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SEPTEMBER 2010 QUARTERLY GROUNDWATER MONITORING REPORT

CONOCOPHILLIPS COMPANY

FLORA VISTA NO. 1
NATURAL GAS PRODUCTION SITE
FLORA VISTA, SAN JUAN COUNTY, NEW MEXICO

OCD # 3R173

API No. 30-045-20073

Prepared for:

ConocoPhillips

Risk Management and Remediation
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January 2011

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SEPTEMBER 2010 GROUNDWATER MONITORING REPORT FLORA VISTA NO. 1 GAS PRODUCTION SITE FLORA VISTA, SAN JUAN COUNTY, NEW MEXICO

1.0 INTRODUCTION

This report presents the results of the groundwater monitoring event conducted by Tetra Tech, Inc. (Tetra Tech) on September 27, 2010 at the ConocoPhillips Company, Flora Vista No. 1 site near Flora Vista, New Mexico (**Figure 1**). The site is located in on private property in Unit Letter F, Section 22, Township 30N, Range 12W, of San Juan County, New Mexico. The site consists of a gas production well and associated equipment and installations. A detailed site layout map is provided as **Figure 2**.

1.1 Site Background

Historic petroleum contaminated soil was discovered at the Flora Vista No. 1 location during a production facility resetting activity in 2003. Soil excavation activities were conducted to remove impacted soil. Groundwater was observed in the bottom of the excavation at approximately 25 feet below the ground surface. Field screening was conducted during excavation to determine extent of impacted soil. To enhance the remediation of the remaining amounts of residual hydrocarbon contamination in the excavated area, approximately 80 barrels (bbls) of a potassium permanganate oxidizer solution was sprayed on the soil.

A groundwater monitoring well (MW-1) was installed slightly down gradient from the center of the excavation (**Figure 2**). Subsequent monitoring during September 2003 included analyses for benzene, toluene, ethylbenzene, and total xylenes (BTEX), as well as total petroleum hydrocarbons (TPH). Groundwater analyses indicated the presence of benzene and total xylenes above regulatory standards. Monitor Wells MW-2, MW-3, and MW-4 were installed at the site in August 2008 in response to a April 2008 request from the New Mexico Oil Conservation Division (NMOCD) for site characterization and enhanced laboratory analyses. A generalized geologic cross section was prepared using boring logs from the August 2008 monitoring well installation and is presented as **Figure 3**. The Flora Vista No. 1 site history is summarized in **Table 1**.

2.0 METHODOLOGY AND RESULTS

2.1 Groundwater Sampling Methodology

Groundwater Elevation Measurements

On September 27, 2010, groundwater elevation measurements were recorded in Monitor Wells MW-1, MW-2, MW-3, and MW-4 using a dual interface probe. Groundwater elevations are

detailed in **Table 2**. A groundwater elevation contour map is presented as **Figure 4.** Based on September 2010 monitoring event data, groundwater flow is to the southwest and is consistent with historic records at this site.

Groundwater sampling

Approximately three well volumes were purged from each monitor well with a dedicated polyethylene 1.5-inch disposable bailer; or were bailed dry and allowed sufficient time to re-charge prior to sampling. Purge water was placed in the onsite produced water tank (**Figure 2**). Groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain of custody documentation to Southern Petroleum Laboratories in Houston, Texas. The samples were analyzed for the presence of BTEX by Environmental Protection Agency (EPA) Method 8260B, dissolved iron and manganese by EPA Method 6010B, and sulfate by EPA method 300.0. The samples collected for analysis of dissolved metals were placed in unpreserved containers supplied by the laboratory. These samples were both filtered and preserved by laboratory personnel prior to analysis. Tetra Tech groundwater sampling field forms are included as **Appendix A**.

2.2 Groundwater Sampling Analytical Results

Groundwater samples collected from Monitor Wells MW-2 and MW-3 did not exceed laboratory detection limits for any of the constituents sampled. Groundwater collected from Monitor Wells MW-1 and MW-4 exceeded the New Mexico Water Quality Control Commission (NMWQCC) standards for the following constituents:

- **Benzene** – The NMWQCC standard for benzene is 10 micrograms per liter (ug/L). The concentration of benzene found in groundwater samples collected from MW-1 was 3,200 ug/L, while groundwater samples collected from MW-4 contained a concentration of benzene at 33 ug/L.
- **Xylenes** – The NMWQCC standard for total xylenes is 620 ug/L. The concentration of xylenes found in groundwater samples collected from MW-1 was 4,201.6 ug/L.
- **Dissolved Iron** – The NMWQCC standard for dissolved iron is 1 ug/L. The concentration of dissolved iron found in groundwater samples collected from MW-1 was 7.73 ug/L; while the groundwater collected from MW-4 contained a concentration of 1.22 ug/L.
- **Dissolved Manganese** – The NMWQCC standard for dissolved manganese is 0.2 ug/L. The concentration of dissolved manganese found in groundwater samples collected from MW-1 was 1.19 ug/L; while the groundwater samples collected from MW-4 contained a concentration of 4.34 ug/L.

A summary of the historic groundwater laboratory analytical results is presented as **Table 3**. The September 2010 laboratory analytical report is included as **Appendix B**.

3.0 CONCLUSIONS

Groundwater samples collected from MW-1 and MW-4 have consistently exceeded NMWQCC groundwater quality standards for benzene, dissolved iron and dissolved manganese constituents from October 2008 through September 2010. Groundwater samples from MW-1 have also exceeded NMWQCC groundwater quality standards for xylenes. Based on the historical groundwater quality data, groundwater samples collected from MW-2 and MW-3 have never exceeded NMWQCC groundwater quality standards for BTEX constituents.

Tetra Tech recommends the continuation of quarterly sampling of MW-1, MW-2, MW-3, and MW-4 in order to monitor ongoing natural attenuation at the site. The next sampling event will take place in December 2010. Tetra Tech will collect samples for BTEX, dissolved iron, and dissolved manganese. Please contact Kelly Blanchard at 505-237-8440 or kelly.blanchard@tetratech.com if you have any questions or require additional information.

FIGURES

1. Site Location Map

2. Site Layout Map

3. Generalized Geologic Cross Section

4. Groundwater Elevation Contour Map

5. Benzene Concentration Contour Map

ConocoPhillips High Resolution Aerial Imagery - 2008

FIGURE 1.

Site Location Map
ConocoPhillips
Flora Vista No. 1
Flora Vista, NM

Approximate ConocoPhillips
Flora Vista No. 1 Site location

Latitude = 36°47'54.37" N
Longitude = 108°05'17.60" W

N

TETRA TECH, INC.

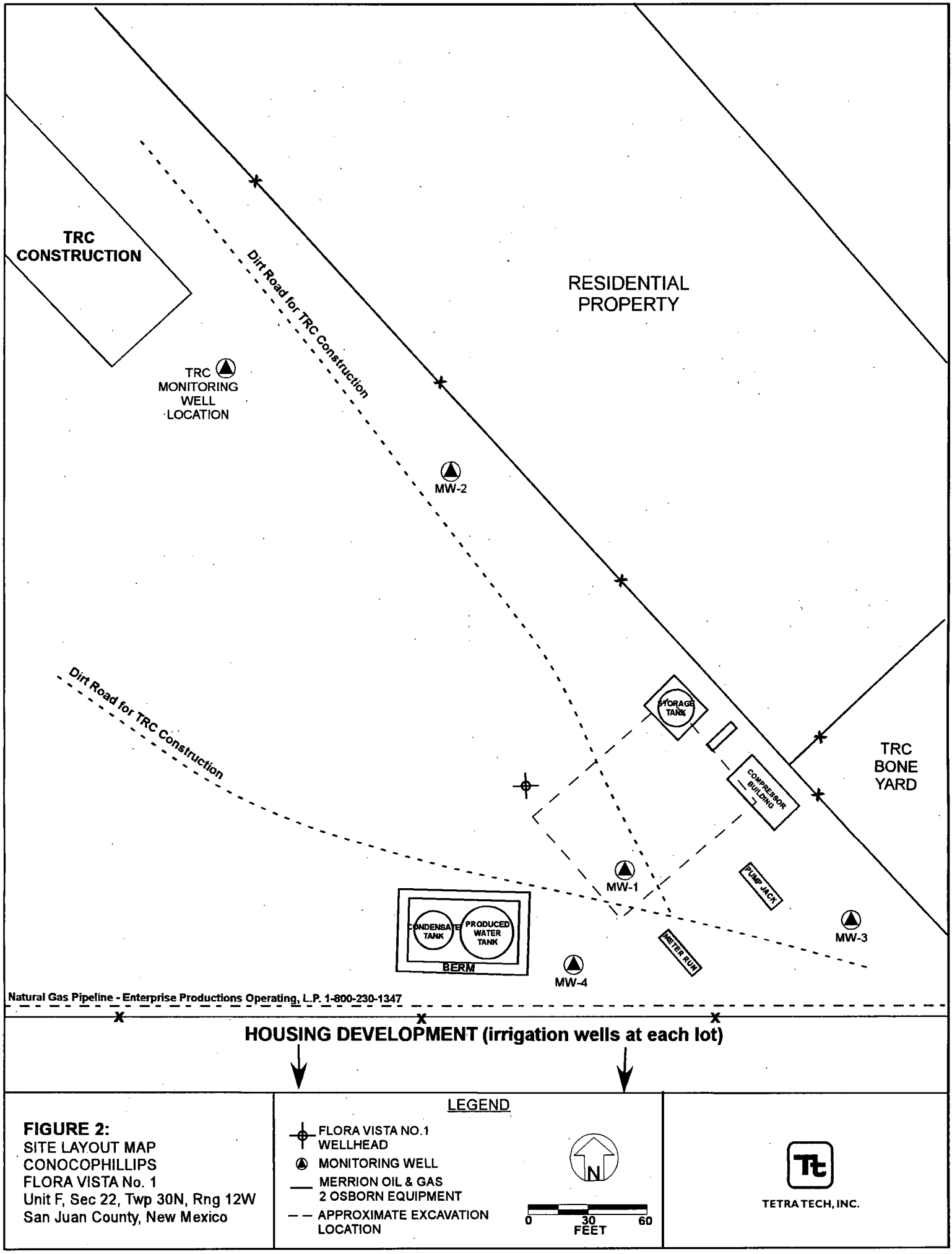


FIGURE 2:
SITE LAYOUT MAP
CONOCOPHILLIPS
FLORA VISTA No. 1
Unit F, Sec 22, Twp 30N, Rng 12W
San Juan County, New Mexico

LEGEND

- FLORA VISTA NO.1 WELLHEAD
- MONITORING WELL
- MERRION OIL & GAS 2 OSBORN EQUIPMENT
- APPROXIMATE EXCAVATION LOCATION

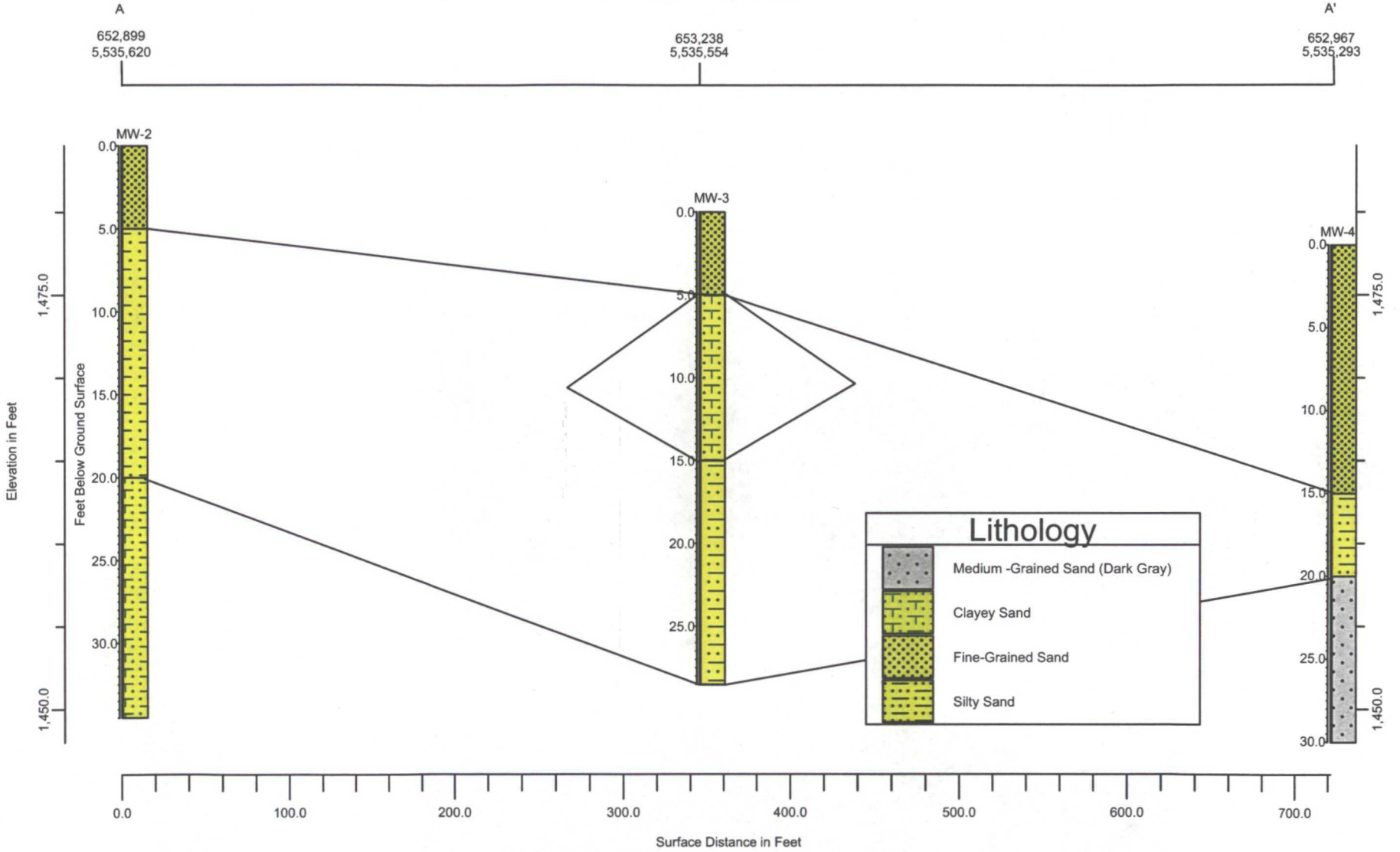
N

0 30 60
FEET

TETRA TECH, INC.

Figure 3.

Flora Vista No. 1 - Cross-Section A-A'



TETRA TECH

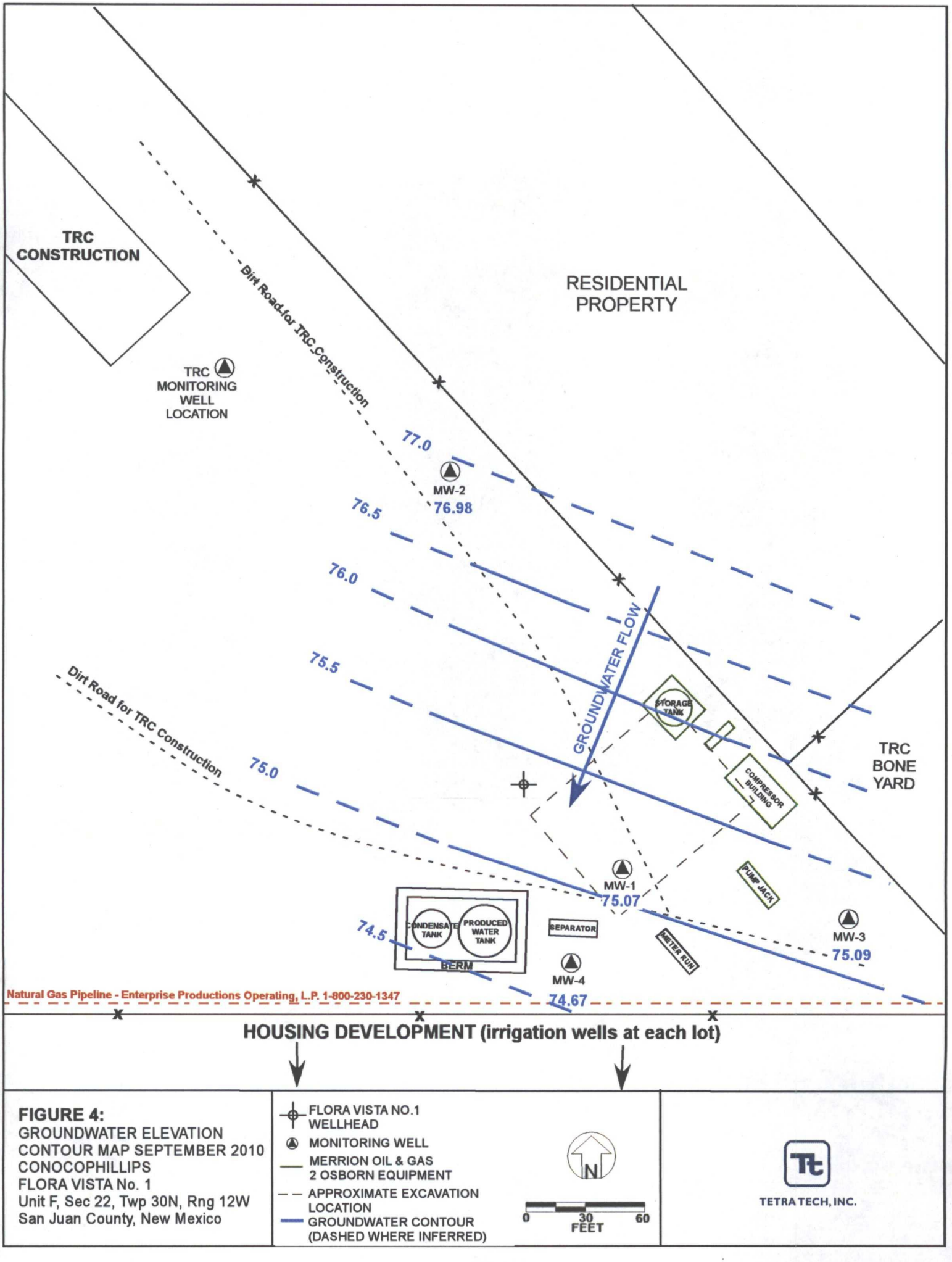


FIGURE 4:
GROUNDWATER ELEVATION CONTOUR MAP SEPTEMBER 2010
CONOCOPHILLIPS
FLORA VISTA No. 1
Unit F, Sec 22, Twp 30N, Rng 12W
San Juan County, New Mexico

- FLORA VISTA NO.1 WELLHEAD
- MONITORING WELL
- MERRION OIL & GAS 2 OSBORN EQUIPMENT
- APPROXIMATE EXCAVATION LOCATION
- GROUNDWATER CONTOUR (DASHED WHERE INFERRED)

N

0 30 60
FEET

TETRA TECH, INC.

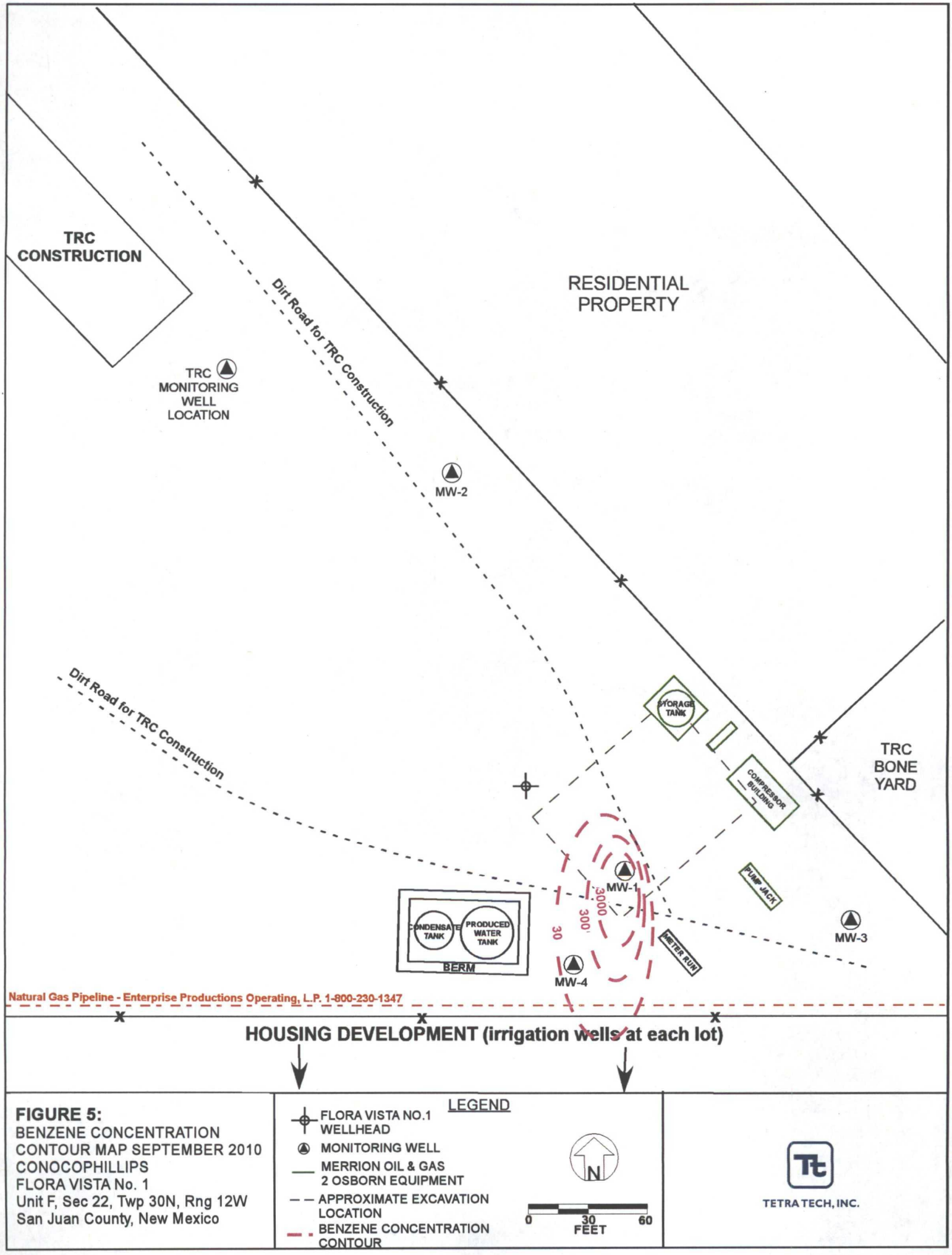


FIGURE 5:
BENZENE CONCENTRATION CONTOUR MAP SEPTEMBER 2010
CONOCOPHILLIPS
FLORA VISTA No. 1
Unit F, Sec 22, Twp 30N, Rng 12W
San Juan County, New Mexico

TABLES

1. Site History Table

2. Monitoring Well Specifications and Groundwater Elevations

3. Groundwater Analytical Summary

Table 1. Site History Timeline - ConocoPhillips Flora Vista No. 1

Date/Time Period	Event/Action	Description/Comments
November 28, 1995	Pit Closure Activities	Philip Environmental excavated and removed approximatley 850 cubic yards of soil from the area where the Flora Vista No. 1 dehydrator pit was located. Excavation activities were stopped in the north and west directions due to the positions of the compressor and meter run equipment.
July and August 1996	Submital of Pit Closure	El Paso Field Services submits Pit Closure Reports to the New Mexico Oil Conservation Division outlining the excavation and clsoure of the dehydrator pit at the site.
January 24, 1997	Pit Closure Approval	El Paso Field Sservices receives approval of pit closure from the New Mexico Oil Conservation Division.
June and July 2003	Initial Site Assessment	Historic petroleum contaminated soil discovered during a production facility resetting activity. Environmental investigation began with the excavation of approximately 49,986 cubic yards of impacted soil and 4,446 cubic yards of clean soil. Groundwater was encountered at approximately 25 feet below the ground surface. The impacted soil was taken to a commercial landfill facility located on Crouch Mesa in Farmington, New Mexico. Approximately 80 bbls of potassium permanganate was sprayed on the soils to breakdown any minor amounts of residual petroleum contaminants. The excavation area was backfilled with clean soil.
September 2, 2003	Groundwater Monitoring Well Installation	One ground water Monitoring Well, MW-1, was installed slightly down-gradient from the center of the soil excavation by Envirotech. Total depth of well is 26 feet.
September of 2003 through December 13, 2006	Quarterly Groundwater Monitoring	Quarterly groundwater monitoring of MW-1 for analysis of BTEX constituents. MW-1 remained above standards for benzene, ethylbenzene, and total xylenes.
March 31, 2006	Site Transfer.	ConocoPhillips Company completes acquisition of Burlington Resources.
March 2007 through January 2008	Consultant Change and Groundwater Monitoring	After the acquisition of Burlington Resources by ConocoPhillips, consulting responsibilities were transferred from Lode Star LLC of Farmington New Mexico to Tetra Tech of Albuquerque. Tetra Tech began sampling the Flora Vista site quarterly in March of 2007. Four consecutive quarters of goundwater sampling were conducted at the Flora Vista site. Groundwater was sampled from MW-1 and was analyzed for BTEX constituents during all sampling events. MW-1 remained above standards for benzen, ethylbenzene, and total xylenes.
March 28, 2008	Reporting	Annual report for 2007 is submitted to the Oil Conservation Division of NM Energy, Minerals, and Resources Department (OCD).
April 1, 2008	Additional Monitoring Requested by OCD	Oil Conservation Division of NM Energy, Minerals, and Resources Dept. indicates additional investigation and sampling is necessary for closure consideration during a meeting with Glenn Von Gonten.
July 23, 2008	Groundwater Monitoring	Groundwater monitoring of MW-1. One sample and a duplicate were collected. Benzene and Xylenes are above NMWQCC standards.
August 12 and 13, 2008	Groundwater Monitoring Well Installation and Groundwater Monitoring	Three additional groundwater Monitoring Wells, MW-2, MW-3 and MW-4 were installed by WDC and overseen by Tetra Tech. MW-2 was installed upgradient of MW-1. Both MW-3 and MW-4 were installed downgradient of MW-1. Soil samples were collected from just above the groundwater interface for each boring location and sent to Southern Petroleum Laboratory for a baseline soil analysis. All wells were developed by purging approximately 80 gallons of fluid using a surge block and hand bailer/purge pump.
October 21, 2008	Groundwater Monitoring	Third quarter 2008 groundwater monitoring was completed and was the first quarter of sampling to include all four monitoring wells on site. A baseline suite was completed including major ions, total metals, semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs) including BTEX, diesel range organics, and gasoline range organics. There were 3 constituents that returned results above NMWQCC limits, Benzene (MW-1 and MW-4), Total Xylenes (MW-1), and Sulfate (MW-1).
January 28, 2009	Groundwater Monitoring	Tetra Tech conducted fourth quarter 2008 groundwater monitoring at the site for BTEX constituents in all four monitoring wells. Benzene (MW-1 and MW-4), Ethylbenzene (MW-1) and Xylenes (MW-1) were above NMWQCC standards.
March 1, 2009	Initiate Annual Sampling	The Flora Vista No. 1 site is put on an annual monitoring schedule. The next sampling event is scheduled for September 2009.
September 30, 2009	Groundwater Monitoring	Tetra Tech conducted 2009 annual groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese, and sulfate. Benzene (MW-1 and MW-4), xylenes (MW-1) and manganese (MW-1 and MW-4) were above NMWQCC standards.

Table 1. Site History Timeline - ConocoPhillips Flora Vista No. 1

Date/Time Period	Event/Action	Description/Comments
December 16, 2009	Private Irrigation Well Sampling	Tetra Tech collected a groundwater sample from a private domestic irrigation well located to the south of the site to be analyzed for BTEX. All constituents were found to be below laboratory detection limits and NMWQCC standards.
May 14, 2010	Initiate Quarterly Sampling	The Flora Vista No. 1 site is put on a semi-annual monitoring schedule. Private domestic irrigation well sampling is also to be included in semi-annual sampling events.
June 10, 2010	Private Irrigation Well Sampling	Tetra Tech collected a groundwater sample from a second private down-gradient domestic irrigation well to be sampled for BTEX. All constituents were found to be below laboratory detection limits and NMWQCC standards.
June 10 and 11, 2010	Groundwater Monitoring	Tetra Tech conducted groundwater monitoring at the site for BTEX constituents, dissolved iron and manganese, and sulfate. Benzene (MW-1 and MW-4), xylenes (MW-1) and manganese (MW-1 and MW-4) were above NMWQCC standards.

Table 2. Monitoring Well Specifications and Groundwater Elevations ConocoPhillips Flora Vista No.1

Well ID	Total Depth (ft bgs)	Surface Elevation, Top of Casing* (ft)	Screen Interval (ft)	Date Measured	Depth to Groundwater (ft below TOC)	Relative Water Level (ft BMP)
MW-1	26.02	94.38	11.02 - 26.02	6/20/2003	standing	94.38
				9/23/2003	17.03	77.35
				12/16/2003	20.11	74.27
				3/16/2004	23.69	70.69
				6/21/2004	19.92	74.46
				9/30/2004	16.82	77.56
				12/13/2004	20.40	73.98
				3/22/2005	24.32	70.06
				6/22/2005	--	--
				10/24/2005	--	--
				12/13/2005	21.24	73.14
				3/22/2006	24.75	69.63
				6/22/2006	20.48	73.9
				10/20/2006	19.13	75.25
				12/13/2006	21.24	73.14
				11/9/2007	19.71	74.67
				1/15/2008	NM	NA
				3/19/2008	24.35	70.03
				7/23/2008	19.89	74.49
				10/21/2008	19.48	74.9
				1/28/2009	23.96	70.42
				9/30/2009	18.16	76.22
				6/10/2010	21.64	72.74
				9/27/2010	19.31	75.07
MW-2	31.35	97.1	12.35 - 27.35	10/21/2008	20.71	76.39
				1/28/2009	22.75	74.35
				9/30/2009	18.83	78.27
				6/11/2010	22.09	75.01
				9/27/2010	20.12	76.98
MW-3	30.87	92.9	11.87 - 26.87	10/21/2008	17.92	74.98
				1/28/2009	21.53	71.37
				9/30/2009	16.43	76.47
				6/10/2010	19.71	73.19
				9/27/2010	17.81	75.09
MW-4	30.42	93.6	11.42-26.42	10/21/2008	18.06	75.54
				1/28/2009	24.55	69.05
				9/30/2009	17.89	75.71
				6/10/2010	21.02	72.58
				9/27/2010	18.93	74.67

*Casing elevations are based on an arbitrary 100 ft relative surface elevation set at the gas well head

ft = Feet

TOC = Top of casing

NM = Not measured

NA = Not applicable

bgs = below ground surface

BMP = below measuring point

Table 3. Groundwater Analytical Results Summary - ConocoPhillips Flora Vista No. 1

Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	Sulfate (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)
MW-1	6/20/2003	**1700**	300	490	**5090**	NA	NA	NA
	9/23/2003	**7500**	20	660	**9220**	NA	NA	NA
	12/16/2003	**7930**	10	**1180**	**864**	NA	NA	NA
	3/16/2004	**6860**	U	**1160**	**8470**	NA	NA	NA
	6/21/2004	**4140**	U	430	**3120**	NA	NA	NA
	9/30/2004	**9080**	30	**1410**	**9980**	NA	NA	NA
	12/13/2004	**8520**	U	**1340**	**9390**	NA	NA	NA
	3/22/2005	**4550**	U	**850**	**5950**	NA	NA	NA
	6/22/2005	--	21.88	--	--	NA	NA	NA
	10/24/2005	**6390**	U	**1010**	**7416**	NA	NA	NA
	12/13/2005	**6170**	U	**1010**	**7570**	NA	NA	NA
	3/22/2006	**3580**	U	**770**	**5840**	NA	NA	NA
	6/22/2006	**3100**	U	500	**3500**	NA	NA	NA
	10/20/2006	**6600**	10	**1220**	**8910**	NA	NA	NA
	12/13/2006	**4230**	10	**1090**	**8130**	NA	NA	NA
	3/27/2007	**2370**	7	504	**3749**	NA	NA	NA
	6/25/2007	**2870**	140	510	**3890**	NA	NA	NA
	11/9/2007	**5600**	< 0.7	**910**	**6800**	NA	NA	NA
	1/15/2008	**4200**	< 0.7	**890**	**5700**	NA	NA	NA
	3/19/2008	**2700**	< 5.0	590	**4700**	NA	NA	NA
	7/23/2008	**2000**	< 5.0	380	**1400**	NA	NA	NA
	10/21/2008	**4500**	< 5.0	630	**5300**	NA	NA	NA
	1/28/2009	**4000**	< 5.0	**880**	**8700**	NA	NA	NA
	9/30/2009	**4200**	1.6	530	**5100**	11.7	**2.08**	**1.09**
	6/10/2010	**1700**	1.2	330	**990**	27	0.126	**1.28**
	9/27/2010	**3200**	2	530	**4201.6**	1.8	**7.73**	**1.19**
NMWQCC Standards		**10 (µg/L)**	**750 (µg/L)**	**750 (µg/L)**	**620 (µg/L)**	**600 (µg/L)**	**1 (µg/L)**	**0.2 (µg/L)**

Explanation

NMWQCC = New Mexico Water Quality Control Commission
µg/L = micrograms per liter (parts per billion)
<0.5 = Below laboratory detection limit in ug/L
Bold = concentrations that exceed the NMWQCC limits
NA = Not analyzed

Table 3. Groundwater Analytical Results Summary - ConocoPhillips Flora Vista No. 1

Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	Sulfate (µg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)
MW-2	10/21/2008	< 0.5	< 0.5	< 0.5	< 0.5	115	0.656*	0.248*
	1/28/2009	< 0.5	< 0.5	< 0.5	< 0.5	ND	ND	ND
	9/30/2009	< 0.5	< 0.5	< 0.5	< 0.5	123	0.0223	< 0.00500
	6/11/2010	< 1.0	< 1.0	< 1.0	< 1.0	156	< 0.0200	< 0.00500
	9/27/2010	< 1.0	< 1.0	< 1.0	< 1.0	179	< 0.0200	< 0.00500
MW-3	10/21/2008	< 0.5	< 0.5	< 0.5	< 0.5	93	0.739*	0.0867*
	1/28/2009	< 0.5	< 0.5	< 0.5	< 0.5	ND	ND	ND
	9/30/2009	< 0.5	< 0.5	< 0.5	< 0.5	144	0.0543	< 0.00500
	6/10/2010	< 0.5	< 1.0	< 1.0	< 1.0	122	0.0425	< 0.00500
	9/27/2010	< 1.0	< 1.0	< 1.0	< 1.0	170	< 0.0200	< 0.00500
MW-4	10/21/2008	**39**	< 0.5	31	180	90.1	8.4*	4.16*
	1/28/2009	**660**	< 0.5	64	583	ND	ND	ND
	9/30/2009	**340**	< 0.5	54	572	48.9	0.148	**4.48**
	6/10/2010	**140**	< 1.0	27	252	53.3	0.0566	**4.65**
	9/27/2010	**33**	< 1.0	41	274	92.5	**1.22**	**4.34**
NMWQCC Standards		**10 (µg/L)**	**750 (µg/L)**	**750 (µg/L)**	**620 (µg/L)**	**600 (µg/L)**	**1 (µg/L)**	**0.2 (µg/L)**

Explanation

NMWQCC = New Mexico Water Quality Control Commission
µg/L = micrograms per liter (parts per billion)
<0.5 = Below laboratory detection limit in ug/L
Bold = concentrations that exceed the NMWQCC limits
NA = Not analyzed
* = *Results reported for total metals analysis, results can not be compared to NMWQCC Standards for dissolved metals*

APPENDIX A

GROUNDWATER SAMPLING FIELD FORMS

TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name Flora Vista No. 1 Page 1 of 4

ject No.

Site Location Flora Vista, NM

Site/Well No. MW-1 Coded/ Replicate No. Date 9/27/10

Weather Sunny, warm 70° Time Sampling Began 1200 Time Sampling Completed 1210

EVACUATION DATA

Description of Measuring Point (MP) Top of Casing

Height of MP Above/Below Land Surface 1 MP Elevation

Total Sounded Depth of Well Below MP ~~26.02~~ 26.01 Water-Level Elevation

Held ____ Depth to Water Below MP 19.31 Diameter of Casing 2"

Wet ____ Water Column in Well 6.7 Gallons Pumped/Bailed Prior to Sampling 2.5-nearly dry due to low volume

Gallons per Foot 0.16

Gallons in Well 1.072x3 = 3.216 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.)
1203	17.02	6.82	1279	0.831	1.169	17.8	-119.3	1.25
1204	16.76	6.80	1271	0.826	1.15	11.8	-119.4	1.5
1207	16.70	6.69	1254	0.815	1.160	16.8	-102.7	2.25

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl
SO4	16 oz Plastic	None
Dissolved Fe & Mn	16 oz plastic	none

Remarks H2O is light gray with old hydrocarbon odor. No sheen detected

Sampling Personnel Christine Matteus & Cassie Braun

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

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WATER SAMPLING FIELD FORM

Project Name Flora Vista No. 1 Page 2 of 4

Project No.

Site Location Flora Vista, NM

Site/Well No. MW-2 Coded/ Replicate No. Date 9/27/10

Weather Sunny, Warm 70° Time Sampling Began 1200 Time Sampling Completed 1230

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 31.35 61 Water-Level Elevation

Held Depth to Water Below MP 20.12 Diameter of Casing 2"

Wet Water Column in Well 11.53 Gallons Pumped/Bailed Prior to Sampling 5.5 gallons

Gallons per Foot 0.16

Gallons in Well 1.845 Sampling Pump Intake (feet below land

Purging Equipment Purge pump / Bailer X3 = 5.534

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm³)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)
1219	15.84	7.01	810	.526	4.37	44.0	30.0	4.5
1222	15.82	6.96	810	.526	3.74	38.0	44.0	5.0
1224	15.81	7.02	811	.527	3.69	37.2	49.6	5.5

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl
SO4	16 oz Plastic	None
Dissolved Fe & Mn	16 oz Plastic	None

Remarks H2O is mostly clear, no sheen or odor observed

Sampling Personnel Christine Mathews & Cassie Braun

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 Flora Vista No. 1 Page 3 of 4

ject No.

Site Location Flora Vista, NM

Site/Well No. MW-3 Coded/ Replicate No. Date 9/27/10

Weather Sunny, Warm 70° Time Sampling Began 1230 Time Sampling Completed 1300

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 30.47 Water-Level Elevation

Held Depth to Water Below MP 17.81 Diameter of Casing 2"

Wet Water Column in Well 12.66 Gallons Pumped/Bailed Prior to Sampling 6.25

Gallons per Foot 0.16

Gallons in Well 2.026 X3= 6.077 Sampling Pump Intake Setting (feet below land surface)

Purging Equipment Purge pump / Bailer

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)
1250	15.53	7.14	836	0.576	4.52	43.2	75.4	2.5
1252	15.28	6.97	886	0.576	4.46	44.3	86.1	5.75
1254	15.33	7.02	886	0.576	4.21	42.1	83.8	6.25

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl
SO4	16 oz plastic	None
Dissolved Fe & Mn	16 oz plastic	None

Remarks H_2O is light brown & silty, roots were baited out. No odor or sheen

Sampling Personnel Christine Mateus & Cassie Brown

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 Flora Vista No. 1 Page 4 of 4

ject No.

Site Location Flora Vista, NM

Site/Well No. MW-4 Coded/ Replicate No. Duplicate @ 1315 Date 9/27/10

Weather Sunny, warm 70° Time Sampling Began 1250 Time Sampling Completed 1310

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 30.47 Water-Level Elevation

Held Depth to Water Below MP 18.93 Diameter of Casing 2"

Wet Water Column in Well 11.54 Gallons Pumped/Bailed Prior to Sampling 5.75

Gallons per Foot 0.16

Gallons in Well 1.846 X3 = 5.54 Sampling Pump Intake Setting (feet below land surface)

Purging Equipment Purge pump (Bailer)

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)
1304	15.43	7.08	881	.573	2.86	28.1	-195.9	4.5
1306	15.40	6.94	880	.572	1.41	14.1	-198.6	5.0
1308	15.33	6.96	882	.573	.81	7.9	-208.4	5.5

Sampling Equipment Purge Pump (Bailer)

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl
SO4	16 oz plastic	None
Dissolved Fe & Mn	16 oz plastic	None

Remarks H_2O is light gray with a slight hydrocarbon odor observed

Sampling Personnel Christine Mathews & Cassie Brown

Well Casing Volumes

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

APPENDIX B

LABORATORY ANALYTICAL REPORT

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

Certificate of Analysis

October 15, 2010

Workorder: H10100008

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

Project: COP - Flora Vista

Project Number: COP - Flora Vista

Site: COP - Flora Vista, Flora Vista, New Mexico

PO Number: ENFOS

NELAC Cert. No.: T104704205-09-3

This Report Contains A Total Of 19 Pages

Excluding Any Attachments

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Certificate of Analysis

October 15, 2010

Workorder: H10100008

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6121 Indian School Road NE
Suite 200
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Project: COP - Flora Vista

Project Number: COP - Flora Vista

Site: COP - Flora Vista, Flora Vista, New Mexico

PO Number: ENFOS

NELAC Cert. No.: T104704205-09-3

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

October 15, 2010

Workorder: H10100008

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

Project: COP - Flora Vista

Project Number: COP - Flora Vista

Site: COP - Flora Vista, Flora Vista, New Mexico

PO Number: ENFOS

NELAC Cert. No.: T104704205-09-3

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
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Fax: (713) 660-8975

SAMPLE SUMMARY

Workorder: H10100008 : COP - Flora Vista

Project Number: COP - Flora Vista

Lab ID	Sample ID	Matrix	COC ID	Date/Time Collected	Date/Time Received
H10100008001	MW-1	Water		9/27/2010 12:10	10/1/2010 09:30
H10100008002	MW-2	Water		9/27/2010 12:30	10/1/2010 09:30
H10100008003	MW-3	Water		9/27/2010 13:00	10/1/2010 09:30
H10100008004	MW-4	Water		9/27/2010 13:10	10/1/2010 09:30
H10100008005	DUPLICATE	Water		9/27/2010 13:15	10/1/2010 09:30
H10100008006	TRIP BLANK	Water		9/30/2010 09:30	10/1/2010 09:30

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ANALYTICAL RESULTS

Workorder: H10100008 : COP - Flora Vista

Project Number: COP - Flora Vista

Lab ID: **H10100008001**
Sample ID: **MW-1**

Date/Time Received: 10/1/2010 09:30
Date/Time Collected: 9/27/2010 12:10

Matrix: Water

VOLATILES

Analysis Desc: SW-846 8260B

SW-846 5030Analytical Batches:
Batch: 2715 SW-846 8260B on 10/07/2010 12:59 by LKL DF = 1
Batch: 2723 SW-846 8260B on 10/08/2010 19:12 by LKL DF = 25

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	3200		25	3.2	25			2723
Ethylbenzene	530		25	12	25			2723
Toluene	2.0		1.0	0.13	1			2715
m,p-Xylene	4200		25	14	25			2723
o-Xylene	1.6		1.0	0.35	1			2715
Xylenes, Total	4201.6		1.0	0.35	25			2723
4-Bromofluorobenzene (S)	97.2 %		74-125		1			2715
4-Bromofluorobenzene (S)	99.8 %		74-125		25			2723
1,2-Dichloroethane-d4 (S)	83.7 %		70-130		1			2715
1,2-Dichloroethane-d4 (S)	89.7 %		70-130		25			2723
Toluene-d8 (S)	98.9 %		82-118		1			2715
Toluene-d8 (S)	101 %		82-118		25			2723

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B

Preparation Batches:
Batch: 2123 SW-846 3010A on 10/04/2010 13:30 by R_V
Analytical Batches:
Batch: 1654 SW-846 6010B on 10/10/2010 20:09 by EBG

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Iron	7.73		0.0200	0.00640	1		2123	1654
Manganese	1.19		0.00500	0.000300	1		2123	1654

WET CHEMISTRY

Analysis Desc: EPA 300.0

Analytical Batches:
Batch: 1492 EPA 300.0 on 10/12/2010 23:09 by GLN

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Sulfate	1.80		0.500	0.0435	1			1492

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ANALYTICAL RESULTS

Workorder: H10100008 : COP - Flora Vista

Project Number: COP - Flora Vista

Lab ID: **H10100008002**
Sample ID: **MW-2**

Date/Time Received: 10/1/2010 09:30
Date/Time Collected: 9/27/2010 12:30

Matrix: Water

VOLATILES

Analysis Desc: SW-846 8260B
SW-846 5030Analytical Batches:
Batch: 2715 SW-846 8260B on 10/07/2010 11:11 by LKL

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.13	1			2715
Ethylbenzene	ND		1.0	0.48	1			2715
Toluene	ND		1.0	0.13	1			2715
m,p-Xylene	ND		1.0	0.58	1			2715
o-Xylene	ND		1.0	0.35	1			2715
Xylenes, Total	ND		1.0	0.35	1			2715
4-Bromofluorobenzene (S)	96.4 %		74-125		1			2715
1,2-Dichloroethane-d4 (S)	87.7 %		70-130		1			2715
Toluene-d8 (S)	98.9 %		82-118		1			2715

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B
Preparation Batches:
Batch: 2123 SW-846 3010A on 10/04/2010 13:30 by R_V
Analytical Batches:
Batch: 1654 SW-846 6010B on 10/10/2010 20:15 by EBG

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Iron	ND		0.0200	0.00640	1		2123	1654
Manganese	ND		0.00500	0.000300	1		2123	1654

WET CHEMISTRY

Analysis Desc: EPA 300.0
Analytical Batches:
Batch: 1492 EPA 300.0 on 10/12/2010 23:26 by GLN

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Sulfate	179		25.0	2.18	50			1492

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ANALYTICAL RESULTS

Workorder: H10100008 : COP - Flora Vista

Project Number: COP - Flora Vista

Lab ID: **H10100008003**
Sample ID: **MW-3**

Date/Time Received: 10/1/2010 09:30
Date/Time Collected: 9/27/2010 13:00

Matrix: Water

VOLATILES

Analysis Desc: SW-846 8260B
SW-846 5030Analytical Batches:
Batch: 2715 SW-846 8260B on 10/07/2010 11:39 by LKL

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.13	1			2715
Ethylbenzene	ND		1.0	0.48	1			2715
Toluene	ND		1.0	0.13	1			2715
m,p-Xylene	ND		1.0	0.58	1			2715
o-Xylene	ND		1.0	0.35	1			2715
Xylenes, Total	ND		1.0	0.35	1			2715
4-Bromofluorobenzene (S)	93.9 %		74-125		1			2715
1,2-Dichloroethane-d4 (S)	91.1 %		70-130		1			2715
Toluene-d8 (S)	98 %		82-118		1			2715

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B
Preparation Batches:
Batch: 2123 SW-846 3010A on 10/04/2010 13:30 by R_V
Analytical Batches:
Batch: 1654 SW-846 6010B on 10/10/2010 20:21 by EBG

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Iron	ND		0.0200	0.00640	1		2123	1654
Manganese	ND		0.00500	0.000300	1		2123	1654

WET CHEMISTRY

Analysis Desc: EPA 300.0
Analytical Batches:
Batch: 1492 EPA 300.0 on 10/12/2010 23:43 by GLN

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Sulfate	170		25.0	2.18	50			1492

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ANALYTICAL RESULTS

Workorder: H10100008 : COP - Flora Vista

Project Number: COP - Flora Vista

Lab ID: **H10100008004**
Sample ID: **MW-4**

Date/Time Received: 10/1/2010 09:30
Date/Time Collected: 9/27/2010 13:10

Matrix: Water

VOLATILES

Analysis Desc: SW-846 8260B
SW-846 5030Analytical Batches:
Batch: 2715 SW-846 8260B on 10/07/2010 12:05 by LKL

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	33		1.0	0.13	1			2715
Ethylbenzene	41		1.0	0.48	1			2715
Toluene	ND		1.0	0.13	1			2715
m,p-Xylene	260		1.0	0.58	1			2715
o-Xylene	14		1.0	0.35	1			2715
Xylenes, Total	274		1.0	0.35	1			2715
4-Bromofluorobenzene (S)	99.4 %		74-125		1			2715
1,2-Dichloroethane-d4 (S)	87 %		70-130		1			2715
Toluene-d8 (S)	99.8 %		82-118		1			2715

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B
Preparation Batches:
Batch: 2123 SW-846 3010A on 10/04/2010 13:30 by R_V
Analytical Batches:
Batch: 1654 SW-846 6010B on 10/10/2010 20:27 by EBG

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Iron	1.22		0.0200	0.00640	1		2123	1654
Manganese	4.34		0.00500	0.000300	1		2123	1654

WET CHEMISTRY

Analysis Desc: EPA 300.0
Analytical Batches:
Batch: 1492 EPA 300.0 on 10/13/2010 00:00 by GLN

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Sulfate	92.5		5.00	0.435	10			1492

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ANALYTICAL RESULTS

Workorder: H10100008 : COP - Flora Vista

Project Number: COP - Flora Vista

Lab ID: **H10100008005**
Sample ID: **DUPLICATE**

Date/Time Received: 10/1/2010 09:30
Date/Time Collected: 9/27/2010 13:15

Matrix: Water

VOLATILES

Analysis Desc: SW-846 8260B
SW-846 5030Analytical Batches:
Batch: 2715 SW-846 8260B on 10/07/2010 12:32 by LKL

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	33		1.0	0.13	1			2715
Ethylbenzene	45		1.0	0.48	1			2715
Toluene	ND		1.0	0.13	1			2715
m,p-Xylene	290		1.0	0.58	1			2715
o-Xylene	15		1.0	0.35	1			2715
Xylenes, Total	305		1.0	0.35	1			2715
4-Bromofluorobenzene (S)	98.1 %		74-125		1			2715
1,2-Dichloroethane-d4 (S)	91.2 %		70-130		1			2715
Toluene-d8 (S)	100 %		82-118		1			2715

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ANALYTICAL RESULTS

Workorder: H10100008 : COP - Flora Vista

Project Number: COP - Flora Vista

Lab ID: **H10100008006**
Sample ID: **TRIP BLANK**

Date/Time Received: 10/1/2010 09:30
Date/Time Collected: 9/30/2010 09:30

Matrix: Water

VOLATILES

Analysis Desc: SW-846 8260B
SW-846 5030Analytical Batches:
Batch: 2715 SW-846 8260B on 10/07/2010 10:17 by LKL

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.13	1			2715
Ethylbenzene	ND		1.0	0.48	1			2715
Toluene	ND		1.0	0.13	1			2715
m,p-Xylene	ND		1.0	0.58	1			2715
o-Xylene	ND		1.0	0.35	1			2715
Xylenes, Total	ND		1.0	0.35	1			2715
4-Bromofluorobenzene (S)	96.3 %		74-125		1			2715
1,2-Dichloroethane-d4 (S)	88.6 %		70-130		1			2715
Toluene-d8 (S)	99.3 %		82-118		1			2715

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QUALITY CONTROL DATA

Workorder: H10100008 : COP - Flora Vista

Project Number: COP - Flora Vista

QC Batch: MSV/2714

Analysis Method: SW-846 8260B

QC Batch Method: SW-846 5030

Preparation: 10/06/2010 00:00 by LKL

Associated Lab Samples: H10100006001 H10100006002 H10100006003 H10100006004 H10100006005 H10100008001 H10100008002 H10100008003 H10100008004 H10100008005 H10100008006

METHOD BLANK: 74520

Analysis Date/Time Analyst: 10/07/2010 06:32 LKL

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)	%	95.9		74-125
1,2-Dichloroethane-d4 (S)	%	88.8		70-130
Toluene-d8 (S)	%	98.3		82-118

LABORATORY CONTROL SAMPLE: 74521

Analysis Date/Time Analyst: 10/07/2010 06:05 LKL

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Benzene	ug/l	20	17.2	86.1	74-123
Ethylbenzene	ug/l	20	16.1	80.6	72-127
Toluene	ug/l	20	16.6	83.2	74-126
m,p-Xylene	ug/l	40	32.8	82.1	71-129
o-Xylene	ug/l	20	16.2	81.2	74-130
Xylenes, Total	ug/l	60	49.06	81.8	71-130
4-Bromofluorobenzene (S)	%			97.7	74-125
1,2-Dichloroethane-d4 (S)	%			88.6	70-130
Toluene-d8 (S)	%			99.8	82-118

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: H10100008 : COP - Flora Vista — Project Number: COP - Flora Vista

QC Batch: MSV/2722 — Analysis Method: SW-846 8260B

QC Batch Method: SW-846 5030 — Preparation: 10/08/2010 00:00 by LKL

Associated Lab Samples: H10090775001, H10090775003, H10090775006, H10090775009, H10090775010, H10090775011, H10090775012, H10090775013, H10090775014, H10090775016, H10100006003, H10100006004, H10100008001

METHOD BLANK: 74856

Analysis Date/Time Analyst: 10/08/2010 14:19 LKL

Parameter	Units	Blank Result	Qualifiers	Reporting Limit
Benzene	ug/l	ND		1.0
Ethylbenzene	ug/l	ND		1.0
m,p-Xylene	ug/l	ND		1.0
Xylenes, Total	ug/l	ND		1.0
4-Bromofluorobenzene (S)	%	97.9		74-125
1,2-Dichloroethane-d4 (S)	%	95.6		70-130
Toluene-d8 (S)	%	101		82-118

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 74858 74859 Original: H10090775009

MS Analysis Date/Time Analyst: 10/08/2010 17:25 LKL

MSD Analysis Date/Time Analyst: 10/08/2010 17:52 LKL

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Benzene	ug/l	ND	20	19.5	19.3	97.6	96.7	70-124	0.9	20
Ethylbenzene	ug/l	ND	20	18.6	19.4	93.1	96.9	35-175	4.0	20
m,p-Xylene	ug/l	ND	40	38.0	37.7	94.9	94.2	35-175	0.8	20
Xylenes, Total	ug/l	ND	60	56.65	56.37	94.4	93.9	35-175	0.5	20
4-Bromofluorobenzene (S)	%	98				99.6	99.3	74-125		
1,2-Dichloroethane-d4 (S)	%	88.2				92.6	88.6	70-130		
Toluene-d8 (S)	%	104				99.2	100	82-118		

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: H10100008 : COP - Flora Vista

Project Number: COP - Flora Vista

QC Batch: DIGM/2123

Analysis Method: SW-846 6010B

QC Batch Method: SW-846 3010A

Preparation: 10/04/2010 13:30 by R_V

Associated Lab Samples: H10100004001 H10100004002 H10100004003 H10100004004 H10100006001 H10100006002 H10100006003 H10100008001 H10100008002 H10100008003 H10100008004 H10100032001

METHOD BLANK: 73599

Analysis Date/Time Analyst: 10/07/2010 14:50 EBG

Parameter	Units	Blank Result	Qualifiers	Reporting Limit
Iron	mg/l	ND		0.0200
Manganese	mg/l	ND		0.00500

LABORATORY CONTROL SAMPLE: 73600

Analysis Date/Time Analyst: 10/07/2010 14:56 EBG

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Iron	mg/l	1.0	0.9897	99.0	80-120
Manganese	mg/l	0.10	0.1015	102	80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 73601

Original: H10100004001

MS Analysis Date/Time Analyst: 10/07/2010 15:08 EBG

MSD Analysis Date/Time Analyst: 12/30/1899 00:00

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Iron	mg/l	ND	1.0	0.9589		95.9	0.0	75-125	0.0	0
Manganese	mg/l	0.117	0.10	0.2033		86.6	0.0	75-125	0.0	0

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.

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

QUALITY CONTROL DATA

Workorder: H10100008 : COP - Flora Vista Project Number: COP - Flora Vista

QC Batch: IC/1492 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Associated Lab Samples: H10100008001 H10100008002 H10100008003 H10100008004

METHOD BLANK: 75587

Analysis Date/Time Analyst: 10/12/2010 17:29 GLN

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

LABORATORY CONTROL SAMPLE: 75588

Analysis Date/Time Analyst: 10/12/2010 17:46 GLN

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Sulfate	mg/l	10	10.72	107	85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 75589 75590 Original: H10100008001

MS Analysis Date/Time Analyst: 10/13/2010 01:25 GLN

MSD Analysis Date/Time Analyst: 10/13/2010 01:42 GLN

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Sulfate	mg/l	1.8	10	12.49	12.57	107	108	80-120	0.7	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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Legend

(S) - Indicates analyte is a surrogate

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: H10100008 : COP - Flora Vista

Project Number: COP - Flora Vista

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
H10100008001	**MW-1**	SW-846 3010A	DIGM/2123	SW-846 6010B	ICP/1654
H10100008002	**MW-2**	SW-846 3010A	DIGM/2123	SW-846 6010B	ICP/1654
H10100008003	**MW-3**	SW-846 3010A	DIGM/2123	SW-846 6010B	ICP/1654
H10100008004	**MW-4**	SW-846 3010A	DIGM/2123	SW-846 6010B	ICP/1654
H10100008001	**MW-1**	SW-846 5030	MSV/2714	SW-846 8260B	MSV/2715
H10100008002	**MW-2**	SW-846 5030	MSV/2714	SW-846 8260B	MSV/2715
H10100008003	**MW-3**	SW-846 5030	MSV/2714	SW-846 8260B	MSV/2715
H10100008004	**MW-4**	SW-846 5030	MSV/2714	SW-846 8260B	MSV/2715
H10100008005	**DUPLICATE**	SW-846 5030	MSV/2714	SW-846 8260B	MSV/2715
H10100008006	**TRIP BLANK**	SW-846 5030	MSV/2714	SW-846 8260B	MSV/2715
H10100008001	**MW-1**	SW-846 5030	MSV/2722	SW-846 8260B	MSV/2723
H10100008001	**MW-1**	EPA 300.0	IC/1492		
H10100008002	**MW-2**	EPA 300.0	IC/1492		
H10100008003	**MW-3**	EPA 300.0	IC/1492		
H10100008004	**MW-4**	EPA 300.0	IC/1492		

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Sample Receipt Checklist

WorkOrder:	H10100008	Received By	LOG
Date and Time	10/01/2010 09:30	Carrier Name:	FEDEXS
Temperature:	2.0°C	Chilled By:	Water Ice

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

*VOA Preservation Checked After Sample Analysis

SPL Representative: Contact Date & Time:

Client Name Contacted:

Client Instructions:

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Houston, TX 77054
Phone: (713) 660-0901
Fax: (713) 660-8975

H10100008

Analysis Request and Chain of Custody Record

8880 Interchange Drive, Houston, TX 77054

Company Name: Tetra Tech / Conoco Phillips	
Contact: Kelly Blanchard	
Address: 6121 Indian School Rd. NE, Ste. 200	
Phone/Fax: (505) 237-8440 / (505) 237-8656	
Email Address: kelly.blanchard@tetratech.com	
Invoice To	
Purchase Order No:	
Project Name/No.: Flora Vista	
Site Address	
Sampled By: C Brown	

Sampling Event Description

- Quarterly ☐
- Semi-Annual ☐
- WC-Waste Char ☐
- Other (Describe Below) ☐

QA/QC Level

TRRP ☐ LA S ☐
STD ☐ Other ☐

SAMPLE ID	DATE	TIME	Water	Soil	Sludge	Other	Number Containers	Container Type	Preservative	BTEX 8260	Dissolved Metals (Fe,Mn)	SO4	TPH
MW-1	9.27.10		X				3	VOA	HCl	X			
MW-1	9.27.10		X				1	1602	NA		X		
MW-1	9.27.10		X				1	1602	NA			X	
MW-2	9.27.10		X				3	VOA	HCl	X			
MW-2	9.27.10		X				1	1602	NA		X		
MW-2	9.27.10		X				1	1602	NA			X	
MW-3	9.27.10		X				3	VOA	HCl	X			
MW-3	9.27.10		X				1	1602	NA		X		
MW-3	9.27.10		X				1	1602	NA			X	
MW-4	9.27.10	1310	X				3	VOA	HCl	X			

REQUESTED ANALYSIS

TAT

- 24hr ☐ 2hr ☐
- 48hr ☐ 10 day ☐
- Other ☐ ☐

Special Detection Limits (Specify):

Special Reporting Requirements (Specify):

Consultant Remarks: Please filter and preserve metals at lab Note: Select in Cooler with Well Host #1

Laboratory Remarks:

PM review:

	Date	Time	
Relinquished by: Colton Brown	9.30.10	1100	Received by:
Relinquished by:	Date	Time	Received by:
Relinquished by:	10/1	9:30	Received by SPL Inc.:

Report ID: H10100008_6089
Printed: 10/15/2010 17:36

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

8880 Interchange Drive, Houston, TX 77054

Analysis Request and Chain of Custody Record

SPL Workorder No: H10100008

Company Name: Tetra Tech / Conoco Phillips	
Contact: Kelly Blanchard	
Address: 6121 Indian School Rd. NE, Ste. 200	
Phone/Fax: (505) 237-8440 / (505) 237-8656	
Email Address: kelly.blanchard@tetratech.com	
Invoice To:	
Purchase Order No:	
Project Name/No: Flora Vista	
Site Address:	
Sampled By: C. Brown	

Sampling Event Description: Quarterly ☐ Semi-Annual ☐ WC-Waste Char. ☐ Other (see remarks) ☐

QA/QC Level: PRP ☐ LVL 3 ☐ STD ☐ Other ☐

SAMPLE ID	DATE	TIME	Water	Soil	Sludge	Other	Number Containers	Container Type	Preservative	BTEX-8260	Dissolved Metals (Fe,Mn)*	SO4
MW-4	9.27.10	1310	X				1	1liter	NA	X	X	
MW-4	9.27.10	1310	X				1	1liter	NA	X		X
duplicate	9.27.10	1315	X				3	VOA	HCl	X		
trip blank	9.30.10	0930	X				2	VOA	HCl	X		

TAT: 24hr ☐ 72hr ☐ 48hr ☐ 5 day ☐ Other ☐

Special Detection Limits (Specify):

Special Reporting Requirements (Specify):

Consultant Remarks: *Please filter and preserve metals at lab. Note: Packed in same coolers with Hall #1

Laboratory Remarks:

PM review:

Relinquished by Sampler	Date	Time	Received by:
Carlos Brown	9.30.10	1100	
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by: SPL Inc.

Report ID: H10100008_6089
Printed: 10/15/2010 17:36