Taken	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		Iina 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		Iina 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		Iina 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	lina 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		