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06/01/2010

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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 - Second 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 JUNE 2009 SAMPLING EVENT

FARMINGTON B COM NO. 1E GAS PRODUCTION WELL 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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1.0 INTRODUCTION

This report presents the results of quarterly groundwater monitoring completed by Tetra Tech, Inc. (Tetra Tech) on June 10, 2009, at the ConocoPhillips Farmington B Com No. 1E site in Farmington, New Mexico (Site). This sampling event represents the second 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 is presented as **Figure 3**.

1.1 Site History

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 June 10, 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 ferrous iron.

2.0 METHODOLOGY AND RESULTS

2.1 Groundwater Monitoring Methodology

Groundwater Elevation Measurements

On June 10, 2009, groundwater elevation measurements were recorded in Monitor Wells MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6. **Table 1** presents the groundwater elevation summary from May 2005 to June 2009. Based on June 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 during this event to initiate the sixth round of consecutive quarterly groundwater monitoring conducted at the Site by Tetra Tech. Approximately three well volumes were purged from each monitor well with dedicated polyethylene 1.5-inch disposable bailers. Purge water was placed in a 55-gallon steel drum for storage until disposal at a ConocoPhillips approved facility. Groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain of custody documentation to Southern Petroleum Laboratories located in Houston, Texas. The samples were analyzed for the presence of BTEX by Environmental Protection Agency (EPA) Method 8260B and ferrous iron by Standard Method (SM) 18, 3500-D. Monitor well MW-1 was analyzed for GRO and DRO by EPA Method SW8015B. Groundwater sampling field forms are presented in **Appendix A**.

2.2 Groundwater Sampling Analytical Results

During the June 2009 quarterly sampling event, benzene, toluene and total xylenes 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 New Mexico Water Quality Control Commission (NMWQCC) groundwater quality standard for ethylbenzene is 750 ug/L. Ferrous iron was detected at a concentration of 9.8 mg/L in MW-1. BTEX constituents in MW-6 were not detected above the laboratory detection limit of 5.0 ug/L, while ferrous iron was detected in MW-6 at a concentration of 3.86 mg/L. **Table 2** 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 June 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 the June 2009 sampling event 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 well MW-6 continue to show BTEX concentrations below NMWQCC groundwater quality standards in both site monitor wells. Tetra Tech will continue quarterly monitoring of groundwater in MW-1 and MW-6. The second quarter monitoring event for 2009 is scheduled for September 2009.

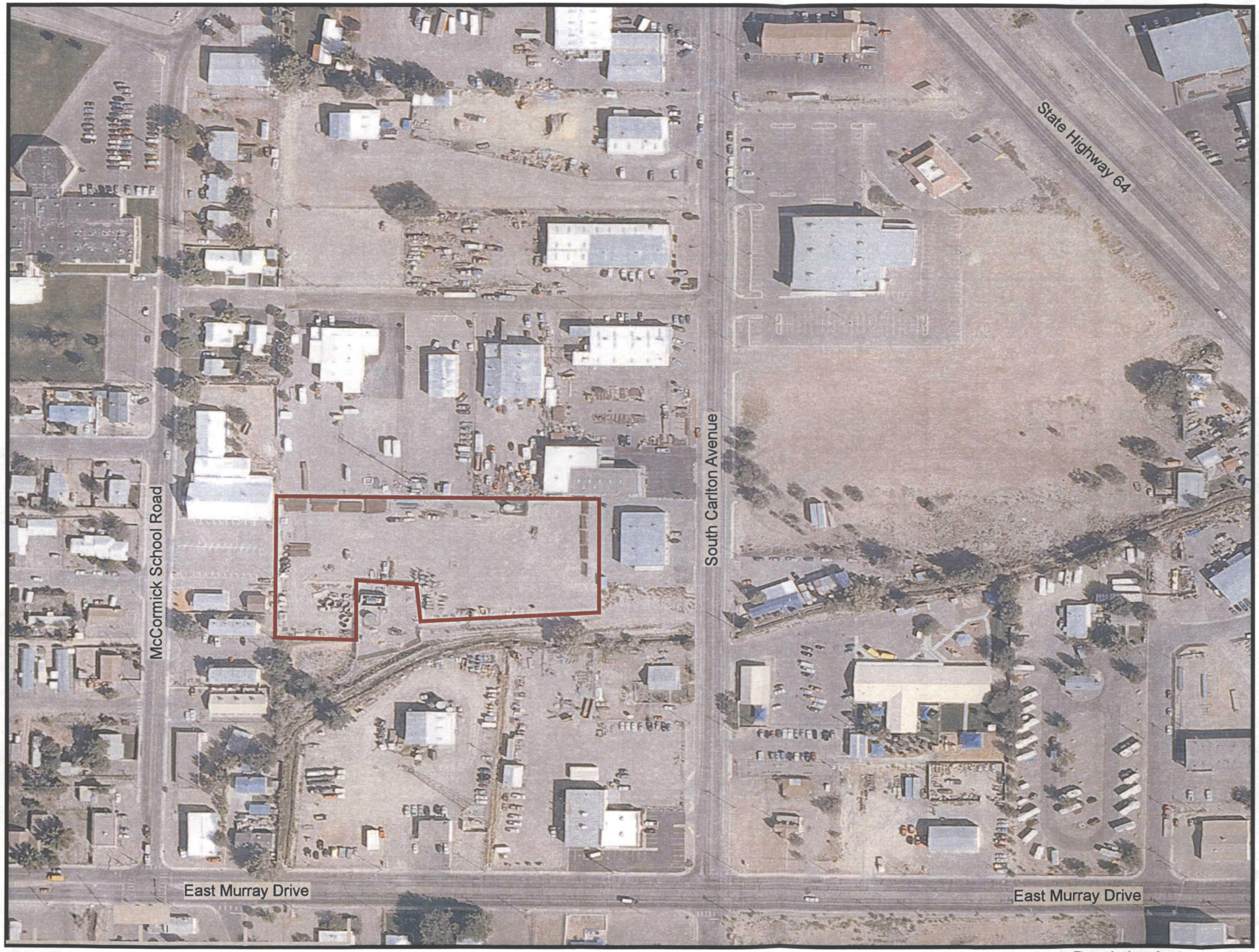
4.0 REFERENCES

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

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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

N

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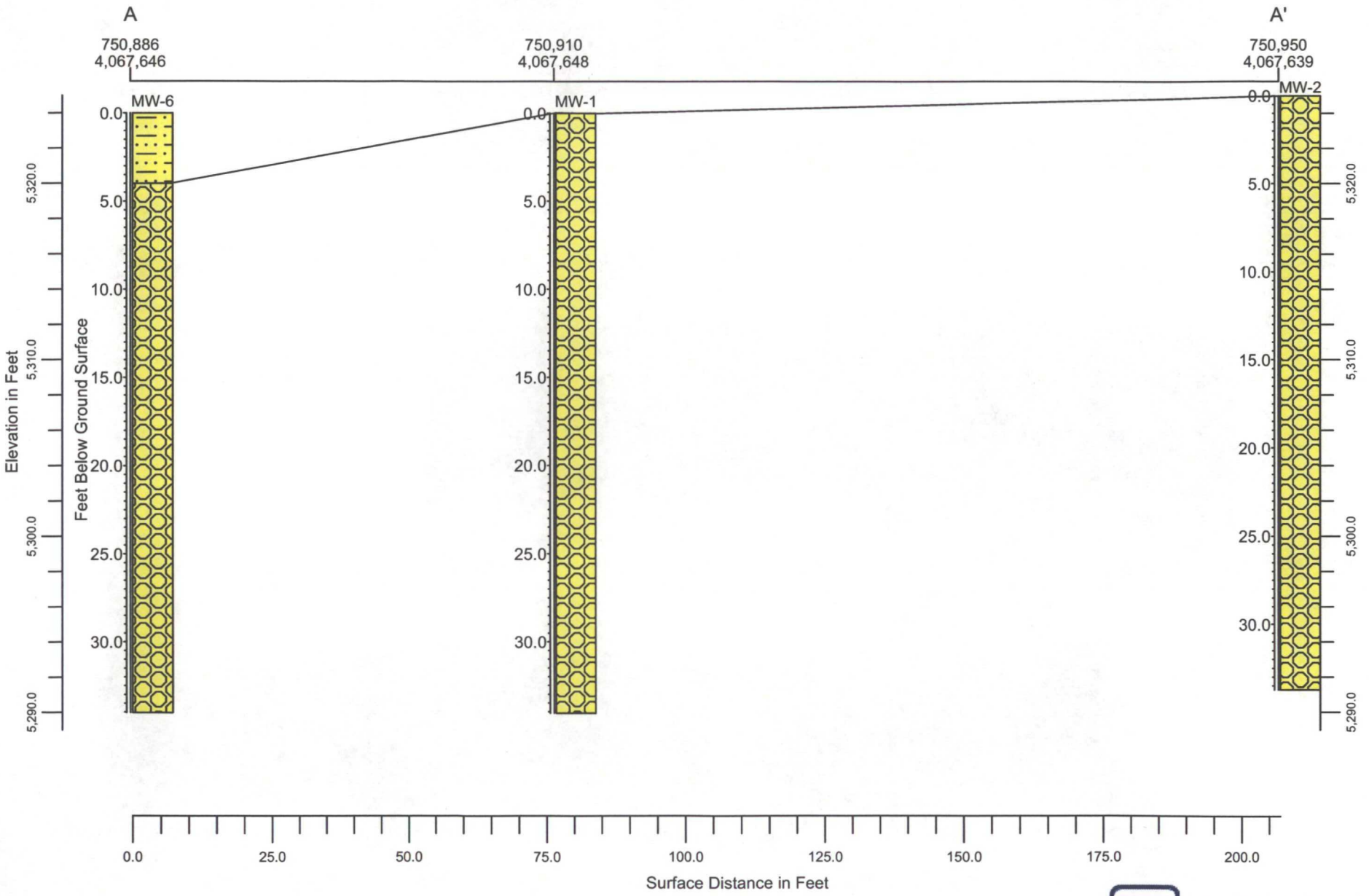
Figure 3.

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



5/24/2010

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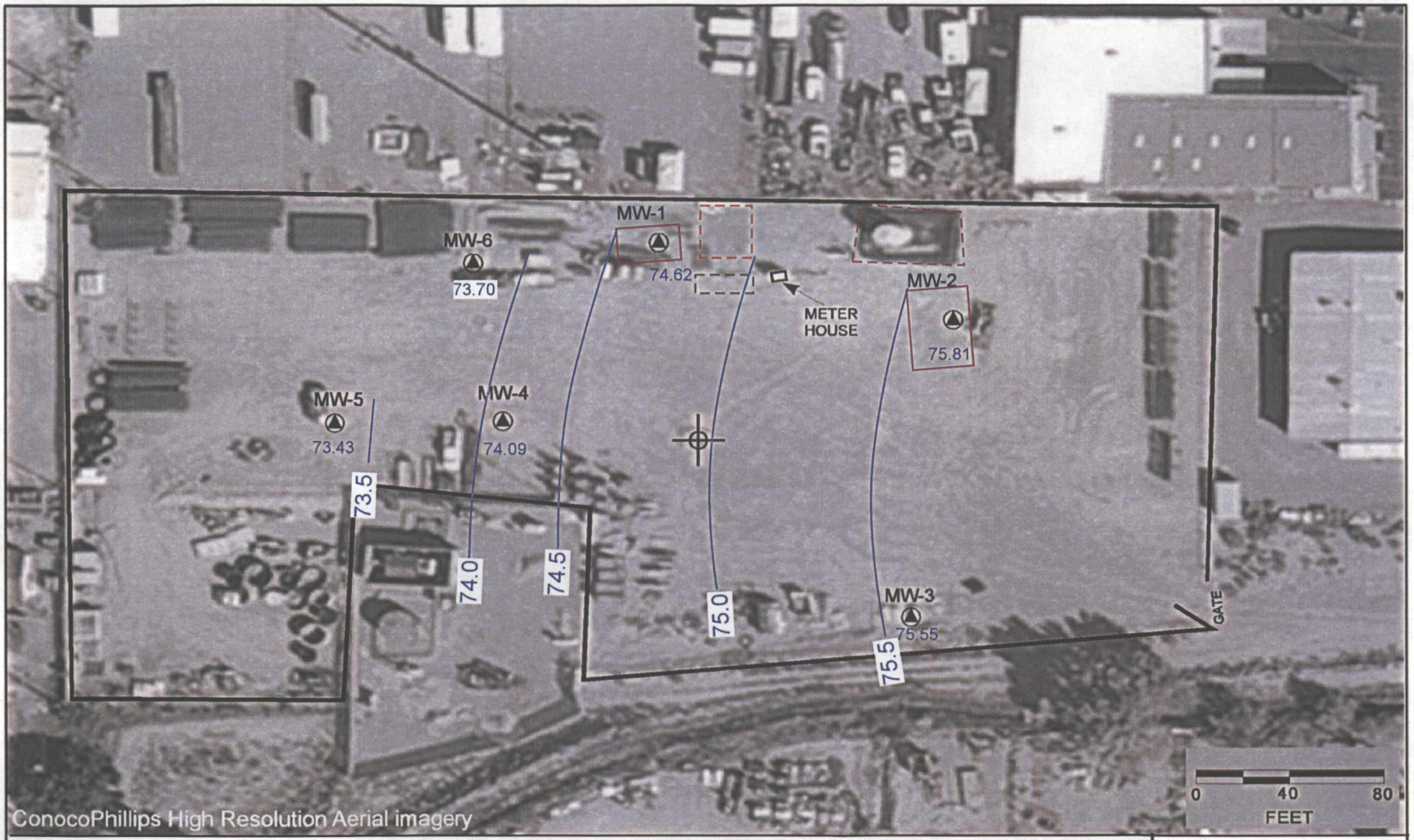

FIGURE 4:
GROUNDWATER ELEVATION CONTOUR MAP
06/10/2009
FARMINGTON B COM NO. 1E
Section 15, T29N, R13W
San Juan County, NM

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
06/10/2009
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

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

Date/Time Period	Event/Action	Description
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
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.

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
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

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
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

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
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

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*
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*
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

WATER SAMPLING FIELD FORM

Project No. BCon/E Qu. Sampling — 1 of 2

Site Location Farmington, NM

Site/Well No. MW-1 — Coded/ Replicate No. duplicate (15:35) — Date 6-10-09

Weather breezy, warm, sunny — Time Sampling Began 1500 — Time Sampling Completed 1530

EVACUATION DATA

Description of Measuring Pt (MP) TOC

Height of MP Above/Below Land Surface _____ — MP Elevation _____

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

Held _____ — Depth to Water Below MP 26.75 — Diameter of Casing (2 inch) / 4 inch

Wet _____ — Water Column in Well _____ — Gallons Pumped/Bailed Prior to Sampling 2.5-3

Gallons per Foot 0.16

Gallons in Well _____ — Sampling Pump Intake (feet below land surface) _____

Purging Equipment bailer dedicated disposable 1.5" polyethylene

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature	pH	Conductivity	TDS	DO	DO%	ORP	Other
Free product sheen; no parameters collected								

Sampling Equipment Low Flow Pump / Disposable Bailer

Constituents Sampled	Container Description	Preservative
BTEX (MW-1 + duplicate)	3 40 mL voas	HCl
TPH GRO/DRO	3 40 mL voas	None
Fe	2 500 mL amber glass	HCl

Remarks Sheen; very light; detected on purge water only; put purge water in tank located onsite per NM environmental Instructions (memo on oil)

Sampling Personnel Kelly Blanchard

Well Casing Volumes

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

WATER SAMPLING FIELD FORM

Project No. B Com #1E Qu - Sampling — 2 of 2

Site Location Farmington, NM

Site/Well No. MW- 6 — Coded/ Replicate No. None — Date 6-10-09

Weather breezy, sunny, warm — Time Sampling Began ~~1~~ 1600 — Time Sampling Completed 16:20

EVACUATION DATA

Description of Measuring Pt (MP) TOC

Height of MP Above/Below Land Surface _____ — MP Elevation _____

Total Sounded Depth of Well Below MP 33.80 — Water-Level Elevation _____

Held _____ — Depth to Water Below MP 28.44 — Diameter of Casing (2 inch) / 4 inch

Wet _____ — Water Column in Well 5.36 — Gallons Pumped/Bailed Prior to Sampling 2.75

Gallons per Foot 0.8576

Gallons in Well 2.57 — Sampling Pump Intake (feet below land surface) _____

Purging Equipment bailer

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature	pH	Conductivity	TDS	DO	DO%	ORP	Other

Sampling Equipment Low Flow Pump / Disposable Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40ml VOAs	HCl
Fe	1 ~~2~~ 500ml Amberglass	HCl

Remarks _____

Sampling Personnel Kelly Blanchard

Well Casing Volumes

Gal./ft.				
	1 ¼" = 0.077	(2" = 0.16)	3" = 0.37	4" = 0.65
	1 ½" = 0.10	~~2½~~ = 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:

09060657

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:	4511645191
Albuquerque		State:	New Mexico
NM		State Cert. No.:	
87110-		Date Reported:	6/22/2009
ph: (505) 237-8440	fax:		

This Report Contains A Total Of 15 Pages

Excluding This Page, Chain Of Custody

And

Any Attachments

6/23/2009

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:

09060657

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:	4511645191
Albuquerque		State:	New Mexico
NM		State Cert. No.:	
87110-			
ph: (505) 237-8440	fax:	Date Reported:	6/22/2009

I. SAMPLE RECEIPT:

All samples were received expired for Ferrous Iron. The holding time for Ferrous Iron is immediate and should be performed at the time of sampling. Client is aware of the holding time and request SPL to perform the analysis.

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.

Diesel Range Organics 8015B:

Due to limited sample volume, a Matrix Spike (MS) or Matrix Spike Duplicate (MSD) was not extracted with Batch ID:91140 for the Diesel Range Organics analysis by Method 8015B. A Laboratory Control Sample (LCS) and a Laboratory Control Sample Duplicate (LCSD) were extracted with the analytical batch and serve as the batch quality control (QC). The LCS and LCSD recovered acceptably and precision criteria were met.

III. CERTIFICATION:

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.

IV. 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.

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

Case Narrative for:

Conoco Phillips

Certificate of Analysis Number:

09060657

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.

Erica Cardenas
Project Manager

Date

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:

09060657

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: 4511645191
State: New Mexico
State Cert. No.:
Date Reported: 6/22/2009

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
MW-1	09060657-01	Water	6/10/2009 3:30:00 PM	6/12/2009 9:00:00 AM	327828	☐
MW-6	09060657-02	Water	6/10/2009 4:20:00 PM	6/12/2009 9:00:00 AM	327828	☐
Duplicate	09060657-03	Water	6/10/2009 3:35:00 PM	6/12/2009 9:00:00 AM	327828	☐
Trip Blank	09060657-04	Water	6/10/2009	6/12/2009 9:00:00 AM	327828	☐

E Cardenas

6/23/2009

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-1 **Collected:** 06/10/2009 15:30 **SPL Sample ID:** 09060657-01

Site: Farmington, NM

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/L**	
Diesel Range Organics	30			0.5	10	06/20/09 20:33	NW	5077268
Surr: n-Pentacosane	230 MI	*	%	20-150	10	06/20/09 20:33	NW	5077268

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3510C	06/16/2009 15:11	N_M	1.00

GASOLINE RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/L**	
Gasoline Range Organics	0.55			0.1	1	06/17/09 20:32	EMB	5072584
Surr: 1,4-Difluorobenzene	98.2		%	60-155	1	06/17/09 20:32	EMB	5072584
Surr: 4-Bromofluorobenzene	144		%	50-158	1	06/17/09 20:32	EMB	5072584
IRON, FERROUS					**MCL**	**M3500-FE D**	**Units: mg/L**	
Iron, Ferrous	9.8			0.5	5	06/12/09 14:30	ESK	5068210
VOLATILE ORGANICS BY METHOD 8260B					**MCL**	**SW8260B**	**Units: ug/L**	
Benzene	ND			5	1	06/18/09 14:54	LU_L	5074794
Ethylbenzene	96			5	1	06/18/09 14:54	LU_L	5074794
Toluene	ND			5	1	06/18/09 14:54	LU_L	5074794
m,p-Xylene	ND			5	1	06/18/09 14:54	LU_L	5074794
o-Xylene	ND			5	1	06/18/09 14:54	LU_L	5074794
Xylenes,Total	ND			5	1	06/18/09 14:54	LU_L	5074794
Surr: 1,2-Dichloroethane-d4	100		%	78-116	1	06/18/09 14:54	LU_L	5074794
Surr: 4-Bromofluorobenzene	104		%	74-125	1	06/18/09 14:54	LU_L	5074794
Surr: Toluene-d8	110		%	82-118	1	06/18/09 14:54	LU_L	5074794

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-6 **Collected:** 06/10/2009 16:20 **SPL Sample ID:** 09060657-02

Site: Farmington, NM

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
IRON, FERROUS					**MCL**	**M3500-FE D**	**Units: mg/L**	
Iron, Ferrous	3.86			0.2	2	06/12/09 14:30	ESK	5068207
VOLATILE ORGANICS BY METHOD 8260B					**MCL**	**SW8260B**	**Units: ug/L**	
Benzene	ND			5	1	06/18/09 15:50	LU_L	5074796
Ethylbenzene	ND			5	1	06/18/09 15:50	LU_L	5074796
Toluene	ND			5	1	06/18/09 15:50	LU_L	5074796
m,p-Xylene	ND			5	1	06/18/09 15:50	LU_L	5074796
o-Xylene	ND			5	1	06/18/09 15:50	LU_L	5074796
Xylenes,Total	ND			5	1	06/18/09 15:50	LU_L	5074796
Surr: 1,2-Dichloroethane-d4	96.9		%	78-116	1	06/18/09 15:50	LU_L	5074796
Surr: 4-Bromofluorobenzene	99.4		%	74-125	1	06/18/09 15:50	LU_L	5074796
Surr: Toluene-d8	111		%	82-118	1	06/18/09 15:50	LU_L	5074796

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:** 06/10/2009 15:35 **SPL Sample ID:** 09060657-03

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	ND		5	1	06/18/09 15:22	LU_L	5074795
Ethylbenzene	98		5	1	06/18/09 15:22	LU_L	5074795
Toluene	ND		5	1	06/18/09 15:22	LU_L	5074795
m,p-Xylene	ND		5	1	06/18/09 15:22	LU_L	5074795
o-Xylene	ND		5	1	06/18/09 15:22	LU_L	5074795
Xylenes,Total	ND		5	1	06/18/09 15:22	LU_L	5074795
Surr: 1,2-Dichloroethane-d4	95.7		% 78-116	1	06/18/09 15:22	LU_L	5074795
Surr: 4-Bromofluorobenzene	101		% 74-125	1	06/18/09 15:22	LU_L	5074795
Surr: Toluene-d8	110		% 82-118	1	06/18/09 15:22	LU_L	5074795

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
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(713) 660-0901

Client Sample ID: Trip Blank **Collected:** 06/10/2009 0:00 **SPL Sample ID:** 09060657-04

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		5	1	06/18/09 14:27	LU_L	5074793
Ethylbenzene	ND		5	1	06/18/09 14:27	LU_L	5074793
Toluene	ND		5	1	06/18/09 14:27	LU_L	5074793
m,p-Xylene	ND		5	1	06/18/09 14:27	LU_L	5074793
o-Xylene	ND		5	1	06/18/09 14:27	LU_L	5074793
Xylenes,Total	ND		5	1	06/18/09 14:27	LU_L	5074793
Surr: 1,2-Dichloroethane-d4	93.4		% 78-116	1	06/18/09 14:27	LU_L	5074793
Surr: 4-Bromofluorobenzene	101		% 74-125	1	06/18/09 14:27	LU_L	5074793
Surr: Toluene-d8	112		% 82-118	1	06/18/09 14:27	LU_L	5074793

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: Diesel Range Organics
Method: SW8015B
WorkOrder: 09060657
Lab Batch ID: 91140

Method Blank

RunID: HP_Z_090620B-5077265 Units: mg/L
Analysis Date: 06/20/2009 19:01 Analyst: NW
Preparation Date: 06/16/2009 15:11 Prep By: N_M Method SW3510C

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09060657-01C	MW-1

Analyte	Result	Rep Limit
Diesel Range Organics	ND	0.050
Surr: n-Pentacosane	132.6	20-150

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: HP_Z_090620B-5077266 Units: mg/L
Analysis Date: 06/20/2009 19:31 Analyst: NW
Preparation Date: 06/16/2009 15:11 Prep By: N_M Method SW3510C

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Diesel Range Organics	2.00	2.26	113	2.00	2.32	116	2.7	43	21	175
Surr: n-Pentacosane	0.0500	0.0572	114	0.0500	0.0590	118	3.1	43	20	150

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: Gasoline Range Organics
Method: SW8015B
WorkOrder: 09060657
Lab Batch ID: R275789

Method Blank

RunID: HP_P_090617B-5072575 Units: mg/L
Analysis Date: 06/17/2009 8:27 Analyst: EMB

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09060657-01D	MW-1

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	0.10
Surr: 1,4-Difluorobenzene	93.8	60-155
Surr: 4-Bromofluorobenzene	103.3	50-158

Laboratory Control Sample (LCS)

RunID: HP_P_090617B-5072573 Units: mg/L
Analysis Date: 06/17/2009 7:31 Analyst: EMB

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1.00	0.882	88.2	42	136
Surr: 1,4-Difluorobenzene	0.100	0.102	102	60	155
Surr: 4-Bromofluorobenzene	0.100	0.108	108	50	158

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

Sample Spiked: 09060750-12
RunID: HP_P_090617B-5072581 Units: mg/L
Analysis Date: 06/17/2009 19:06 Analyst: EMB

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Gasoline Range Organics	0.205	1	0.917	71.2	1	0.884	67.9	3.68	36	22	174
Surr: 1,4-Difluorobenzene	ND	0.1	0.1	100	0.1	0.0989	98.9	1.51	30	60	155
Surr: 4-Bromofluorobenzene	ND	0.1	0.112	112	0.1	0.113	113	0.178	30	50	158

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: 09060657
Lab Batch ID: R275903

Method Blank

RunID: K_090618A-5074792 Units: ug/L
Analysis Date: 06/18/2009 13:59 Analyst: LU_L

Analyte	Result	Rep Limit
Benzene	ND	5.0
Ethylbenzene	ND	5.0
Toluene	ND	5.0
m,p-Xylene	ND	5.0
o-Xylene	ND	5.0
Xylenes,Total	ND	5.0
Surr: 1,2-Dichloroethane-d4	95.3	78-116
Surr: 4-Bromofluorobenzene	100.3	74-125
Surr: Toluene-d8	107.3	82-118

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09060657-01A	MW-1
09060657-02A	MW-6
09060657-03A	Duplicate
09060657-04A	Trip Blank

Laboratory Control Sample (LCS)

RunID: K_090618A-5074791 Units: ug/L
Analysis Date: 06/18/2009 13:32 Analyst: LU_L

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	20.0	19.5	97.7	74	123
Ethylbenzene	20.0	21.7	108	72	127
Toluene	20.0	20.9	105	74	126
m,p-Xylene	40.0	43.1	108	71	129
o-Xylene	20.0	23.0	115	74	130
Xylenes,Total	60.0	66.1	110	71	130
Surr: 1,2-Dichloroethane-d4	50.0	47.4	94.8	78	116
Surr: 4-Bromofluorobenzene	50.0	50.2	100	74	125
Surr: Toluene-d8	50.0	53.5	107	82	118

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

Sample Spiked: 09060721-01
RunID: K_090618A-5074798 Units: ug/L
Analysis Date: 06/18/2009 17:13 Analyst: LU_L

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:** 09060657
Method: SW8260B **Lab Batch ID:** R275903

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	19.5	97.6	20	19.8	99.1	1.55	22	70	124
Ethylbenzene	ND	20	21.2	106	20	19.7	98.4	7.19	20	76	122
Toluene	ND	20	21.1	106	20	21.1	106	0.0379	24	80	117
m,p-Xylene	ND	40	42.5	106	40	41.7	104	1.78	20	69	127
o-Xylene	ND	20	21.3	107	20	21.9	109	2.59	20	84	114
Xylenes,Total	ND	60	63.8	106	60	63.6	106	0.297	20	69	127
Surr: 1,2-Dichloroethane-d4	ND	50	47	94.1	50	46.9	93.7	0.343	30	78	116
Surr: 4-Bromofluorobenzene	ND	50	51.7	103	50	49.1	98.1	5.17	30	74	125
Surr: Toluene-d8	ND	50	54.8	110	50	53.6	107	2.09	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.

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

Quality Control Report

Conoco Phillips
COP BCom #1E

Analysis: Iron, Ferrous
Method: M3500-Fe D
WorkOrder: 09060657
Lab Batch ID: R275511

Method Blank

RunID: WET_090612T-5068203 Units: mg/L
Analysis Date: 06/12/2009 14:30 Analyst: ESK

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
09060657-01B	MW-1
09060657-02B	MW-6

Analyte	Result	Rep Limit
Iron, Ferrous	ND	0.10

Laboratory Control Sample (LCS)

RunID: WET_090612T-5068204 Units: mg/L
Analysis Date: 06/12/2009 14:30 Analyst: ESK

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Iron, Ferrous	2.000	1.946	97.31	85	115

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

Sample Spiked: 09060657-02
RunID: WET_090612T-5068208 Units: mg/L
Analysis Date: 06/12/2009 14:30 Analyst: ESK

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, Ferrous	3.864	2	6.004	107.0	2	6.004	107.0	0	20	85	115

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:	09060657	Received By:	NW
Date and Time Received:	6/12/2009 9:00:00 AM	Carrier name:	Fedex-Priority
Temperature:	3.0°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? All samples were received expired for Ferrous Iron. The holding time for Ferrous Iron is immediate and should be performed at the time of sampling.	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: MW-1 received 8 btls 3 vials (HCL), 3 vials (unpres), 2-16 oz (hcl). Client requested TPH GRO/DRO. Did not receive any vials for DRO.

Client Instructions:

SPL, Inc.
Analysis Request & Chain of Custody Record

SPL Workorder No. 327828
0906065T
page 1 of 1

Client Name: TetraTech for ConocoPhillips
Address: 6121 Indian School Rd NE suite 200
City: Albuquerque State: NM Zip:
Phone/Fax: 505-237-8440 / 8566
Client Contact: Kelly Blanchard Email: Kelly.blanchard@tetratech.com
Project Name/No.: B Com #1E Gtr Sampling
Site Name: B Com #1E
Site Location: Farmington, NM
Invoice To: ConocoPhillips
PO:

SAMPLE ID	DATE	TIME	comp	grab	matrix (W=water S=soil O=oil A=air Sl=sludge E=entore 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 8260B	Remarks	TPH GRO & DRO
MW-1	6-10-09	1530		X	W	A, V	40, X	1	5	X	X	X
MW-6	6-10-09	1620		X	W	A, V	40, X	1	4	X	X	
duplicate	6-10-09	1535		X	W	V	40	1	3	X		
trip Blank	6-10-09	—			W	V	40	1	2	X		

RUSH

Client/Consultant Remarks: Please add TPH DRO & GRO to analyte list

Laboratory remarks:

Intact? Y N
Ice? Y N
Temp: 3.0

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

Rush TAT requires prior notice

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

Special Detection Limits (specify): Comm NMWQCC

PM review (initial):

1. Relinquished by Sampler: Kelly Blanchard	date 6-11-09	time 16:00	2. Received by:
3. Relinquished by:	date	time	4. Received by:
5. Relinquished by:	date 6/11/09	time 0900	6. Received by Laboratory:

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

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

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

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		