3R - 087

CLOSURE REPORT

07/22/2010

3R087

Terry S. Lauck
Site Manager

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ConocoPhillips

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

RECEIVED OCD
2010 JUL 26 A 11: 24

July 22, 2010

Re: Formal Request for Site Closure and No Further Action Status
Site Name: Federal No. 15
OCD Number: 3R-087
API Number: 30-045-20078

Dear Mr. von Gonten:

ConocoPhillips Company (ConocoPhillips) submits this letter as a formal request for site closure and no further action status for the ConocoPhillips–operated Federal No. 15 natural gas production well site (Site), located on private property in Farmington, San Juan County.

A steady decrease in BTEX concentrations in Monitor Well MW-2 from January 2005 to June 2010 suggests quarterly pumping events at the Site have been successful. The most recent sampling event on June 11, 2010 represents the eighth consecutive quarter in which all analyzed constituents were present in concentrations either below New Mexico Water Quality Control Commission (NMWQCC) standards or below laboratory detection limits. Further information can be referenced in the June 2010 quarterly groundwater monitoring report included as an attachment to this letter.

ConocoPhillips requests no further action be granted by NMOCD. Upon approval of closure by the NMOCD, ConocoPhillips will plug and abandon all monitoring wells at the Site.

Sincerely,

Terry S. Lauck

Cc: Brandon Powell, NMOCD
Kelly Blanchard, Tetra Tech, Inc.

Attachments (1)

QUARTERLY GROUNDWATER MONITORING AND SITE CLOSURE REPORT
JUNE 2010

CONOCOPHILLIPS COMPANY
FEDERAL NO.15
FARMINGTON, SAN JUAN COUNTY, NEW MEXICO

OCD # 3R087

API # 30-045-20078

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. 114-690110.100

July 2010

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

QUARTERLY GROUNDWATER MONITORING AND SITE CLOSURE REPORT CONOCOPHILLIPS COMPANY FEDERAL NO. 15 FARMINGTON, SAN JUAN COUNTY, NEW MEXICO

1.0 INTRODUCTION

This report presents the results of quarterly groundwater monitoring completed by Tetra Tech, Inc. (Tetra Tech) on March 29, 2010, at the ConocoPhillips Company Federal No.15 site in Farmington, New Mexico (Site). This event represents the tenth consecutive quarter of groundwater monitoring conducted by Tetra Tech at the Site; and the eighth consecutive quarter of sample results below the New Mexico Water Quality Control Commission (NMWQCC) standards. On behalf of ConocoPhillips, Tetra Tech requests no further action at the Site, and requests approval to plug and abandon all monitoring wells.

The Site is located on private property, on the north side of Gila Street between Washington Avenue and English Road. New Mexico 516 (Main Street) is located approximately 0.5 miles to the west. The Site consists of a gas production well and associated equipment and installations. The location and general features of the Site are shown as **Figures 1** and **2**, respectively.

1.1 Site History

The history of the Site is outlined on **Table 1** and discussed in more detail in the following paragraphs.

On October 23, 2004, a release of roughly 15 barrels of condensate was discovered at the Site. Approximately 1,500 cubic yards of affected soil were excavated and replaced with clean fill during the week of October 25, 2004.

Following soil remediation activities, Monitor Wells MW-1, MW-2, MW-3, and MW-4 were installed using 2-inch polyvinyl chloride (PVC) pipe on November 16 and 17, 2004 by Biosphere Environmental Sciences and Technologies, LLC. An additional, down-gradient monitor well (MW-5) was installed on property south of the Site on October 19, 2005 by Spectrum Drilling under the supervision of Tetra Tech.

Monitor Wells MW-1 through MW-4 were initially sampled on January 18, 2005 and again on October 18 and 19, 2005. Monitor Well MW-5 was initially sampled on October 19, 2005.

Due to the presence of light non-aqueous phase liquid (LNAPL) and constituent of concern (COC) concentrations, Tetra Tech conducted quarterly groundwater removal events at Monitor Well MW-2. A vacuum truck was used to pump a total of 4,343 gallons from MW-2 between July 2005 and January 2008. Pumped water was disposed of in an on-site produced water tank (**Figure 2**).

Tetra Tech conducted annual groundwater sampling of Monitor Wells MW-1, MW-2, MW-3, MW-4, and MW-5 in November of 2006 and 2007. The details of each sampling event can be found in the 2006 and 2007 Annual Groundwater Monitoring and Site Activities Reports, dated January 2, 2007 and January 30, 2008, respectively.

Quarterly groundwater monitoring events began in March 2008. Most recently a quarterly sampling event took place on March 29, 2010. This event marks the eighth consecutive quarterly groundwater monitoring event at the Site in which groundwater quality results for benzene, toluene, ethylbenzene and total xylenes (BTEX) were below NMWQCC groundwater quality standards (GWQS) contained in Title 20, Chapter 6, Part 2, Section 3103 of the New Mexico Administrative Code (20.6.2.3103 NMAC).

2.0 METHODOLOGY AND RESULTS

2.1 Groundwater Monitoring Methodology

Groundwater Elevation Measurements

On June 11, 2010, groundwater elevation measurements were recorded for Monitor Wells MW-1, MW-2, MW-3, MW-4, and MW-5. **Table 2** presents the monitor well specifications and groundwater level data. A groundwater elevation contour map is presented as **Figure 3,** which illustrates that groundwater at the Site flows to the south-southwest at an approximate gradient of 0.02 feet/feet (ft/ft) toward the Animas River, located approximately 3,200 feet south of the Site.

Groundwater sampling

Groundwater quality samples were collected from Monitor Wells MW-1, MW-2, MW-3, MW-4, and MW-5 during the July 11, 2010 groundwater sampling event. Three well volumes were purged from each monitor well prior to sampling. A 1.5-inch polyethylene disposable bailer was used in each well to purge and collect groundwater samples. Purged groundwater was disposed of in the on-site produced water tank (**Figure 2**). Samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain-of-custody documentation to Southern Petroleum Laboratory located in Houston, Texas. The samples were analyzed for presence of BTEX by Environmental Protection Agency (EPA) Method 8260B.

2.2 Groundwater Sampling Analytical Results

The July 11, 2010 analysis of collected groundwater samples indicates that all analyzed constituents are present in concentrations either below NMWQCC standards or were not detected above their respective laboratory reporting limits. Groundwater samples collected from MW-1, MW-3, MW-4 and MW-5 did not reveal BTEX in concentrations above the laboratory reporting limit of 1 microgram per liter (µg/l) for each individual BTEX component. Benzene concentrations in MW-2 were detected at 2.7 µg/L; a duplicate sample collected from MW-2 contained concentrations of BTEX below NMWQCC standards. Historical laboratory analytical data are summarized on **Table 3**. The field groundwater

sampling forms are presented in **Appendix A** and the laboratory analytical report is presented in **Appendix B**. A geologic cross section of the Site is included as **Figure 4**.

3.0 CONCLUSIONS

Tetra Tech conducted quarterly pumping events in Monitor Well MW-2 from July 2005 to January 2008. The concentrations of BTEX measured in this well have decreased steadily from January 2005 to June 2010 and are summarized below.

- MW-2 benzene concentrations have decreased from 1,200 µg/L to 2.7 µg/L.
- MW-2 toluene concentrations decreased from 3,300 µg/L to less than the laboratory reporting limit of 1 µg/L.
- MW-2 ethylbenzene concentrations decreased from 380 µg/L to less 1.3 µg/L.
- MW-2 total xylenes concentrations decreased from 3,500 µg/L to 1.7 µg/L.

The decrease in BTEX concentrations in MW-2 suggests that pumping events were effective. Benzene in MW-3 decreased from 190 µg/L in January 2005 to less than the laboratory reporting limit of 1 µg/L in June 2010, while benzene in MW-4 decreased from 36 µg/L in November 2007 to less than the laboratory reporting limit of 1 µg/L in June 2010. Additionally, chloride has never been detected above NMWQCC standards in any Site monitor well. Therefore, analysis of this constituent was discontinued beginning with the January 2009 sampling event. Napthalene was detected above the standard in MW-2 during January 2005, but was below the laboratory detection limits during subsequent sampling events and therefore discontinued.

The March 2010 sampling event represents the eighth sampling event in which all analyzed constituents are present in concentrations either below NMWQCC standards or were not detected above their respective laboratory reporting limits. Because eight consecutive quarters of results have been below NMWQCC standards, Tetra Tech recommends no further action at the Site. Upon approval of closure by the NMOCD, ConocoPhillips will plug and abandon all monitoring wells at the Federal No. 15 Site.

If you have any questions or need additional information, please contact Kelly Blanchard at (505) 237-8440 or at kelly.blanchard@tetratech.com.

FIGURES

ConocoPhillipsHigh Resolution Aerial Imagery

FIGURE 1.

Site Location Map
ConocoPhillips Company
Federal No.15
Farmington, NM

Approximate ConocoPhillips Federal #15 Site location

Latitude = 36.759339 deg N
Longitude = -108.149891 deg W

N

TETRA TECH, INC.

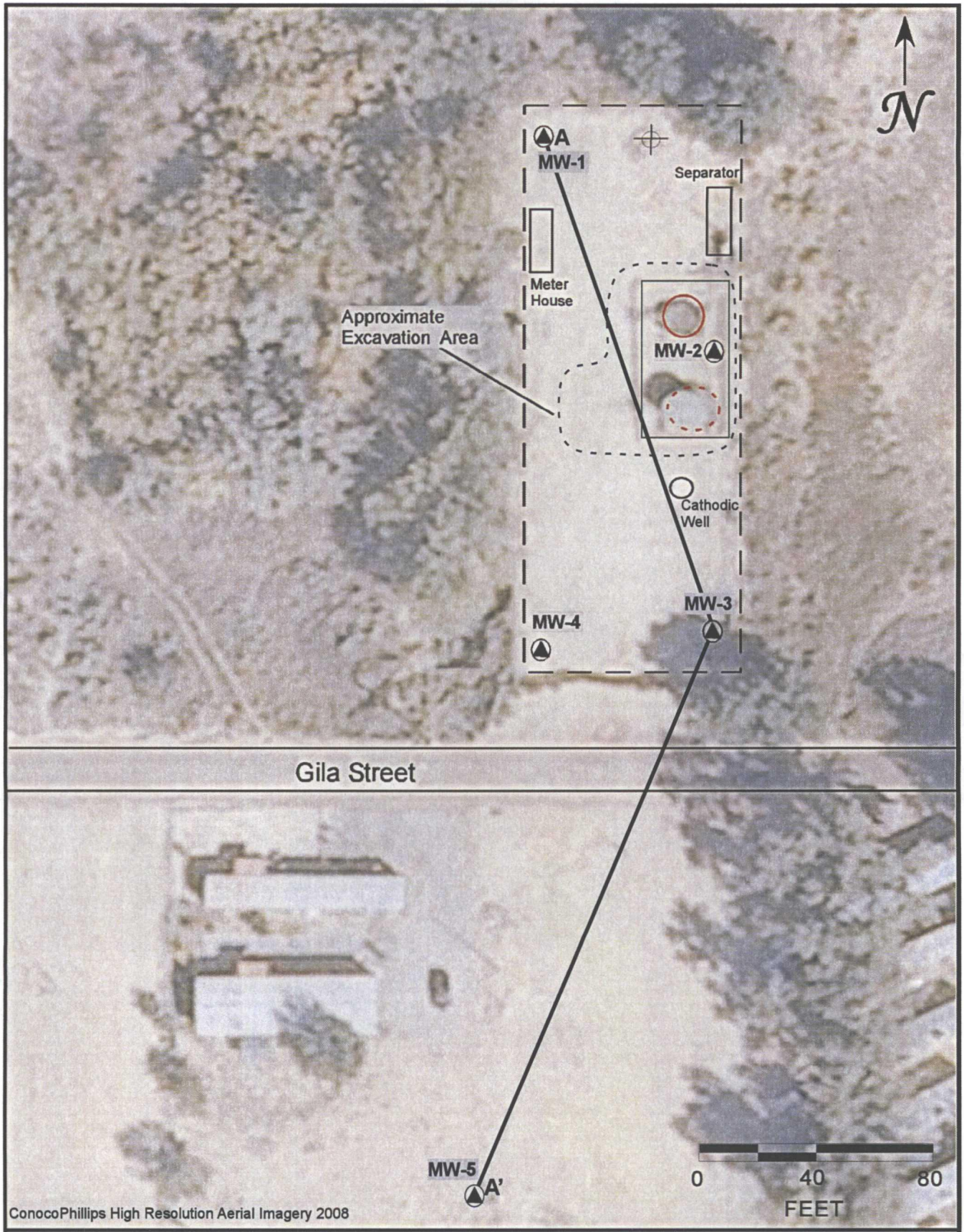


Figure 2. Site Layout Map

ConocoPhillips Company
Federal No.15
Farmington, New Mexico

Monitoring Well
Well Head
General Site Boundary
Produced Water Tank
Condensate Tank
Berm

TETRA TECH, INC.

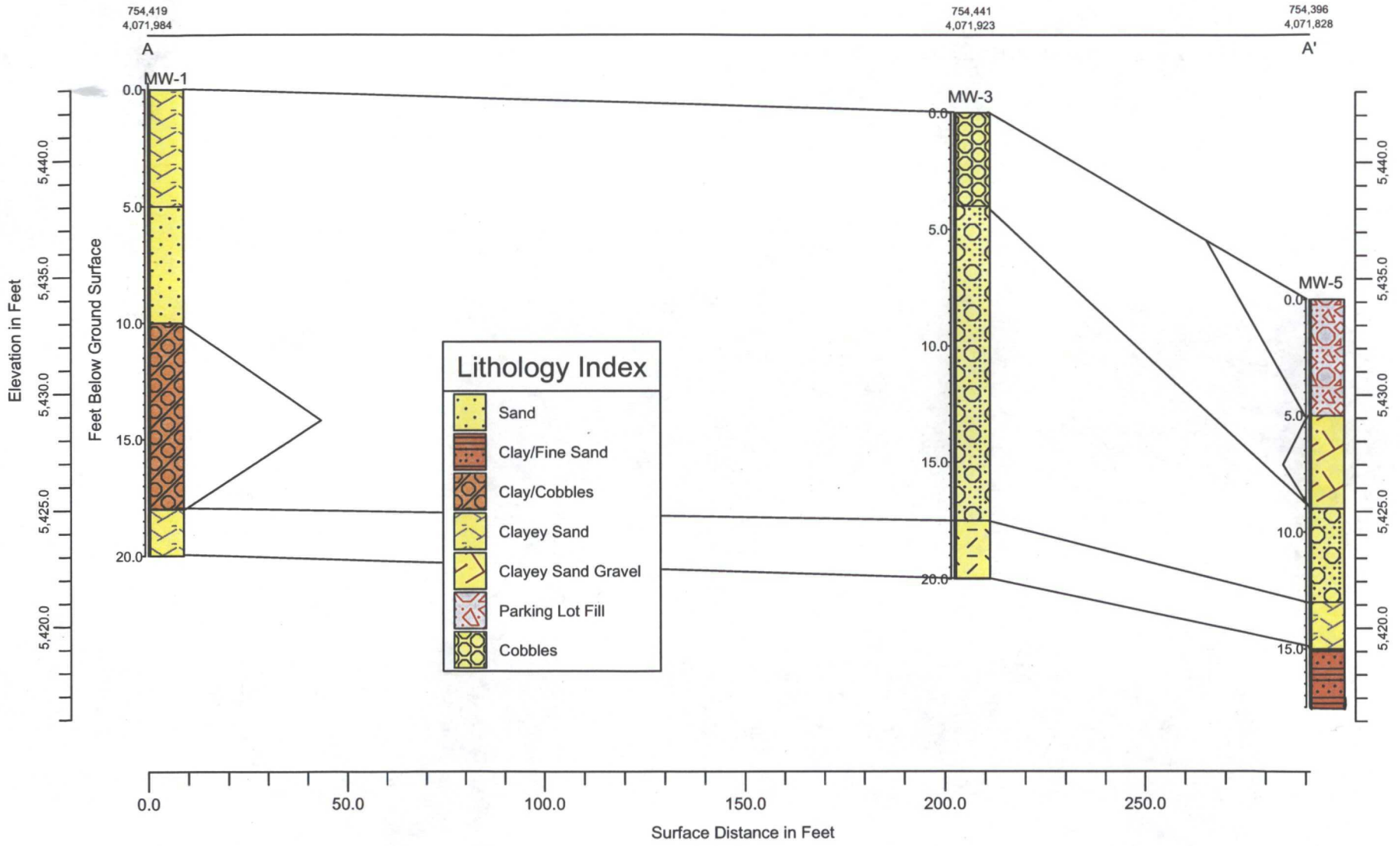
Figure 3: Groundwater Elevation Contour Map 06/11/2010
ConocoPhillips Company
Federal No.15
Farmington, New Mexico

Monitoring Well
Well Head
General Site Boundary
Equipment
Berm
Groundwater Contour line - Dashed where Inferred

TETRA TECH, INC.

Figure 4.

Federal No. 15 - Cross-Section A-A'



TETRA TECH

5/25/2010

TABLES

Table 1. Site History Timeline - ConocoPhillips Company Federal No. 15

Date/Time Period	Event/Action	Description
October 23, 2004	Release Discovered	Estimated that 15 barrels of condensate was released to the subsurface soil and groundwater
October 25-29, 2004	Soil Excavation	Approximately 1500 cubic yards of affected soil excavated and replaced with clean fill
November 16-17, 2004	Monitor Well Installation	Monitor wells MW-1, MW-2, MW-3, and MW-4 installed to depths of approximately 20 ft BGS
January 18, 2005	Monitor Well Sampling	Initial sampling of Monitor Wells MW-1, MW-2, MW-3, and MW-4
July 7, 2005	Groundwater Removal from Monitor Well MW-2	First removal of groundwater - 145 gallons removed
October 18-19, 2005	Monitor Well Sampling	Second sampling of monitor wells MW-1, MW-2, MW-3, and MW-4
October 19, 2005	Monitor Well Installation	Monitor well MW-5 installed to a depth of 17.5 ft BGS
October 19, 2005	Groundwater Removal from Monitor Well MW-2	558 gallons removed
October 20, 2005	Monitor Well Sampling	Initial sampling of monitor well MW-5
February 16, 2006	Groundwater Removal from Monitor Well MW-2	236 gallons removed
May 15, 2006		296 gallons removed
August 2, 2006		380 gallons removed
November 14, 2006		440 gallons removed
November 14-15, 2006	Monitor Well Sampling	Third sampling of Monitor Wells MW-1, MW-2, MW-3, and MW-4; second sampling of monitor well MW-5
February 20, 2007	Groundwater Removal from Monitor Well MW-2	346 gallons removed
May 15, 2007		474 gallons removed
August 21, 2007		528 gallons removed
November 7, 2007		575 gallons removed
November 7, 2007	Monitor Well Sampling	Fourth sampling of Monitor Wells MW-1, MW-2, MW-3, and MW-4; third sampling of monitor well MW-5
January 16, 2008	Groundwater Removal from Monitor Well MW-2	365 gallons removed
March 18, 2008	Groundwater Removal from Monitor Well MW-2	278 gallons removed
March 18, 2008	Groundwater Removal from Monitor Well MW-4	288 gallons removed
March 18, 2008	Monitor Well Sampling	Initiation of quarterly sampling for Monitor Wells MW-1, MW-2, MW-3, MW-4, and MW-5
July 21, 2008	Monitor Well Sampling	Continuation of quarterly sampling for Monitor Wells MW-1, MW-2, MW-3, MW-4, and MW-5
October 21, 2008	Monitor Well Sampling	Continuation of quarterly sampling for Monitor Wells MW-1, MW-2, MW-3, MW-4, and MW-5. **First quarter of compliance** with all COCs below NMWQCC standards.
January 22, 2009	Monitor Well Sampling	Continuation of quarterly sampling for Monitor Wells MW-1, MW-2, MW-3, MW-4, and MW-5. **Second quarter of compliance** with all COCs below NMWQCC standards.
March 30, 2009	Monitor Well Sampling	Continuation of quarterly sampling for Monitor Wells MW-1, MW-2, MW-3, MW-4, and MW-5. **Third quarter of compliance** with all COCs below NMWQCC standards.
June 16, 2009	Monitor Well Sampling	Continuation of quarterly sampling for Monitor Wells MW-1, MW-2, MW-3, MW-4, and MW-5. **Fourth quarter of compliance** with all COCs below NMWQCC standards.
September 28, 2009	Monitor Well Sampling	Continuation of quarterly sampling for Monitor Wells MW-1, MW-2, MW-3, MW-4, and MW-5. **Fifth quarter of compliance** with all COCs below NMWQCC standards.
December 16, 2009	Monitor Well Sampling	Continuation of quarterly sampling for Monitor Wells MW-1, MW-2, MW-3, MW-4, and MW-5. **Sixth quarter of compliance** with all COCs below NMWQCC standards.
March 29, 2010	Monitor Well Sampling	Continuation of quarterly sampling for Monitor Wells MW-1, MW-2, MW-3, MW-4, and MW-5. **Seventh quarter of compliance** with all COCs below NMWQCC standards.
June 11, 2010	Monitor Well Sampling	Continuation of quarterly sampling for Monitor Wells MW-1, MW-2, MW-3, MW-4, and MW-5. **Eight quarter of compliance** with all COC's below NMWQCC standards.

Table 2. Groundwater Elevation Summary (January 2005 - March 2010) - ConocoPhillips Company Federal No.15

Well ID	Date Installed	Total Depth (ft bgs)	Screen Interval (ft)	Date Measured	Groundwater Level (ft TOC)	Elevation (ft msl) (TOC)	Groundwater Elevation (ft msl)
MW-1	11/17/2004	20	5 - 20	1/18/2005	8.92	5437.99	5429.07
				7/7/2005	9.33		5428.66
				10/19/2005	8.03		5429.96
				2/16/2006	8.84		5429.15
				5/15/2006	8.96		5429.03
				8/2/2006	8.35		5429.64
				11/14/2006	8.10		5429.89
				2/20/2007	8.76		5429.23
				5/15/2007	9.67[1]		5428.32
				8/21/2007	NM		NM
				11/7/2007	AM		AM
				1/16/2008	7.10		5430.89
				3/18/2008	7.61		5430.38
				7/21/2008	4.82		5433.17
				10/21/2008	4.72		5433.27
				1/22/2009	7.12		5430.87
				3/30/2009	7.98		5430.01
				6/16/2009	8.78		5429.21
				9/28/2009	9.51		5428.48
				12/16/2009	9.31		5428.68
				3/29/2010	9.47		5428.52
				6/11/2010	9.61		5428.38
MW-2	11/17/2004	20	5 - 20	1/18/2005	9.49	5437.33	5427.84
				7/7/2005	9.55		5427.78
				10/19/2005	8.66		5428.67
				2/16/2006	9.01		5428.32
				5/15/2006	9.00		5428.33
				8/2/2006	8.52		5428.81
				11/14/2006	8.28		5429.05
				2/20/2007	8.87		5428.46
				5/15/2007	8.59		5428.74
				8/21/2007	6.67		5430.66
				11/7/2007	AM		AM
				1/16/2008	7.41		5429.92
				3/18/2008	8.00		5429.33
				7/21/2008	4.63		5432.70
				10/21/2008	4.37		5432.96
				1/22/2009	7.39		5429.94
				3/30/2009	8.23		5429.10
				6/16/2009	8.73		5428.60
				9/28/2009	9.48		5427.85
				12/16/2009	9.49		5427.84
				3/29/2010	9.62		5427.71
				6/11/2010	9.53		5427.80

Table 2. Groundwater Elevation Summary (January 2005 - March 2010) - ConocoPhillips Company Federal No.15

Well ID	Date Installed	Total Depth (ft bgs)	Screen Interval (ft)	Date Measured	Groundwater Level (ft TOC)	Elevation (ft msl) (TOC)	Groundwater Elevation (ft msl)
MW-3	11/22/2004	20	5 - 20	1/18/2005	8.54	5435.13	5426.59
				7/7/2005	8.51		5426.62
				10/19/2005	7.75		5427.38
				2/16/2006	NM		NM
				5/15/2006	8.42		5426.71
				8/2/2006	7.99		5427.14
				11/14/2006	7.72		5427.41
				2/20/2007	8.23		5426.90
				5/15/2007	7.90		5427.23
				8/21/2007	NM		NM
				11/7/2007	AM		AM
				1/16/2008	7.20		5427.93
				3/18/2008	7.73		5427.40
				7/21/2008	5.00		5430.13
				10/21/2008	4.12		5431.01
				1/22/2009	7.17		5427.96
				3/30/2009	7.91		5427.22
				6/16/2009	8.23		5426.90
				9/28/2009	8.85		5426.28
				12/16/2009	8.94		5426.19
				3/29/2010	9.05		5426.08
				6/11/2010	8.82		5426.31
MW-4	11/22/2004	20	5 - 20	1/18/2005	8.65	5434.68	5426.03
				7/7/2005	8.50		5426.18
				10/19/2005	7.72		5426.96
				2/16/2006	8.35		5426.33
				5/15/2006	8.40		5426.28
				8/2/2006	7.96		5426.72
				11/14/2006	7.74		5426.94
				2/20/2007	8.18		5426.50
				5/15/2007	7.91		5426.77
				8/21/2007	NM		NM
				11/7/2007	AM		AM
				1/16/2008	7.37		5427.31
				3/18/2008	7.73		5426.95
				7/21/2008	5.90		5428.78
				10/21/2008	5.53		5429.15
				1/22/2009	7.36		5427.32
				3/30/2009	7.88		5426.80
				6/16/2009	8.18		5426.50
				9/28/2009	8.71		5425.97
				12/16/2009	8.72		5425.96
				3/29/2010	8.72		5425.96
				6/11/2010	8.40		5426.28

Table 2. Groundwater Elevation Summary (January 2005 - March 2010) - ConocoPhillips Company Federal No.15

Well ID	Date Installed	Total Depth (ft bgs)	Screen Interval (ft)	Date Measured	Groundwater Level (ft TOC)	Elevation (ft msl) (TOC)	Groundwater Elevation (ft msl)
MW-5	10/19/2005	17.5	3.5-17.5	10/20/2005	9.11	5434.16	5425.05
				2/16/2006	10.62		5423.54
				5/15/2006	10.47		5423.69
				8/2/2006	9.42		5424.74
				11/14/2006	9.05		5425.11
				2/20/2007	9.84		5424.32
				5/15/2007	8.93		5425.23
				8/21/2007	NM		NM
				11/7/2007	AM		AM
				1/16/2008	NM		NM
				3/18/2008	10.21		5423.95
				7/21/2008	7.55		5426.61
				10/21/2008	6.18		5427.98
				1/22/2009	9.20		5424.96
				3/30/2009	10.30		5423.86
				6/16/2009	9.89		5424.27
				9/28/2009	10.53		5423.63
				12/16/2009	11.46		5422.70
				3/29/2010	11.81		5422.35
				6/11/2010	10.52		5423.64

Explanation

(1) = Water level near bottom of monitor well
AM = Anomolous measurement due to meter malfunction - reading not recorded
bgs = Below ground surface
ft = Feet
msl = Mean sea level
NM = Not measured
TOC = Top of casing

Table 3. Groundwater Laboratory Analytical Results Summary (January 2005 - June 2010) - ConocoPhillips Company Federal No. 15

Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	2-Methylnaphthalene (µg/L)	1-Methylnaphthalene (µg/L)	Naphthalene (µg/L)	Total Naphthalene (µg/L)	Chloride (mg/L)
MW-1	1/18/2005	<1.0	<1.0	<1.0	<2.0	<10	<10	<10	<10	85
	10/18/2005	<1.0	<1.0	<1.0	<2.0	<10	<10	<10	<10	39
	11/15/2006	<1.0	<1.0	<1.0	<2.0	<10	<10	<10	<10	36
	11/7/2007	<1.0	<1.0	<1.0	<2.0	<10	<10	<10	<10	44
	3/18/2008	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA
	7/21/2008	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	54
	10/21/2008	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	57.8
	1/22/2009	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	74.8
	3/30/2009	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA
	6/16/2009	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA
	9/28/2009	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA
	12/16/2009	<1.0	1	<1.0	<1.0	NA	NA	NA	NA	NA
	3/29/2010	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA
	6/11/2010	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA
MW-2	1/18/2005	**1200**	**3300**	380	**3500**	72	34	51	**157**	41
	Duplicate	**1300**	**3700**	410	**3800**	NA	NA	NA	NA	NA
	10/19/2005	**1100**	410	160	470	18	11	15	**44**	60
	Duplicate	**1100**	500	150	610	NA	NA	NA	NA	NA
	11/14/2006	**23**	29	6.6	120	<10	<10	<10	<10	50
	Duplicate	**45**	57	12	220	NA	NA	NA	NA	NA
	11/7/2007	4.2	8.8	24	74	<10	<10	<10	<10	35
	Duplicate	3.9	7.9	22	69	NA	NA	NA	NA	NA
	3/18/2008	5	<5.0	<5.0	9	NA	NA	NA	NA	NA
	7/21/2008	<5.0	<5.0	13	27	<5.0	<5.0	<5.0	NA	42.7
	Duplicate	<5.0	<5.0	13	27	NA	NA	NA	NA	NA
	10/21/2008	<5.0	<5.0	<5.0	5	<5.0	<5.0	<5.0	NA	71.3
	Duplicate	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA
	1/22/2009	<5.0	<5.0	7	17	<5.0	<5.0	<5.0	<5.0	36.1
	Duplicate	<5.0	<5.0	5	12	NA	NA	NA	NA	NA
	3/30/2009	5.7	<5.0	11	22	NA	NA	NA	NA	NA
	6/16/2009	<5.0	<5.0	<5.0	5.1	NA	NA	NA	NA	NA
	Duplicate	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA
	9/28/2009	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA
	Duplicate	3.4	<1.0	1.8	3.4	NA	NA	NA	NA	NA
	12/16/2009	5	<1.0	1.9	2.1	NA	NA	NA	NA	NA
	Duplicate	1.9	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA
	3/29/2010	1.8	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA
	Duplicate	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA
	6/11/2010	2.7	< 1.0	1.3	1.7	NA	NA	NA	NA	NA
	Duplicate	2.9	<1.0	1.5	2	NA	NA	NA	NA	NA
MW-3	1/18/2005	**190**	<5.0	<5.0	<10	<10	<10	<10	<10	34
	10/19/2005	<1.0	<1.0	<1.0	<2.0	<10	<10	<10	<10	42
	11/14/2006	<1.0	<1.0	<1.0	<2.0	<10	<10	<10	<10	39
	11/7/2007	<1.0	<1.0	<1.0	<2.0	<10	<10	<10	<10	34
	3/18/2008	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA
	7/21/2008	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	22
	10/21/2008	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	20.6
	1/22/2009	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	22
	3/30/2009	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA
	6/16/2009	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA
	9/28/2009	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA
	12/16/2009	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA
	3/29/2010	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA
	6/11/2010	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA

Table 3. Groundwater Laboratory Analytical Results Summary (January 2005 - June 2010) - ConocoPhillips Company Federal No. 15

Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	2-Methylnaphthalene (µg/L)	1-Methylnaphthalene (µg/L)	Naphthalene (µg/L)	Total Naphthalene (µg/L)	Chloride (mg/L)
MW-4	1/18/2005	2.8	<1.0	<1.0	<2.0	<10	<10	<10	<10	37
	10/19/2005	23	2.2	<1.0	4.3	<10	<10	<10	<10	51
	11/14/2006	1.1	<1.0	<1.0	<2.0	<10	<10	<10	<10	44
	11/7/2007	36	<1.0	22	<2.0	<10	<10	<10	<10	24
	3/18/2008	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA
	7/21/2008	35	<5.0	18	<5.0	<5.0	<5.0	<5.0	NA	22
	10/21/2008	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	25.1
	1/22/2009	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	42.1
	3/30/2009	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA
	Duplicate	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA
	6/16/2009	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA
	9/28/2009	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA
	12/16/2009	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA
	3/29/2009	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA
	6/11/2010	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA
MW-5	10/20/2005	<1.0	<1.0	<1.0	<2.0	<10	<10	<10	<10	73
	11/14/2006	<1.0	<1.0	<1.0	<2.0	<10	<10	<10	<10	79
	11/7/2007	<1.0	<1.0	<1.0	<2.0	<10	<10	<10	<10	58
	3/18/2008	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA
	7/21/2008	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	27.6
	10/21/2008	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	34.5
	1/22/2009	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	35.8
	3/30/2009	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA
	6/16/2009	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA	NA
	9/28/2009	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA
	12/16/2009	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA
	3/29/2010	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA
	6/11/2010	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA
NMWQCC Groundwater Quality Standards		10 (µg/L)	750 (µg/L)	750 (µg/L)	620 (µg/L)	NE	NE	NE	30 (µg/L)	250 mg/L

Explanation

mg/L = milligrams per liter (parts per million)
µg/L = micrograms per liter (parts per billion)
NE=Not established
NMWQCC = New Mexico Water Quality Control Commission
NA = Not analyzed
<1.0 = Not detected at the reporting limit
Constituents in excess of NMWQCC groundwater quality standards are in **BOLD**

APPENDIX A

GROUNDWATER SAMPLING FIELD FORMS

TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name Federal #15 Page 1 of 5

,ect No.

Site Location Farmington, NM

Site/Well No. MW-1 Coded/ Replicate No.

Weather Sunny, hot Time Sampling Began 1040

SAMPLE COLLECTED @ 1050

Date Time Sampling Completed 6/11/10 DATE

EVACUATION DATA

Description of Measuring Point (MP) Top of Casing ~~Csg~~

Height of MP Above/Below Land Surface MP Elevation

Total Sounded Depth of Well Below MP 20 Water-Level Elevation

Held Depth to Water Below MP 9.61 Diameter of Casing 2"

Wet Water Column in Well 10.39 Gallons Pumped/Bailed Prior to Sampling

Gallons per Foot 0.16

Gallons in Well 1.6624 Sampling Pump Intake Setting (feet below land surface)

Purging Equipment Purge pump / Bailer X3 = 4.9872

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm³)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)
1042	11.89	6.83	2,313	—	9.83	70.9	135.3	4.0
1044	11.44	6.65	2,332	—	1.75	15.8	142.5	4.5
1045	11.00	6.67	2,410	—	2.34	19.2	143.3	5.0

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl

Remarks Water is light brown and silty with orang bacteria

Sampling Personnel CM & CB

Well Casing Volumes

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

TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name Federal #15 Page 2 of 5

act No.

Site Location Farmington, NM

Site/Well No. MW-2 Coded/ Replicate No. 135 Date SAMPLE COLLECTED 6/11/10

Weather sunny, hot Time Sampling Began 1600 Time Sampling Completed 1130 DATE 6/11/10

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 20 Water-Level Elevation

Held Depth to Water Below MP 9.53 Diameter of Casing 2"

Wet Water Column in Well 10.47 Gallons Pumped/Bailed Prior to Sampling

Gallons per Foot 0.16

Gallons in Well 1.6752 Sampling Pump Intake Setting (feet below land surface)

Purging Equipment Purge pump / Bailer X3 = 5.0256

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm³)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)
1124	13.109	7.026	2.406	—	9.69	84.4	-93.4	4
1127	13.159	7.01	2.411	—	3.76	32.0	-96.2	4.5
1128	13.139	6.98	2.410	—	3.39	32.5	-99.1	5.0

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl

Remarks H2O is gray with white bacteria

Sampling Personnel CM & CB

Well Casing Volumes

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

TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name Federal #15 Page 3 of 5

ect No.

Site Location Farmington, NM

Site/Well No. MW-3 Coded/ Replicate No. SAMPLE COLLECTED @ 1115

Weather Sunny, hot Time Sampling Began 1045 Time Sampling Completed 1115 Date 6/11/10

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 20 Water-Level Elevation

Held Depth to Water Below MP 8.82 Diameter of Casing 2"

Wet Water Column in Well 11.18 Gallons Pumped/Bailed Prior to Sampling 5.5

Gallons per Foot 0.16

Gallons in Well 1.788 X3=5.3664 gal

Sampling Pump Intake Setting (feet below land surface)

Purging Equipment Purge pump / Bailer

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm³)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)
1109	13.46	7.36	2.106	—	6.0	51.9	89.5	4.0
1111	13.39	7.09	2.115	—	3.24	31.1	102.5	4.5
1113	13.41	7.00	2.130	—	3.30	32.1	108.2	5
1114	13.40	6.96	2.139	—	3.52	34.2	113.2	5.5

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl

Remarks H2O is brown and silty with red plant roots, no odor or sheen observed

Sampling Personnel CM & CB

Well Casing Volumes

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

TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name Federal #15 Page 4 of 5

ject No.

Site Location Farmington, NM

Site/Well No. MW-4 Coded/ Replicate No.

Weather Sunny, hot Time Sampling Began 1120

SAMPLE COLLECTED @ 1145

Time Sampling Completed

DATE 6/11/10

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 20 Water-Level Elevation

Held Depth to Water Below MP 8.40 Diameter of Casing 2"

Wet Water Column in Well 11.60 Gallons Pumped/Bailed Prior to Sampling 5.75

Gallons per Foot 0.16

Gallons in Well 1.856 X3=5.568 gal

Sampling Pump Intake Setting (feet below land surface)

Purging Equipment Purge pump / Bailer

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (uS/cm³)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)
1137	13.31	6.95	2.423	—	3.65	26.3	10.3	4.75
1139	13.16	6.93	2.477	—	2.03	19.6	18.9	5.25
1141	13.12	6.87	2.486	—	2.12	20.2	28.1	5.75

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl

Remarks H_2O is brown and silty, no odor or sheen observed

Sampling Personnel CM & CB

Well Casing Volumes

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

TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name Federal #15 Page 5 of 5

ect No.

Site Location Farmington, NM

Site/Well No. MW-5 Coded/ Replicate No.

Weather Sunny, hot Time Sampling Began

SAMPLE MW-5 COLLECTED @ 1220
Time Sampling Completed
DATE 6/11/10

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 17.5

Water-Level Elevation

Held ____ Depth to Water Below MP 10.52

Diameter of Casing 2"

Wet ____ Water Column in Well 6.98

Gallons Pumped/Bailed Prior to Sampling

Gallons per Foot 0.16

Gallons in Well 1.1168 x 3 = 3.35

Sampling Pump Intake Setting (feet below land surface)

Purging Equipment Purge pump / Bailer

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm³)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)
1212	13.69	6.85	2.349	—	3.66	34.1	117.5	2.5
1214	13.79	6.84	2.349	—	3.19	31.9	113.2	3.0
1215	13.70	6.87	2.347	—	3.22	31.1	110.1	3.5

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl

Remarks H2O is light brown and silty

Sampling Personnel CM & CB

Well Casing Volumes

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

Flora Vista)
76.39
136 from wellhead; 26 from fence

APPENDIX B

LABORATORY ANALYTICAL REPORT

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

Certificate of Analysis

June 25, 2010

Workorder: H10060338

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

Project: COP - Federal #15

Project Number: COP - Federal #15

Site: COP - Federal #15, Farmington, NM

PO Number:

NELAC Cert. No.: T104704205-09-1

This Report Contains A Total Of 17 Pages

Excluding Any Attachments

SPL Inc.
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Certificate of Analysis

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Project: COP - Federal #15

Project Number: COP - Federal #15

Site: COP - Federal #15, Farmington, NM

PO Number:

NELAC Cert. No.: T104704205-09-1

I. SAMPLE RECEIPT:

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

II: ANALYSES AND EXCEPTIONS:

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

There were no exceptions noted.

III. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report (" mg\kg-dry " or " ug\kg-dry ").

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Sample (LCS) and the Method Blank (MB) are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

Some of the percent recoveries and RPD's on the QC report for the MS/MSD may be different than the calculated recoveries and RPD's using the sample result and the MS/MSD results that appear on the report because, the actual raw result is used to perform the calculations for percent recovery and RPD.

Any other exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

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Certificate of Analysis

June 25, 2010

Workorder: H10060338

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Project: COP - Federal #15

Project Number: COP - Federal #15

Site: COP - Federal #15, Farmington, NM

PO Number:

NELAC Cert. No.: T104704205-09-1

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

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or by his designee, as verified by the following signature.

Erica Cardenas, Senior Project Manager

Enclosures

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

SAMPLE SUMMARY

Workorder: H10060338 : COP - Federal #15 Project Number: COP - Federal #15

Lab ID	Sample ID	Matrix	COC ID	Date/Time Collected	Date/Time Received
H10060338001	MW-1	Water		6/11/2010 10:50	6/15/2010 09:00
H10060338002	MW-2	Water		6/11/2010 11:30	6/15/2010 09:00
H10060338003	MW-3	Water		6/11/2010 11:15	6/15/2010 09:00
H10060338004	MW-4	Water		6/11/2010 11:45	6/15/2010 09:00
H10060338005	MW-5	Water		6/11/2010 12:20	6/15/2010 09:00
H10060338006	DUPLICATE	Water		6/11/2010 11:35	6/15/2010 09:00
H10060338007	TRIP BLANK	Water		6/11/2010 11:00	6/15/2010 09:00

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ANALYTICAL RESULTS

Workorder: H10060338 : COP - Federal #15 | Project Number: COP - Federal #15

Lab ID: **H10060338001** | Date/Time Received: 6/15/2010 09:00 | Matrix: Water

Sample ID: **MW-1** | Date/Time Collected: 6/11/2010 10:50

VOLATILES

Analysis Desc: SW-846 8260B (GCVMS Analysis) | SW-846 5030Analytical Batches: Batch: 1420 SW-846 8260B (GCVMS Analysis) on 06/18/2010 04:05 by DLY

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.17	1			1420
Ethylbenzene	ND		1.0	0.097	1			1420
Toluene	ND		1.0	0.12	1			1420
m,p-Xylene	ND		1.0	0.30	1			1420
o-Xylene	ND		1.0	0.11	1			1420
Xylenes, Total	ND		1.0	0.11	1			1420
4-Bromofluorobenzene (S)	95 %		70-130		1			1420
1,2-Dichloroethane-d4 (S)	86.4 %		71-140		1			1420
Toluene-d8 (S)	94.1 %		61-121		1			1420
Preservation pH	<2				1			1420

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ANALYTICAL RESULTS

Workorder: H10060338 : COP - Federal #15 | Project Number: COP - Federal #15

Lab ID: **H10060338002** | Date/Time Received: 6/15/2010 09:00 | Matrix: Water

Sample ID: **MW-2** | Date/Time Collected: 6/11/2010 11:30

VOLATILES

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

Batch: 1420 SW-846 8260B (GCVMS Analysis) on 06/18/2010 02:14 by DLY

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	2.7		1.0	0.17	1			1420
Ethylbenzene	1.3		1.0	0.097	1			1420
Toluene	ND		1.0	0.12	1			1420
m,p-Xylene	1.7		1.0	0.30	1			1420
o-Xylene	ND		1.0	0.11	1			1420
Xylenes, Total	1.7		1.0	0.11	1			1420
4-Bromofluorobenzene (S)	95.5 %		70-130		1			1420
1,2-Dichloroethane-d4 (S)	85.4 %		71-140		1			1420
Toluene-d8 (S)	94.2 %		61-121		1			1420
Preservation pH	<2				1			1420

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ANALYTICAL RESULTS

Workorder: H10060338 : COP - Federal #15 | Project Number: COP - Federal #15

Lab ID: **H10060338003** | Date/Time Received: 6/15/2010 09:00 | Matrix: Water

Sample ID: **MW-3** | Date/Time Collected: 6/11/2010 11:15

VOLATILES

Analysis Desc: SW-846 8260B (GCVMS Analysis) | SW-846 5030 Analytical Batches: Batch: 1420 SW-846 8260B (GCVMS Analysis) on 06/18/2010 02:36 by DLY

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.17	1			1420
Ethylbenzene	ND		1.0	0.097	1			1420
Toluene	ND		1.0	0.12	1			1420
m,p-Xylene	ND		1.0	0.30	1			1420
o-Xylene	ND		1.0	0.11	1			1420
Xylenes, Total	ND		1.0	0.11	1			1420
4-Bromofluorobenzene (S)	94.5 %		70-130		1			1420
1,2-Dichloroethane-d4 (S)	85.4 %		71-140		1			1420
Toluene-d8 (S)	94.6 %		61-121		1			1420
Preservation pH	<2				1			1420

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ANALYTICAL RESULTS

Workorder: H10060338 : COP - Federal #15 | Project Number: COP - Federal #15

Lab ID: **H10060338004** | Date/Time Received: 6/15/2010 09:00 | Matrix: Water

Sample ID: **MW-4** | Date/Time Collected: 6/11/2010 11:45

VOLATILES

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

Batch: 1420 SW-846 8260B (GCVMS Analysis) on 06/18/2010 02:58 by DLY

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.17	1			1420
Ethylbenzene	ND		1.0	0.097	1			1420
Toluene	ND		1.0	0.12	1			1420
m,p-Xylene	ND		1.0	0.30	1			1420
o-Xylene	ND		1.0	0.11	1			1420
Xylenes, Total	ND		1.0	0.11	1			1420
4-Bromofluorobenzene (S)	95.1 %		70-130		1			1420
1,2-Dichloroethane-d4 (S)	85.6 %		71-140		1			1420
Toluene-d8 (S)	94.5 %		61-121		1			1420
Preservation pH	<2				1			1420

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ANALYTICAL RESULTS

Workorder: H10060338 : COP - Federal #15 | Project Number: COP - Federal #15

Lab ID: **H10060338005** | Date/Time Received: 6/15/2010 09:00 | Matrix: Water

Sample ID: **MW-5** | Date/Time Collected: 6/11/2010 12:20

VOLATILES

Analysis Desc: SW-846 8260B (GCVMS Analysis) | SW-846 5030Analytical Batches: Batch: 1420 SW-846 8260B (GCVMS Analysis) on 06/18/2010 03:21 by DLY

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.17	1			1420
Ethylbenzene	ND		1.0	0.097	1			1420
Toluene	ND		1.0	0.12	1			1420
m,p-Xylene	ND		1.0	0.30	1			1420
o-Xylene	ND		1.0	0.11	1			1420
Xylenes, Total	ND		1.0	0.11	1			1420
4-Bromofluorobenzene (S)	94.3 %		70-130		1			1420
1,2-Dichloroethane-d4 (S)	85 %		71-140		1			1420
Toluene-d8 (S)	95 %		61-121		1			1420
Preservation pH	<2				1			1420

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ANALYTICAL RESULTS

Workorder: H10060338 : COP - Federal #15 | Project Number: COP - Federal #15

Lab ID: **H10060338006** | Date/Time Received: 6/15/2010 09:00 | Matrix: Water

Sample ID: **DUPLICATE** | Date/Time Collected: 6/11/2010 11:35

VOLATILES

Analysis Desc: SW-846 8260B (GCVMS Analysis) | SW-846 5030Analytical Batches: Batch: 1420 SW-846 8260B (GCVMS Analysis) on 06/18/2010 03:43 by DLY

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	2.9		1.0	0.17	1			1420
Ethylbenzene	1.5		1.0	0.097	1			1420
Toluene	ND		1.0	0.12	1			1420
m,p-Xylene	2.0		1.0	0.30	1			1420
o-Xylene	ND		1.0	0.11	1			1420
Xylenes, Total	2		1.0	0.11	1			1420
4-Bromofluorobenzene (S)	94.6 %		70-130		1			1420
1,2-Dichloroethane-d4 (S)	86.9 %		71-140		1			1420
Toluene-d8 (S)	95.3 %		61-121		1			1420
Preservation pH	<2				1			1420

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ANALYTICAL RESULTS

Workorder: H10060338 : COP - Federal #15 | Project Number: COP - Federal #15

Lab ID: **H10060338007** | Date/Time Received: 6/15/2010 09:00 | Matrix: Water

Sample ID: **TRIP BLANK** | Date/Time Collected: 6/11/2010 11:00

VOLATILES

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

Batch: 1420 SW-846 8260B (GCVMS Analysis) on 06/18/2010 01:06 by DLY

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.17	1			1420
Ethylbenzene	ND		1.0	0.097	1			1420
Toluene	ND		1.0	0.12	1			1420
m,p-Xylene	ND		1.0	0.30	1			1420
o-Xylene	ND		1.0	0.11	1			1420
Xylenes, Total	ND		1.0	0.11	1			1420
4-Bromofluorobenzene (S)	94.5 %		70-130		1			1420
1,2-Dichloroethane-d4 (S)	94.2 %		71-140		1			1420
Toluene-d8 (S)	95.7 %		61-121		1			1420
Preservation pH	<2				1			1420

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QUALITY CONTROL DATA

Workorder: H10060338 : COP - Federal #15 Project Number: COP - Federal #15

QC Batch: GVMS/1419 Analysis Method: SW-846 8260B (GCVMS Analysis)

QC Batch Method: SW-846 5030 Preparation: 06/17/2010 22:09 by MSV

Associated Lab Samples: H10060222001 H10060235009 H10060235010 H10060235011 H10060338001 H10060338002 H10060338003 H10060338004 H10060338005 H10060338006 H10060338007

METHOD BLANK: 51760

Analysis Date/Time Analyst: 06/17/2010 23:37 DLY

Parameter	Units	Blank Result	Qualifiers	Reporting Limit
Benzene	ug/l	ND		1.0
Ethylbenzene	ug/l	ND		1.0
Toluene	ug/l	ND		1.0
m,p-Xylene	ug/l	ND		1.0
o-Xylene	ug/l	ND		1.0
Xylenes, Total	ug/l	ND		1.0
4-Bromofluorobenzene (S)	%	94.3		70-130
1,2-Dichloroethane-d4 (S)	%	92		71-140
Toluene-d8 (S)	%	94.9		61-121

LABORATORY CONTROL SAMPLE: 51761

Analysis Date/Time Analyst: 06/17/2010 22:31 DLY

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Benzene	ug/l	20	20.3	101	70-130
Ethylbenzene	ug/l	20	21.1	105	70-130
Toluene	ug/l	20	20.8	104	73-130
m,p-Xylene	ug/l	40	43.4	109	70-130
o-Xylene	ug/l	20	21.8	109	70-130
Xylenes, Total	ug/l	60	65.22	109	70-130
4-Bromofluorobenzene (S)	%			96.3	70-130
1,2-Dichloroethane-d4 (S)	%			88.0	71-140
Toluene-d8 (S)	%			95.5	61-121

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 51762 51763 Original: H10060338002

MS Analysis Date/Time Analyst: 06/18/2010 04:27 DLY

MSD Analysis Date/Time Analyst: 06/18/2010 04:49 DLY

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Benzene	ug/l	2.7	20	22.3	20.3	98.0	87.9	67-202	9.6	20
Ethylbenzene	ug/l	1.3	20	21.6	20.0	101	93.4	49-165	7.5	20
Toluene	ug/l	ND	20	19.8	18.1	98.9	90.7	48-162	8.7	20

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

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QUALITY CONTROL DATA

Workorder: H10060338 : COP - Federal #15 Project Number: COP - Federal #15

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 51762 51763 Original: H10060338002

MS Analysis Date/Time Analyst: 06/18/2010 04:27 DLY

MSD Analysis Date/Time Analyst: 06/18/2010 04:49 DLY

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
m,p-Xylene	ug/l	1.7	40	42.4	39.3	102	94.0	44-167	7.4	20
o-Xylene	ug/l	ND	20	20.8	19.4	104	96.8	54-158	7.2	20
Xylenes, Total	ug/l	1.75	60	63.17	58.7	102	94.9	44-167	7.4	20
4-Bromofluorobenzene (S)	%	95.5				96.5	96.3	70-130		30
1,2-Dichloroethane-d4 (S)	%	85.4				85.5	82.9	71-140		30
Toluene-d8 (S)	%	94.2				94.9	95.0	61-121		30

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

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Legend

(S) - Indicates analyte is a surrogate

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: H10060338 : COP - Federal #15 Project Number: COP - Federal #15

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
H10060338001	**MW-1**	SW-846 5030	GVMS/1419	SW-846 8260B (GCVMS Analysis)	GVMS/1420
H10060338002	**MW-2**	SW-846 5030	GVMS/1419	SW-846 8260B (GCVMS Analysis)	GVMS/1420
H10060338003	**MW-3**	SW-846 5030	GVMS/1419	SW-846 8260B (GCVMS Analysis)	GVMS/1420
H10060338004	**MW-4**	SW-846 5030	GVMS/1419	SW-846 8260B (GCVMS Analysis)	GVMS/1420
H10060338005	**MW-5**	SW-846 5030	GVMS/1419	SW-846 8260B (GCVMS Analysis)	GVMS/1420
H10060338006	**DUPLICATE**	SW-846 5030	GVMS/1419	SW-846 8260B (GCVMS Analysis)	GVMS/1420
H10060338007	**TRIP BLANK**	SW-846 5030	GVMS/1419	SW-846 8260B (GCVMS Analysis)	GVMS/1420

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Sample Receipt Checklist

WorkOrder:	H10060338	Received By	LOG
Date and Time	06/15/2010 09:00	Carrier Name:	FEDEXS
Temperature:	3.0°C	Chilled By:	Water Ice

1.	Shipping container/cooler in good condition?	YES
2.	Custody seals intact on shipping container/cooler?	YES
3.	Custody seals intact on sample bottles?	Not Present
4.	Chain of custody present?	YES
5.	Chain of custody signed when relinquished and received?	YES
6.	Chain of custody agrees with sample labels?	YES
7.	Samples in proper container/bottle?	YES
8.	Samples containers intact?	YES
9.	Sufficient sample volume for indicated test?	YES
10.	All samples received within holding time?	YES
11.	Container/Temp Blank temperature in compliance?	YES
12.	Water - VOA vials have zero headspace?	YES
13.	Water - Preservation checked upon receipt(except VOA*)?	Not Applicable

*VOA Preservation Checked After Sample Analysis

SPL Representative: Contact Date & Time:

Client Name Contacted:

Client Instructions:

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SPL, Inc.

Analysis Request & Chain of Custody Record

H10060338

page: ____ of ____

Client Name: ConocoPhillips / Tetra Tech	matrix: W=water S=soil O=oil A=air SL=sludge E=effluent 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
Address: 1612 Indian School Rd. NE Suite 220						
City: Albuquerque State: NM Zip: 87110						
Phone/Fax: (505) 237-8440						
Client Contact: Kelly Blanchard Email: kelly.blanchard@tetratech.com						
Project Name/No.: Federal #15						
Site Name:						
Site Location: Farmington, NM						
Invoice To: Ph:						

SAMPLE ID	DATE	TIME	comp	grab	matrix	bottle	size	pres.	Number of Containers	BTEX
MW-1	6/11/10	1050		X	W	V	40	1	3	X
MW-2	6/11/10	1130		X	W	V	40	1	3	X
MW-3	6/11/10	1115		X	W	V	40	1	3	X
MW-4	6/11/10	1145		X	W	V	40	1	3	X
MW-5	6/11/10	1220		X	W	V	40	1	3	X
duplicate	6/11/10	1135		X	W	V	40	1	3	X
Trip Blank	6/14/10	1100			W	V	40	1	2	X

Client/Consultant Remarks:

Laboratory remarks:

Intact? ☐ Y ☐ N
Ice? ☑ Y ☐ N
Temp: 3.0

Requested TAT

- ☐ 1 Business Day ☐ Contract
- ☐ 2 Business Days ☐ Standard
- ☐ 3 Business Days
- ☐ Other _____

Rush TAT requires prior notice

Special Reporting Requirements Results: Fax ☐ Email ☒ PDF ☒

Standard QC ☐ Level 3 QC ☐ Level 4 QC ☐ TX TRRP ☐ LA RECAP ☐

Special Detection Limits (specify):

PM review (initial):

	date	time	
1. Relinquished by Sampler:	6/14/10	1130	2. Received by:
3. Relinquished by:	date	time	4. Received by:
5. Relinquished by:	date 6/15/10	time 09 00	6. Received by Laboratory:

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