3R - 173

JUNE 2010
GWMR

02/02/2011

TETRA TECH, INC.

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

February 2, 2011

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

RE: (1) ConocoPhillips Company Flora Vista No. 1 Site, Flora Vista, New Mexico. June and September 2010 Quarterly Groundwater Monitoring Reports
(2) ConocoPhillips Company Howell K No. 1 Site, Aztec, New Mexico. September 2010 Quarterly Groundwater Monitoring Report

Dear Mr. von Gonten:

Enclosed please find a copy of the above-referenced documents as compiled by Tetra Tech, Inc., for these Farmington area sites.

Please do not hesitate to contact me at (505) 237-8440 if you have any questions or require additional information.

Sincerely,

Kelly E. Blanchard

Kelly E. Blanchard
Project Manager/Geologist

Enclosures (3)

Cc: Brandon Powell, NMOCD
Terry Lauck, ConocoPhillips (electronic only)

JUNE 2010 GROUNDWATER MONITORING REPORT

CONOCOPHILLIPS COMPANY
FLORA VISTA NO. 1
FLORA VISTA, SAN JUAN COUNTY, NEW MEXICO

OCD # 3R173

API No. 30-045-20073

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. 1158690087

January 2011

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JUNE 2010 GROUNDWATER MONITORING REPORT FLORA VISTA NO. 1, FLORA VISTA, NEW MEXICO

1.0 INTRODUCTION

This report presents the results of the groundwater monitoring event conducted by Tetra Tech, Inc. (Tetra Tech) on June 10 and 11, 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. During excavation, field screening was conducted by collecting samples 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. The existing monitor well network consists of monitor wells MW-1, MW-2, MW-3, and MW-4 which are sampled on a quarterly basis. Monitoring wells MW-2, MW-3, and MW-4 were installed at the site during August of 2008 in response to a request by the New Mexico Oil Conservation Division (OCD) for site characterization and enhanced laboratory analyses. This request was communicated to Tetra Tech during an April 2008 meeting conducted in Santa Fe, New Mexico with Glenn VonGonten, OCD Environmental Bureau Hydrologist. 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 MONITORING SUMMARY AND SAMPLING METHODOLOGY / RESULTS

2.1 Monitoring Summary

Groundwater sampling was conducted on June 10 and 11, 2010. Groundwater samples were collected from all site Monitoring Wells MW-1, MW-2, MW-3 and MW-4. Depth to groundwater measurements were

taken prior to sampling. Groundwater elevation and well completion data is provided in **Table 2**. Using the groundwater elevation data collected during the June 2010 sampling event, Tetra Tech produced a groundwater elevation contour map which is provided as **Figure 4**.

2.2 Groundwater Sampling Methodology

Each monitoring well was purged of three volumes of water or where bailed dry, and allowed to recharge prior to being sampled. A 1.5-inch clear, polyethylene, dedicated bailer was used to purge each well and to collect the groundwater sample. The purge water generated during the event was disposed of in the produced water tank located on site (**Figure 2**). The groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped with chain-of-custody documentation to Southern Petroleum Laboratories (SPL) of Houston, Texas. All samples collected 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 dissolved metals samples were collected in unpreserved containers supplied by the laboratory, which were filtered and preserved by laboratory personnel prior to analysis for dissolved metals.

2.3 Groundwater Sampling Analytical Results

Samples collected during the June 2010 monitoring period indicate the following results:

- Groundwater concentrations exceeded the New Mexico Water Quality Control Commission (NMWQCC) standard for benzene (10 micrograms per liter [µg/L]) and total xylenes (620 µg/L) in MW-1; at 1,700 µg/L and 990 µg/L, respectively.
- Groundwater concentrations in MW-4 exceeded the NMWQCC standard for benzene during the sampling event; at 140 µg/L.
- BTEX concentrations in MW-2 and MW-3 were non-detect during the sampling event.
- Groundwater concentrations in MW-1 and MW-4 exceeded the NMWQCC standard for dissolved manganese during the sampling event.
- All monitoring wells had sulfate concentrations bellow NMWQCC standard (600 µg/L).

Table 3 summarizes the groundwater sample laboratory analytical results. Groundwater sampling field forms are presented in **Appendix A**. The corresponding laboratory analytical report including a quality control summary is included in **Appendix B**.

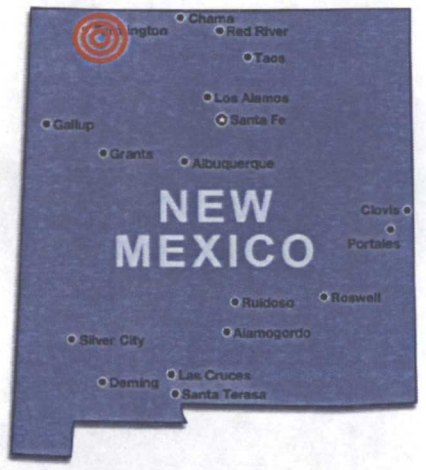
3.0 CONCLUSIONS

Tetra Tech recommends a change in monitoring schedule from annual sampling to quarterly sampling of MW-1 through MW-4 in order to monitor ongoing natural attenuation at the site. The next sampling event will take place in September of 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

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

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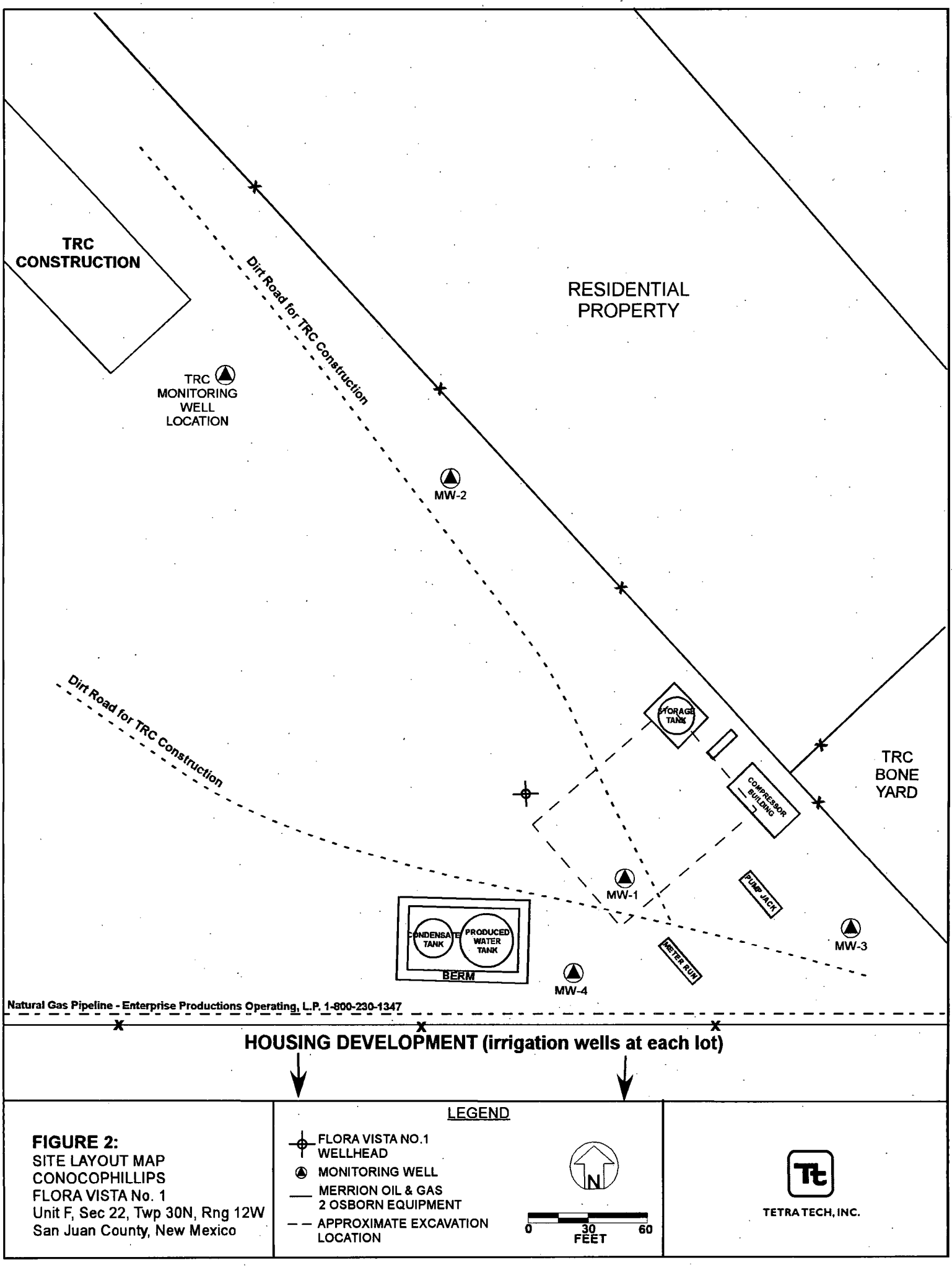

FIGURE 2:
SITE LAYOUT MAP
CONOCOPHILLIPS
FLORA VISTA No. 1
Unit F, Sec 22, Twp 30N, Rng 12W
San Juan County, New Mexico

LEGEND

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

N

0 30 60
FEET

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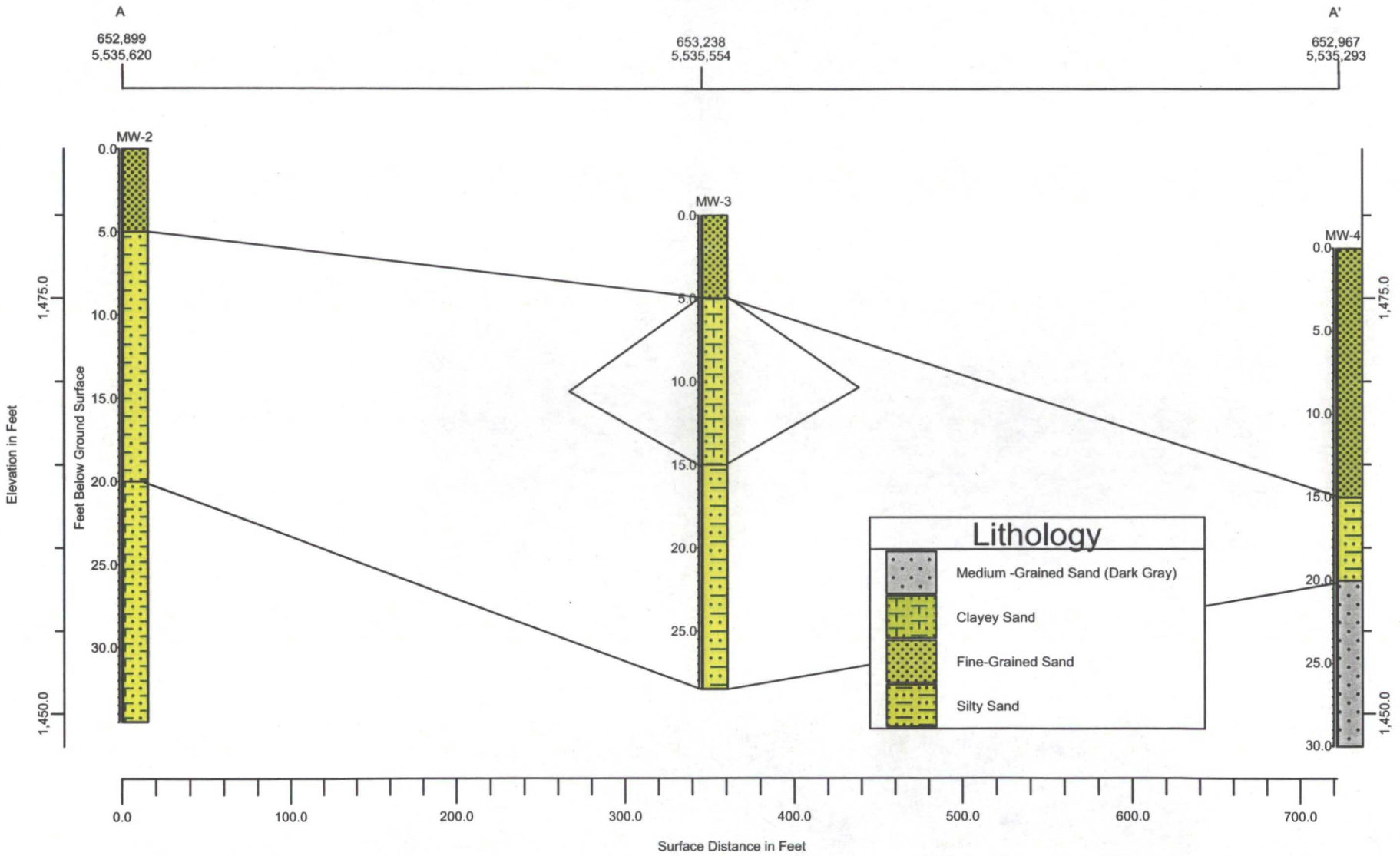
Figure 3.

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



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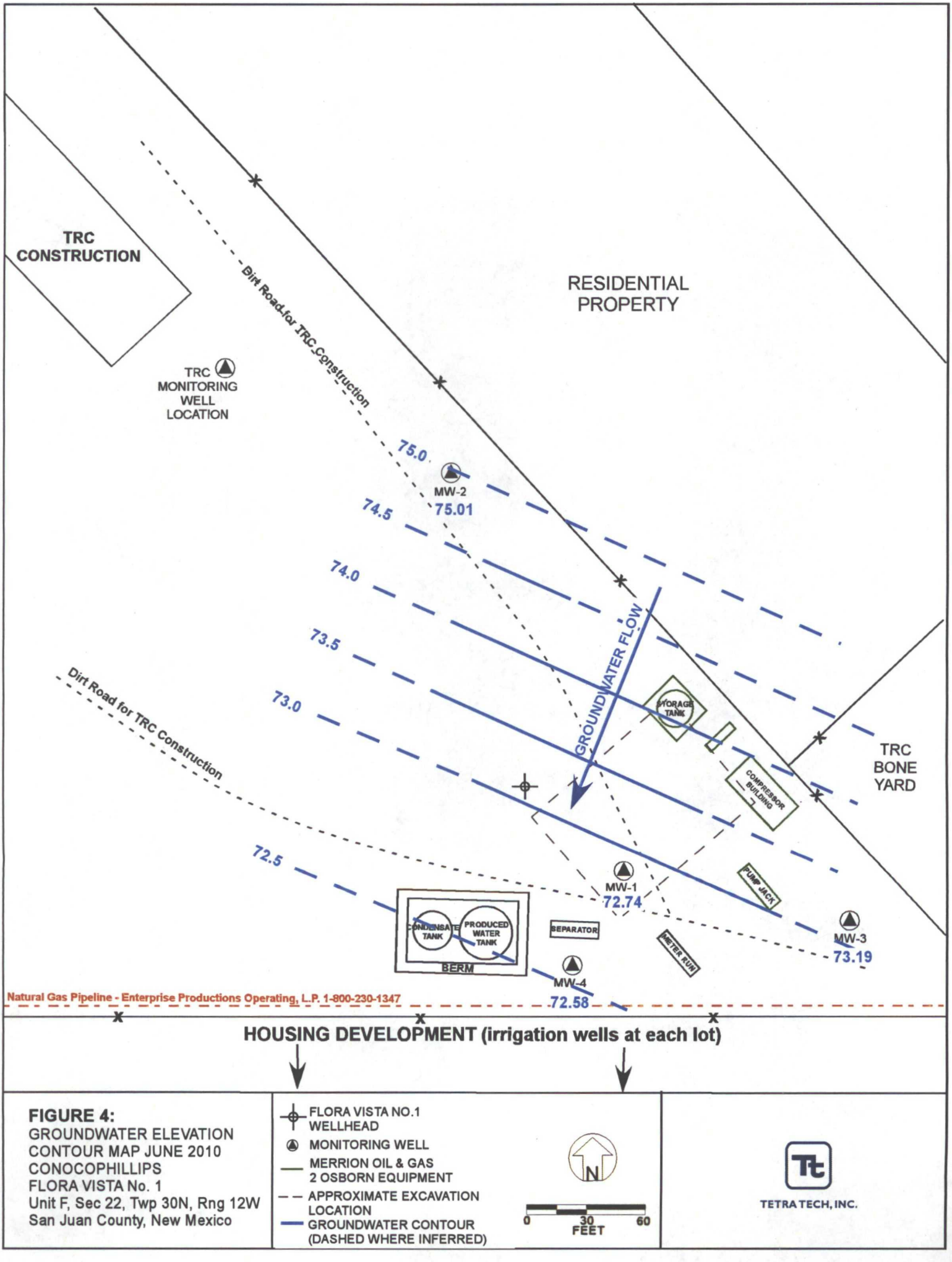

FIGURE 4:
GROUNDWATER ELEVATION CONTOUR MAP JUNE 2010
CONOCOPHILLIPS
FLORA VISTA No. 1
Unit F, Sec 22, Twp 30N, Rng 12W
San Juan County, New Mexico

- 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.

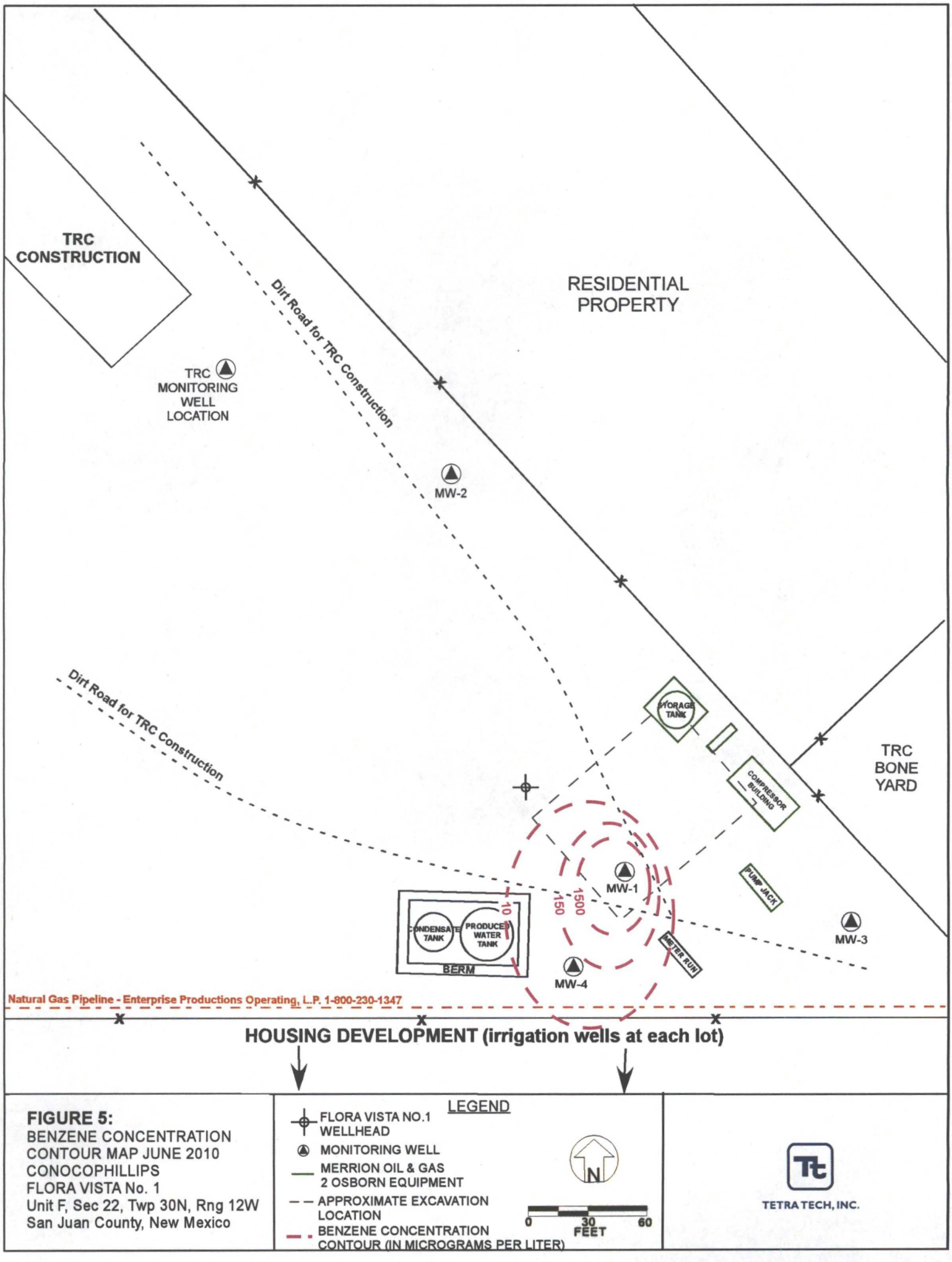

FIGURE 5:
BENZENE CONCENTRATION CONTOUR MAP JUNE 2010
CONOCOPHILLIPS
FLORA VISTA No. 1
Unit F, Sec 22, Twp 30N, Rng 12W
San Juan County, New Mexico

TABLES

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 routine production 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
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
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
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

*Casing elevations are based on a 100 foot relative surface elevation of 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**

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	< 5.0	< 5.0	< 5.0	< 5.0	115	0.656*	0.248*
	1/28/2009	< 5.0	< 5.0	< 5.0	< 5.0	NA	NA	NA
	9/30/2009	<1.0	<1.0	<1.0	<1.0	123	0.0223	< 0.00500
	6/11/2010	<1.0	<1.0	<1.0	<1.0	156	< 0.0200	< 0.00500
MW-3	10/21/2008	< 5.0	< 5.0	< 5.0	< 5.0	93	0.739*	0.0867*
	1/28/2009	< 5.0	< 5.0	< 5.0	< 5.0	NA	NA	NA
	9/30/2009	<1.0	<1.0	<1.0	<1.0	144	0.0543	< 0.00500
	6/10/2010	<1.0	<1.0	<1.0	<1.0	122	0.0425	< 0.00500
MW-4	10/21/2008	**39**	< 5.0	31	180	90.1	8.4*	4.16*
	1/28/2009	**660**	< 5.0	64	583	NA	NA	NA
	9/30/2009	**340**	<1.0	54	572	48.9	0.148	**4.48**
	6/10/2010	**140**	< 1.0	27	252	53.3	0.0566	**4.65**
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

act No.

Site Location Flora Vista, NM

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

Weather Sunny, hot 95° Time Sampling Began 1500 Time Sampling Completed 1700

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 26.02 25.86 Water-Level Elevation

Held Depth to Water Below MP 21.64

Diameter of Casing 2"

Wet Water Column in Well 4.22 Gallons Pumped/Bailed Prior to Sampling

Gallons per Foot 0.16

Gallons in Well .6752 Sampling Pump Intake Setting (feet below land surface)

Purging Equipment Purge pump / Bailer X3= 2.0256

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm³)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)
1503	14.89	6.45	1.033	—	3.79	34.0	-40.8	1.0
1506	14.74	6.85	~~1.039~~ 1.039	—	.92	8.9	-22.5	1.5
								2.0

Sampling Equipment Purge Pump/Bailer

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

Remarks H2O is dark gray with gray sediment, Hydrocarbon odor observed, no sheen Bailed dry @ 1.75 gallons @ 1510

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 Flora Vista No. 1 Page 2 of 4

ect No.

Site Location Flora Vista, NM

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

Weather sunny, hot 95° Time Sampling Began 1325 Time Sampling Completed 1355

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 Water-Level Elevation

Held Depth to Water Below MP 22.09

Wet Water Column in Well 9.26 Diameter of Casing 2"

Gallons Pumped/Bailed Prior to Sampling

Gallons per Foot 0.16

Gallons in Well 1.48 X3 = 4.44

Sampling Pump Intake (feet below land

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.)
1349	15.06	6.84	.905	—	5.17	51.2	114.6	3
1352		6.73	.905	—	4.92	48.7		3.25

Sampling Equipment Purge Pump/Bailer

Constituents Sampled	Container Description	Preservative
BTEX	3 40mL VOA's	HCl
Sulfate		
Dissolved Fe & Mn		

Remarks bailed dry @ 2.5 gallons, H₂O is mostly clear to light brown. no odor no sheen

Sampling Personnel CM & CB

Well Casing Volumes

Gal./ft.							
	1¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1½" = 0.10	2½" = 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

Project No.:

Site Location: Flora Vista, NM

Site/Well No.: MW-3 — Coded/ Replicate No.: — Date: 6/10/10

Weather: Sunny, hot 95° — Time Sampling Began: 1520 — Time Sampling Completed: 1555

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: ~~30.87~~ 30.51 — Water-Level Elevation:

Held: — Depth to Water Below MP: 14.71 — Diameter of Casing: 2"

Wet: — Water Column in Well: 10.80 — Gallons Pumped/Bailed Prior to Sampling: 5.25

Gallons per Foot: 0.16

Gallons in Well: 1.728 X3 = 5.184 — Sampling Pump Intake Setting (feet below land surface):

Purging Equipment: Purge pump / Bailer & MS

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm³)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)
1549	14.61	6.89	.782	—	5.01	48.2	79.4	4.0
1551	14.52	6.88	.784	—	4.12	40.3	78.5	4.5
1553	14.53	6.87	.782	—	3.84	37.6	83.4	5.0

Sampling Equipment: Purge Pump/Bailer

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

Remarks: H_2O is clear to light brown. 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 Flora Vista No. 1 Page 4 of 4

ect No.

Site Location Flora Vista, NM

Site/Well No. MW-4 Coded/ Replicate No. 1640 Date 6/10/10

Weather Time Sampling Began 1610 Time Sampling Completed 1635

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 ~~30.42~~ 30.48 Water-Level Elevation

Held Depth to Water Below MP 21.02 Diameter of Casing 2"

Wet Water Column in Well 9.46 Gallons Pumped/Bailed Prior to Sampling ~4.5

Gallons per Foot 0.16

Gallons in Well 1.5136 Sampling Pump Intake Setting (feet below land surface)

Purging Equipment Purge pump / Bailer X3 = 4.5408

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)
1627	15.18	7.02	1.051	—	2.47	23.7	-89.5	3.5
1629	14.78	6.99	1.053	—	1.29	12.6	-90.6	4.0
1631	14.53	6.95	1.053	—	1.15	11.2	-89.9	4.5

Sampling Equipment Purge Pump/Bailer

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

Remarks water is clear with black particulates, strong hydrocarbon color and a spotty sheen.

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

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 29, 2010

Workorder: H10060336

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.: T104704205-09-1

This Report Contains A Total Of 21 Pages

Excluding Any Attachments

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Certificate of Analysis

June 29, 2010

Workorder: H10060336

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.: T104704205-09-1

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.

Upon receipt of your samples, the lab received vials labeled as "#34" collected on 6/10/10 at 14:25 for BTEX however this ID is not listed on the COC. Per clients request, "#34" was logged in for BTEX.

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).

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Certificate of Analysis

June 29, 2010

Workorder: H10060336

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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.: T104704205-09-1

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

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

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

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

Erica Cardenas, Senior Project Manager

Enclosures

SPL Inc.
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Houston, TX 77054
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SAMPLE SUMMARY

Workorder: H10060336 : COP - Flora Vista

Project Number: COP - Flora Vista

Lab ID	Sample ID	Matrix	COC ID	Date/Time Collected	Date/Time Received
H10060336001	MW-1	Water		6/10/2010 17:00	6/15/2010 09:00
H10060336002	MW-2	Water		6/11/2010 13:55	6/15/2010 09:00
H10060336003	MW-3	Water		6/10/2010 15:55	6/15/2010 09:00
H10060336004	MW-4	Water		6/10/2010 16:35	6/15/2010 09:00
H10060336005	DUPLICATE	Water		6/10/2010 16:40	6/15/2010 09:00
H10060336006	TRIP BLANK	Water		6/14/2010 11:00	6/15/2010 09:00
H10060336007	#34	Water		6/10/2010 14:25	6/15/2010 09:00

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ANALYTICAL RESULTS

Workorder: H10060336 : COP - Flora Vista

Project Number: COP - Flora Vista

Lab ID: **H10060336001**
Sample ID: **MW-1**

Date/Time Received: 6/15/2010 09:00
Date/Time Collected: 6/10/2010 17:00

Matrix: Water

WET CHEMISTRY

Analysis Desc: EPA 300.0

Analytical Batches:
Batch: 1337 EPA 300.0 on 06/16/2010 11:37 by CFS

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Sulfate	27.0		5.00	0.435	10			1337

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B

Preparation Batches:
Batch: 1829 SW-846 3010A on 06/15/2010 16:00 by R_V
Analytical Batches:
Batch: 1467 SW-846 6010B on 06/26/2010 17:15 by EBG DF = 1
Batch: 1467 SW-846 6010B on 06/28/2010 15:44 by EBG DF = 1

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Iron	0.126		0.0200	0.00640	1		1829	1467
Manganese	1.28		0.00500	0.000300	1		1829	1467

VOLATILES

Analysis Desc: SW-846 8260B

SW-846 5030Analytical Batches:
Batch: 2071 SW-846 8260B on 06/21/2010 20:24 by LKL DF = 1
Batch: 2079 SW-846 8260B on 06/22/2010 17:28 by LKL DF = 25

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	1700		25	2.5	25			2079
Ethylbenzene	330		25	3.8	25			2079
Toluene	1.2		1.0	0.29	1			2071
m,p-Xylene	990		25	4.6	25			2079
o-Xylene	ND		1.0	0.13	1			2071
Xylenes, Total	990		1.0	0.13	25			2079
4-Bromofluorobenzene (S)	104 %		74-125		1			2071
4-Bromofluorobenzene (S)	107 %		74-125		25			2079
1,2-Dichloroethane-d4 (S)	87.4 %		70-130		25			2079
1,2-Dichloroethane-d4 (S)	93.3 %		70-130		1			2071
Toluene-d8 (S)	94.9 %		82-118		25			2079
Toluene-d8 (S)	99 %		82-118		1			2071

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ANALYTICAL RESULTS

Workorder: H10060336 : COP - Flora Vista | Project Number: COP - Flora Vista

Lab ID: **H10060336002** | Date/Time Received: 6/15/2010 09:00 | Matrix: Water

Sample ID: **MW-2** | Date/Time Collected: 6/11/2010 13:55

WET CHEMISTRY

Analysis Desc: EPA 300.0 | Analytical Batches:

Batch: 1337 EPA 300.0 on 06/16/2010 11:53 by CFS

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Sulfate	156		5.00	0.435	10			1337

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B | Preparation Batches:

Batch: 1829 SW-846 3010A on 06/15/2010 16:00 by R_V

Analytical Batches:

Batch: 1467 SW-846 6010B on 06/26/2010 17:21 by EBG DF = 1

Batch: 1467 SW-846 6010B on 06/28/2010 15:56 by EBG DF = 1

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Iron	ND		0.0200	0.00640	1		1829	1467
Manganese	ND		0.00500	0.000300	1		1829	1467

VOLATILES

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

Batch: 2079 SW-846 8260B on 06/22/2010 13:25 by LKL

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.10	1			2079
Ethylbenzene	ND		1.0	0.15	1			2079
Toluene	ND		1.0	0.29	1			2079
m,p-Xylene	ND		1.0	0.18	1			2079
o-Xylene	ND		1.0	0.13	1			2079
Xylenes, Total	ND		1.0	0.13	1			2079
4-Bromofluorobenzene (S)	106 %		74-125		1			2079
1,2-Dichloroethane-d4 (S)	98.5 %		70-130		1			2079
Toluene-d8 (S)	95.5 %		82-118		1			2079

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ANALYTICAL RESULTS

Workorder: H10060336 : COP - Flora Vista | Project Number: COP - Flora Vista

Lab ID: **H10060336003** | Date/Time Received: 6/15/2010 09:00 | Matrix: Water

Sample ID: **MW-3** | Date/Time Collected: 6/10/2010 15:55

WET CHEMISTRY

Analysis Desc: EPA 300.0 | Analytical Batches:

Batch: 1337 EPA 300.0 on 06/16/2010 12:09 by CFS

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Sulfate	122		5.00	0.435	10			1337

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B | Preparation Batches:

Batch: 1829 SW-846 3010A on 06/15/2010 16:00 by R_V

Analytical Batches:

Batch: 1467 SW-846 6010B on 06/26/2010 17:27 by EBG DF = 1.

Batch: 1467 SW-846 6010B on 06/28/2010 16:03 by EBG DF = 1.

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Iron	0.0425		0.0200	0.00640	1		1829	1467
Manganese	ND		0.00500	0.000300	1		1829	1467

VOLATILES

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

Batch: 2071 SW-846 8260B on 06/21/2010 21:18 by LKL

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.10	1			2071
Ethylbenzene	ND		1.0	0.15	1			2071
Toluene	ND		1.0	0.29	1			2071
m,p-Xylene	ND		1.0	0.18	1			2071
o-Xylene	ND		1.0	0.13	1			2071
Xylenes, Total	ND		1.0	0.13	1			2071
4-Bromofluorobenzene (S)	105 %		74-125		1			2071
1,2-Dichloroethane-d4 (S)	92.3 %		70-130		1			2071
Toluene-d8 (S)	94.3 %		82-118		1			2071

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ANALYTICAL RESULTS

Workorder: H10060336 : COP - Flora Vista

Project Number: COP - Flora Vista

Lab ID: **H10060336004**
Sample ID: **MW-4**

Date/Time Received: 6/15/2010 09:00
Date/Time Collected: 6/10/2010 16:35

Matrix: Water

WET CHEMISTRY

Analysis Desc: EPA 300.0
Analytical Batches:
Batch: 1337 EPA 300.0 on 06/16/2010 12:25 by CFS

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Sulfate	53.3		5.00	0.435	10			1337

ICP DISSOLVED METALS

Analysis Desc: SW-846 6010B
Preparation Batches:
Batch: 1829 SW-846 3010A on 06/15/2010 16:00 by R_V
Analytical Batches:
Batch: 1467 SW-846 6010B on 06/26/2010 17:33 by EBG DF = 1
Batch: 1467 SW-846 6010B on 06/28/2010 15:50 by EBG DF = 1

Parameters	Results mg/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Iron	0.0566		0.0200	0.00640	1		1829	1467
Manganese	4.65		0.00500	0.000300	1		1829	1467

VOLATILES

Analysis Desc: SW-846 8260B
SW-846 5030Analytical Batches:
Batch: 2071 SW-846 8260B on 06/21/2010 21:46 by LKL

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	140		1.0	0.10	1			2071
Ethylbenzene	27		1.0	0.15	1			2071
Toluene	ND		1.0	0.29	1			2071
m,p-Xylene	240		1.0	0.18	1			2071
o-Xylene	12		1.0	0.13	1			2071
Xylenes, Total	252		1.0	0.13	1			2071
4-Bromofluorobenzene (S)	107 %		74-125		1			2071
1,2-Dichloroethane-d4 (S)	92.4 %		70-130		1			2071
Toluene-d8 (S)	93.9 %		82-118		1			2071

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ANALYTICAL RESULTS

Workorder: H10060336 : COP - Flora Vista

Project Number: COP - Flora Vista

Lab ID: **H10060336005**

Date/Time Received: 6/15/2010 09:00

Matrix: Water

Sample ID: **DUPLICATE**

Date/Time Collected: 6/10/2010 16:40

VOLATILES

Analysis Desc: SW-846 8260B

SW-846 5030Analytical Batches:

Batch: 2071 SW-846 8260B on 06/21/2010 22:12 by LKL

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	130		1.0	0.10	1			2071
Ethylbenzene	30		1.0	0.15	1			2071
Toluene	ND		1.0	0.29	1			2071
m,p-Xylene	250		1.0	0.18	1			2071
o-Xylene	13		1.0	0.13	1			2071
Xylenes, Total	263		1.0	0.13	1			2071
4-Bromofluorobenzene (S)	106 %		74-125		1			2071
1,2-Dichloroethane-d4 (S)	90.8 %		70-130		1			2071
Toluene-d8 (S)	97.5 %		82-118		1			2071

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ANALYTICAL RESULTS

Workorder: H10060336 : COP - Flora Vista

Project Number: COP - Flora Vista

Lab ID: **H10060336006**
Sample ID: **TRIP BLANK**

Date/Time Received: 6/15/2010 09:00
Date/Time Collected: 6/14/2010 11:00

Matrix: Water

VOLATILES

Analysis Desc: SW-846 8260B
SW-846 5030Analytical Batches:
Batch: 2079 SW-846 8260B on 06/22/2010 14:18 by LKL

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.10	1			2079
Ethylbenzene	ND		1.0	0.15	1			2079
Toluene	ND		1.0	0.29	1			2079
m,p-Xylene	ND		1.0	0.18	1			2079
o-Xylene	ND		1.0	0.13	1			2079
Xylenes, Total	ND		1.0	0.13	1			2079
4-Bromofluorobenzene (S)	105 %		74-125		1			2079
1,2-Dichloroethane-d4 (S)	94.7 %		70-130		1			2079
Toluene-d8 (S)	92.6 %		82-118		1			2079

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ANALYTICAL RESULTS

Workorder: H10060336 : COP - Flora Vista | Project Number: COP - Flora Vista

Lab ID: **H10060336007** | Date/Time Received: 6/15/2010 09:00 | Matrix: Water

Sample ID: **#34** | Date/Time Collected: 6/10/2010 14:25

VOLATILES

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

Batch: 2079 SW-846 8260B on 06/22/2010 13:52 by LKL

Parameters	Results ug/l	Qual	Report Limit	MDL	DF	RegLmt	Batch Information Prep	Analysis
Benzene	ND		1.0	0.10	1			2079
Ethylbenzene	ND		1.0	0.15	1			2079
Toluene	ND		1.0	0.29	1			2079
m,p-Xylene	ND		1.0	0.18	1			2079
o-Xylene	ND		1.0	0.13	1			2079
Xylenes, Total	ND		1.0	0.13	1			2079
4-Bromofluorobenzene (S)	104 %		74-125		1			2079
1,2-Dichloroethane-d4 (S)	94.7 %		70-130		1			2079
Toluene-d8 (S)	94 %		82-118		1			2079

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QUALITY CONTROL DATA

Workorder: H10060336 : COP - Flora Vista Project Number: COP - Flora Vista

QC Batch: DIGM/1829 Analysis Method: SW-846 6010B

QC Batch Method: SW-846 3010A Preparation: 06/15/2010 16:00 by R_V

Associated Lab Samples: H10060328001 H10060328002 H10060328003 H10060328004 H10060335001 H10060335002 H10060336001 H10060336002 H10060336003 H10060336004

METHOD BLANK: 51057

Analysis Date/Time Analyst: 06/26/2010 15:12 EBG

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

LABORATORY CONTROL SAMPLE: 51058

Analysis Date/Time Analyst: 06/26/2010 15:18 EBG

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Iron	mg/l	1.0	1.045	104	80-120
Manganese	mg/l	0.10	0.1064	106	80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 51059 51060 Original: H10060328001

MS Analysis Date/Time Analyst: 06/26/2010 15:29 EBG

MSD Analysis Date/Time Analyst: 06/26/2010 15:35 EBG

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Iron	mg/l	0.0345	1.0	1.063	1.043	103	101	75-125	1.9	20
Manganese	mg/l	1.08	0.10	1.198	1.176	NC	NC	75-125	NC	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: H10060336 : COP - Flora Vista Project Number: COP - Flora Vista

QC Batch: IC/1337 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Associated Lab Samples: H10060336001 H10060336002 H10060336003 H10060336004 H10060349001 H10060368001

METHOD BLANK: 51377

Analysis Date/Time Analyst: 06/16/2010 08:50 CFS

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

LABORATORY CONTROL SAMPLE: 51378

Analysis Date/Time Analyst: 06/16/2010 09:07 CFS

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Sulfate	mg/l	10	10.41	104	85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 51379 51380 Original: H10060368001

MS Analysis Date/Time Analyst: 06/16/2010 14:25 CFS

MSD Analysis Date/Time Analyst: 06/16/2010 14:41 CFS

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Sulfate	mg/l	ND	10	9.85	9.324	98.5	93.2	80-120	5.5	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: H10060336 : COP - Flora Vista

Project Number: COP - Flora Vista

QC Batch: MSV/2070

Analysis Method: SW-846 8260B

QC Batch Method: SW-846 5030

Preparation: 06/21/2010 00:00 by LKL

Associated Lab Samples: H10060335001 H10060335002 H10060335003 H10060335004 H10060336001 H10060336003 H10060336004 H10060336005

METHOD BLANK: 52265

Analysis Date/Time Analyst: 06/21/2010 13:36 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)	%	103		74-125
1,2-Dichloroethane-d4 (S)	%	92.7		70-130
Toluene-d8 (S)	%	96.1		82-118

LABORATORY CONTROL SAMPLE: 52266

Analysis Date/Time Analyst: 06/21/2010 12:43 LKL

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Benzene	ug/l	20	21.7	109	74-123
Ethylbenzene	ug/l	20	20.4	102	72-127
Toluene	ug/l	20	21.5	107	74-126
m,p-Xylene	ug/l	40	40.7	102	71-129
o-Xylene	ug/l	20	20.4	102	74-130
Xylenes, Total	ug/l	60	61.07	102	71-130
4-Bromofluorobenzene (S)	%			105	74-125
1,2-Dichloroethane-d4 (S)	%			96.1	70-130
Toluene-d8 (S)	%			96.5	82-118

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 52267 52268 Original: H10060335002

MS Analysis Date/Time Analyst: 06/21/2010 14:58 LKL

MSD Analysis Date/Time Analyst: 06/21/2010 15:24 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	21.2	21.4	106	107	70-124	0.9	20
Ethylbenzene	ug/l	ND	20	18.4	19.0	92.2	94.8	35-175	2.8	20
Toluene	ug/l	ND	20	20.3	19.3	101	96.5	70-131	4.9	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: H10060336 : COP - Flora Vista

Project Number: COP - Flora Vista

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 52267 52268 Original: H10060335002

MS Analysis Date/Time Analyst: 06/21/2010 14:58 LKL

MSD Analysis Date/Time Analyst: 06/21/2010 15:24 LKL

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
m,p-Xylene	ug/l	ND	40	37.3	37.3	93.3	93.2	35-175	0.1	20
o-Xylene	ug/l	ND	20	19.1	19.0	95.4	94.8	35-175	0.6	20
Xylenes, Total	ug/l	ND	60	56.41	56.26	94.0	93.8	35-175	0.3	20
4-Bromofluorobenzene (S)	%	103				102	101	74-125		30
1,2-Dichloroethane-d4 (S)	%	91.3				92.2	94.5	70-130		30
Toluene-d8 (S)	%	95.9				97.0	91.3	82-118		30

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

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QUALITY CONTROL DATA

Workorder: H10060336 : COP - Flora Vista

Project Number: COP - Flora Vista

QC Batch: MSV/2078

Analysis Method: SW-846 8260B

QC Batch Method: SW-846 5030

Preparation: 06/22/2010 00:00 by LKL

Associated Lab Samples: H10060336001 H10060336002 H10060336006 H10060336007 H10060337002 H10060337003 H10060337006

METHOD BLANK: 52585

Analysis Date/Time Analyst: 06/22/2010 12:56 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)	%	106		74-125
1,2-Dichloroethane-d4 (S)	%	93.6		70-130
Toluene-d8 (S)	%	95.6		82-118

LABORATORY CONTROL SAMPLE: 52586

Analysis Date/Time Analyst: 06/22/2010 12:29 LKL

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits
Benzene	ug/l	20	19.7	98.3	74-123
Ethylbenzene	ug/l	20	18.2	91.1	72-127
Toluene	ug/l	20	19.2	95.9	74-126
m,p-Xylene	ug/l	40	36.7	91.8	71-129
o-Xylene	ug/l	20	18.2	90.9	74-130
Xylenes, Total	ug/l	60	54.91	91.5	71-130
4-Bromofluorobenzene (S)	%			106	74-125
1,2-Dichloroethane-d4 (S)	%			92.6	70-130
Toluene-d8 (S)	%			97.5	82-118

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 52587 52588 Original: H10060337003

MS Analysis Date/Time Analyst: 06/22/2010 18:21 LKL

MSD Analysis Date/Time Analyst: 06/22/2010 18:51 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	20.4	20.3	102	102	70-124	0.7	20
Ethylbenzene	ug/l	ND	20	18.0	18.5	90.1	92.5	35-175	2.6	20
Toluene	ug/l	ND	20	19.2	19.0	95.9	95.0	70-131	1.0	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: H10060336 : COP - Flora Vista

Project Number: COP - Flora Vista

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 52587 52588 Original: H10060337003

MS Analysis Date/Time Analyst: 06/22/2010 18:21 LKL

MSD Analysis Date/Time Analyst: 06/22/2010 18:51 LKL

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
m,p-Xylene	ug/l	ND	40	36.6	36.9	91.5	92.4	35-175	1.0	20
o-Xylene	ug/l	ND	20	18.7	18.2	93.3	91.0	35-175	2.6	20
Xylenes, Total	ug/l	ND	60	55.25	55.13	92.1	91.9	35-175	0.2	20
4-Bromofluorobenzene (S)	%	104				107	106	74-125		30
1,2-Dichloroethane-d4 (S)	%	91.7				93.4	94.8	70-130		30
Toluene-d8 (S)	%	93.4				94.8	96.1	82-118		30

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

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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: H10060336 : COP - Flora Vista

Project Number: COP - Flora Vista

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
H10060336001	**MW-1**	SW-846 3010A	DIGM/1829	SW-846 6010B	ICP/1467
H10060336002	**MW-2**	SW-846 3010A	DIGM/1829	SW-846 6010B	ICP/1467
H10060336003	**MW-3**	SW-846 3010A	DIGM/1829	SW-846 6010B	ICP/1467
H10060336004	**MW-4**	SW-846 3010A	DIGM/1829	SW-846 6010B	ICP/1467
H10060336001	**MW-1**	EPA 300.0	IC/1337		
H10060336002	**MW-2**	EPA 300.0	IC/1337		
H10060336003	**MW-3**	EPA 300.0	IC/1337		
H10060336004	**MW-4**	EPA 300.0	IC/1337		
H10060336001	**MW-1**	SW-846 5030	MSV/2070	SW-846 8260B	MSV/2071
H10060336003	**MW-3**	SW-846 5030	MSV/2070	SW-846 8260B	MSV/2071
H10060336004	**MW-4**	SW-846 5030	MSV/2070	SW-846 8260B	MSV/2071
H10060336005	**DUPLICATE**	SW-846 5030	MSV/2070	SW-846 8260B	MSV/2071
H10060336001	**MW-1**	SW-846 5030	MSV/2078	SW-846 8260B	MSV/2079
H10060336002	**MW-2**	SW-846 5030	MSV/2078	SW-846 8260B	MSV/2079
H10060336006	**TRIP BLANK**	SW-846 5030	MSV/2078	SW-846 8260B	MSV/2079
H10060336007	**#34**	SW-846 5030	MSV/2078	SW-846 8260B	MSV/2079

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Sample Receipt Checklist

WorkOrder:	H10060336	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?	NO
	Lab received vials called #34 collected on 6/10/10 at 14:25 for BTEX (per client container label) not listed on COC. Logged in per container label.	
7.	Samples in proper container/bottle?	YES
8.	Samples containers intact?	YES
9.	Sufficient sample volume for indicated test?	YES
	Received only one container for analysis so login split sample MW-4 into 1 / 16 oz plastic container.	
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*)?	YES

*VOA Preservation Checked After Sample Analysis

SPL Representative:	Erica Cardenas	Contact Date & Time:	6/16/2010
Client Name Contacted:	Christine Matthews		
Client Instructions:	Analyze #34 for BTEX.		

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SPL, Inc.

Analysis Request & Chain of Custody Record

H10060336

290408

page 1 of 1

Client Name: Tetra Tech / ConocoPhillips
Address: 6121 Indian School Rd NE #200
City: ABQ State: NM Zip: 87110
Phone/Fax: 505.237.8440 505.237.8537
Client Contact: Kelly Blanchard Email: kelly.blanchard@tetratech.com
Project Name/No.: Flora Vista
Site Name:
Site Location: Flora Vista, NM
Invoice To: ConocoPhillips Ph:

SAMPLE ID	DATE	TIME	comp	grab	matrix (W=water S=soil O=oil A=air SL=sludge E=emore 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	Sulfate	Dissolved Fe SM
MW-1	6.10.10	1700		X	W	V	40	1	3	X		
MW-1	6.10.10	1700		X	W	P	16	Ø	2		X	X
MW-2	6.10.10	1355		X	W	V	40	1	3	X		
MW-2	6.10.10	1355		X	W	P	16	Ø	2		X	X
MW-3	6.10.10	1555		X	W	V	40	1	3	X		
MW-3	6.10.10	1555		X	W	P	16	Ø	2		X	X
MW-4	6.10.10	1635		X	W	V	40	1	3	X		
MW-4	6.10.10	1635		X	W	P	16	Ø	1		X	X
Duplicate	6.10.10	1640		X	W	V	40	1	3	X		
Trip Blank	6.14.10	1100			W	V	40	1	2	X		

RUSH

Client/Consultant Remarks:
Please filter & preserve metals containers
MW-2 Collected on 6-11-10 MW-4 only (1) 16oz. Bottles Defective

Laboratory remarks:

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

Requested TAT

☐ 1 Business Day ☐ Contract
☐ 2 Business Days X Standard
☐ 3 Business Days
☐ Other
Rush TAT requires prior notice

Special Reporting Requirements / Results: Fax ☐ Email X PDF X
Standard QC X 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 9:00	6. Received by Laboratory:

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

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

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

Report ID: H10060336_6089
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