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6121 Indian School Rd. NE Suite 200

Albuquerque, NM 87110

(505) 237-8440

January 25, 2010

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

> RE: ConocoPhillips Faye Burdette No. I Quarterly Groundwater Monitoring Report Aztec, New Mexico

Dear Mr. von Gonten:

Enclosed please find a copy of the above-referenced document as compiled by Tetra Tech, Inc., formerly Maxim Technologies, for this Aztec area site.

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

Sincerely,

Kelly & Blanchard

Kelly E. Blanchard Project Manager/Geologist

Enclosures (1)

QUARTERLY GROUNDWATER MONITORING REPORT SEPTEMBER 2009 SAMPLING EVENT

CONOCOPHILLIPS COMPANY FAYE BURDETTE NO. I API No. 30-045-09725 AZTEC, NEW MEXICO

Prepared for:



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. 9690127.100

October 2009

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QUARTERLY GROUNDWATER MONITORING REPORT CONOCOPHILLIPS FAYE BURDETTE NO. I, AZTEC, NEW MEXICO

I.0 INTRODUCTION

This report presents the results of quarterly groundwater monitoring completed by Tetra Tech, Inc. (Tetra Tech) on September 22, 2009, at the ConocoPhillips Company Faye Burdette No. I site in Aztec, New Mexico (Site). This event represents the fifth quarter of groundwater sampling conducted by Tetra Tech at the Site.

The Site is located near the intersection of Highway 550 and Pioneer Avenue in Aztec, NM. The Site consists of a gas production well head and associated equipment and installations. The location and general features of the Site are shown on **Figures I** and **2**, respectively.

I.I Site History

The history of the Site is outlined in **Table 1**. The existing monitor well network consists of monitor wells MW-1, MW-2, MW-3, and MW-4. Monitor wells MW-2, MW-3, and MW-4 were installed during January 2009. All four monitor wells have been incorporated into a quarterly monitoring program that began after the groundwater sampling event of January 29, 2009.

2.0 METHODOLOGY AND RESULTS

The following subsections describe the groundwater monitoring methodology and sampling analytical results.

2.1 Monitoring Summary

Groundwater samples were collected from monitor wells MW-1, MW-2, MW-3, and MW-4 on September 22, 2009. Prior to sampling, depth to groundwater was measured in all monitor wells. A groundwater contour map, showing a general flow direction to the northwest, is provided in **Figure 3**. Groundwater elevation data is included in **Table 2**.

2.2 Groundwater Sampling Methodology

Between 3 to 6 gallons of water (approximately three well volumes) were purged from each monitor well before collecting groundwater samples. The purged water was disposed of in the on-site waste water tank. A 1.5-inch dedicated bailer was used to purge each well and collect groundwater samples. The samples were placed in laboratory prepared bottles, packed on ice, and shipped with chain of custody documentation to Southern Petroleum Laboratory (SPL) located in Houston, Texas. The groundwater samples were analyzed for the presence of benzene, toluene, ethyl-benzene, and xylenes (BTEX) by Environmental Protection Agency (EPA) Method 8260B, and for total metals including iron, manganese, and aluminum by EPA Methods SW-846 and 6010B. Groundwater sampling field forms are provided in **Appendix A**.

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2.3 Groundwater Sampling Analytical Results

Groundwater quality samples collected during the September 22, 2009 monitoring event indicate the following results:

- BTEX concentrations were below laboratory detection limits for all monitor wells
- The New Mexico Water Quality Control Commission (NMWQCC) groundwater quality standard for manganese was exceeded in monitor wells MW-1 and MW-4. The NMWQCC standard for manganese is 0.2 milligrams per liter (mg/L).

Table 3 summarizes the laboratory analytical results for the September 2009 groundwater samplingevent. The corresponding laboratory analysis report (including quality control summaries) is included in**Appendix B**.

3.0 CONCLUSIONS

Tetra Tech recommends continued quarterly groundwater sampling at the Site in order to provide sufficient data for Site closure. Site closure will be requested when groundwater quality results begin to indicate that all constituents of concern are consistently below NMWQCC groundwater quality standards. Please contact Kelly Blanchard at 505-237-8440 or kelly.blanchard@tetratech.com if you have any questions or require additional information.

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FIGURES

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TABLES

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Table 1. Site History Timeline - ConocoPhillips Company Faye Burdette No. 1

DATE	ΑCΤΙVΙΤΥ
29-Apr-1962	Well was spudded by Southwest Production Company.
1-Sep-1963	Ownership of well transferred to Beta Development Company.
21-Feb-1983	NMOCD inspection noted a leaky 2-inch valve on a storage tank.
15-Aug-1988	Ownership of well transferred to Mesa Operating Limited Partnership.
1-Jul-1991	Ownership of well transferred to Conoco Inc.
24-May-2007	A small (<25 gallons) release occurred from the produced water tank after a rusty spot was scraped off. Follow-up excavation encountered evidence of pre-existing hydrocarbon-impacted soil, apparently related to a former earthen pit beneath the tank.
Jul-07	Contaminated soil excavated from the Site. Two ground water samples were obtained at the time of this excavation, and one (1) of these samples was found to contain total xylenes above the State of New Mexico drinking water standard.
26-Sep-07	Ground water monitoring well installed to a depth of 15 feet below ground surface (bgs) by Envirotech Inc. of Farmington, NM (Envirotech). A soil sample obtained from the well boring was analyzed for benzene, BTEX and total petroleum hydrocarbons (TPH). Results were below NMOCD regulations of 10 parts per million (ppm), 50 ppm, and 100 ppm, respectively.
	A ground water sample was collected from the temporary monitoring well (MW-1) and analyzed for BTEX; results were below the State of New Mexico drinking water standard for this constituent. Depth to ground water recorded at 9.5 feet bgs.
Nov-07	Envirotech report recommends plugging and abandonment of the temporary ground water monitoring well and a no further action determination for the Site (Envirotech, 2007).
Apr-08	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.
22-Oct-08	1st quarter sampling of MW-1 by Tetra Tech.
Jan-09	Installed additional monitoring wells MW-2, MW-3 and MW-4.
29-Jan-09	2nd quarter sampling of MW-1 by Tetra Tech. Initial sampling of monitoring wells MW-2, MW-3, and MW-4.
31-Mar-09	3rd quarter sampling of MW-1 by Tetra Tech. 2nd quarter sampling of monitoring wells MW-2, MW-3, and MW-4.
17-Jun-09	4th quarter sampling of MW-1 by Tetra Tech. 3rd quarter sampling of monitoring wells MW-2, MW-3, and MW-4.
22-Sep-09	5th quarter sampling of MW-1 by Tetra Tech. 4th quarter sampling of monitoring wells MW-2, MW-3, and MW-4.

Table 2. Groundwater Elevation Data Summary - ConocoPhillips Company Faye Burdette No. 1

Well ID	Total Depth (ft bgs)	Screen Interval (ft)	*Elevation (ft) (TOC)	Date Measured	Depth to Groundwater (ft below TOC)	Relative Groundwater Elevation
				10/22/2008	10.91	86.75
				1/29/2009	11.72	85.94
MW-1	17.52	4.8 - 14.8	97.66	3/31/2009	11.88	85.78
				6/17/2009	11.24	86.42
				9/22/2009	10.87	86.79
				1/29/2009	10.91	87.63
	10 AE		00 51	3/31/2009	11.12	87.42
Z-771M	0	0.02 - 0.0	40.0p	6/17/2009	10.48	88.06
				9/22/2009	10.76	87.78
				1/29/2009	11.44	85.72
NVV 2	27 DE	5 0 20 0	07 1E	3/31/2009	11.62	85.54
C-111	02.27	0.04 - 0.0	0	6/17/2009	10.97	86.19
				9/22/2009	10.57	86.59
				1/29/2009	11.02	86.04
	30 26	50.200	07 NG	3/31/2009	11.18	85.88
	07.77	0.07	20.12	6/17/2009	10.59	86.47
				9/22/2009	10.16	86.90

ft = Feet

TOC = Top of casing

bgs = below ground surface

* Elevation relative to welihead, set at an arbitrary elevation of 100 feet above mean sea level.

Tetra Tech

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Table 3. Groundwater Laboratory Analytical Results - ConocoPhillips Company Faye Burdette No. 1

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Meli ID	Dato	Aluminum	Iron	Manganese	Benzene	Toluene	Ethylbenzene	Total Videoco (1)	
	Laic	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(µg/L)	I OLAI AVIEILES (HB/L)	
	10/22/2008	NA	3.74	2.09	<5	< 5	< 5	< 5	
	1/29/2009	2.14	2.77	1.41	< 5	< 5	< 5	<5	_
MW-1	3/31/2009	3.64	4.83	1.24	< 5	< 5	< 5	<5	_
	6/17/2009	2.5	5.58	2.47	< 5	< 5	< 5	< 5	_
	9/22/2009	0.443	0.445	1.44	<1 د	۲	۲	<1	_
	1/29/2009	AN	NA	AN	< 5	< 5 <	< 5	<5	-
MM/4 Dunlicate	3/31/2009	NA	NA	AN	< 5	< 5	< 5	<5	_
	6/17/2009	2.83	6.13	2.52	< 5	< 5	< 5	<5	_
	9/22/2009	NA	AN	NA	<1	4	<1 <	4	_
-	1/29/2009	4.15	3.15	1.79	< 5	د ح ح	< 5	<5	_
CTVIV	3/31/2009	1.17	1.02	0.326	< 5	< 5	< 5	<5	_
7-41141	6/17/2009	3.4	2.8	1.37	< 5	< 5	< 5	<5	_
	9/22/2009	<0.1	<0.02	0.0264	<1	<1	<1	<1	_
	1/29/2009	1.82	2.24	0.374	< 5	< 5	< 5	< 5	_
MM/23	3/31/2009	1.64	1.91	0.271	< 5	< 5	< 5	< 5	_
	6/17/2009	1.68	2.14	0.628	< 5	< 5	< 5	< 5	_
	9/22/2009	<0.1	0.0291	0.0201	<1		<1	4	-
	1/29/2009	6.92	3.17	4.15	< 5	< 5	< 5	< 5	_
NAVA.	3/31/2009	4.21	3.22	1.45	< 5	< 5	< 5	<5	_
	6/17/2009	2.43	2.05	0.854	< 5	< 5	< 5	< 5	_
	9/22/2009	<0.1	0.108	0.476	<1	1	<1	<1	_
Method		SW6010B	SW6010B	SW6010B	8260B	8260B	8260B	8260B	
NMWQCC Groundwater Quality	Standard	5.0	1.0	0.2	10	750	750	620	_

Notes:

MW = monitoring well MW2 = monitoring well NMWQCC = New Mexico Water Quality Control Commission Constituents in **BOLD** exceed NMWQCC groundwater quality standards mg/L = milligrams per liter μg/L = micrograms per liter NA = not analyzed S5 = result below laboratory detection limit.

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APPENDIX A

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Project Name	Faye Burdette No. 1				Page	1	of <u>4</u>
Project No.			·				
Site Location	Aztec, NM			······			
Site/Well No.	MW-1	Coded/ Replicate I	No.		Date	8 135	9/77
	<u>(</u> , , , , , , , , , , , , , , , , , , ,	Time Sam	pling 120		Time Sampling	g llu	-40
Veather	- uning (us)	Began _	122		Completed	[]]	<u>s in</u>
			EVACUATION D	ATA		191	5 Mu
Description of	f Measuring Point (MP)	Top of Casing					
leight of MP	Above/Below Land Surface	CO		MP Elevation			
otal Sounde	d Depth of Well Below MF	P <u>17.52</u>		Water-Level Ele	vation		
leid	Depth to Water Below	MP 10.1	87.	Diameter of Cas	ing <u>2"</u>		
Vet	Water Column in	Well L. Le	15	Gallons Pumped Prior to Samplin	g		
	Gallons in	Well I. ULY	2 7.10	(feet below land	surface)		
urging Equip	pment <u>Purge pump /</u>	Bailer SAMPLI	NG DATA/FIELD P	PARAMETERS			
Urging Equip	Temperature (°C)	SAMPLI	NG DATA/FIELD P Conductivity (µS/cn	PARAMETERS n ³] TDS (g/L)	DO (mg/L)	ORP (mV)	TURE
Time	Temperature (°C)	Bailer SAMPLI pH (, 42	NG DATA/FIELD P Conductivity (µS/cn	PARAMETERS n ³) TDS (g/L) .957.	DO (mg/L)	ORP (mV) 57,5 34,7 77,6	TUR1 166.5
Time Time IGUD IGSY	Purge pump / Temperature (°C) 1<8.17	Bailer pH (G. 42 G. 36 G. 53	NG DATA/FIELD P Conductivity (µS/cn	PARAMETERS n ³) TDS (g/L) .957 .772 .721 .751	DO (mg/L)	ORP (mV) 57.5 34.7 72.6	TUR1 166.5 414.3
Time Time 1400 1464 1464 1464 1464 1465	pment <u>Purge pump /</u> Temperature (°C)	Bailer SAMPLI pH G. Y. Z. G. S. S. Purge Pump/Bai	NG DATA/FIELD P Conductivity (µS/cn	PARAMETERS n ⁻¹) TDS (g/L) .952. .772. .751	DO (mg/L)	ORP (mV) 57,5 34,7 72.6	TUR 166.5 414.3
Time Time IU00 IU04 ampling Equ	pment <u>Purge pump /</u> Temperature (°C)	Bailer SAMPLI pH G. Y Z G. 3 G G. 3 G Purge Pump/Bai	NG DATA/FIELD P Conductivity (µS/cn	ARAMETERS n ³) TDS (g/L) 952 	DO (mg/L)	ORP (mV) 57,5 34,7 72.6 Preservative	TUR 166.5 414.3
Time Time IU00 IU04 ampling Equ Cons	pment Purge pump / Temperature (°C)	Bailer SAMPLI pH C C S C S C S S S S S S S S S S S S S	NG DATA/FIELD P Conductivity (µS/cn 1095 115 1224 iler <u>Container Descrip</u>	ARAMETERS n ³) TDS (g/L) 952 .772 .773)	DO (mg/L)	ORP (mV) 57,5 34,7 72.6 Preservative	TUR 166.5 414.3
Time Time MUD UCY Cons TEX	Purge pump /	Bailer SAMPLI pH G. Y Z G. S S Purge Pump/Bai	NG DATA/FIELD P Conductivity (µS/cn \095 \115 \125 iler <u>Container Descrip</u> OA's	PARAMETERS n ³) TDS (g/L) 952 772 73) 100	DO (mg/L)	ORP (mV) 57,5 34,7 72.6 Preservative	TUR 166.5 414.3
Time Time MUD USY Cons TEX	Purge pump / Temperature (°C)	Bailer SAMPLI pH G. Y Z G. S Purge Pump/Bai	NG DATA/FIELD P Conductivity (µS/cn \095 \115 \125 iler Container Descrip	ARAMETERS n ³) TDS (g/L) .952 .721 .73) .13) tion	DO (mg/L)	ORP (mV) 57,5 34,7 72.6 Preservative	TUR 166.5 414.3
Time Time MUD LUSY Cons Sampling Equ Cons STEX	Purge pump / Temperature (°C)	Bailer SAMPLI pH G. Y Z G. S Purge Pump/Bai	NG DATA/FIELD P Conductivity (µS/cn \095 \115 \1254 iler Container Descrip OA's	PARAMETERS n ³ TDS (g/L) .952 .772 .772 .773 .1151	DO (mg/L)	ORP (mV) 57,5 34,7 72.6 Preservative	TUR 166.5 414.3
Time Time IV(0) UV UV ampling Equ Cons TEX	Purge pump / Temperature (°C) 18.15 18.43 uipment tituents Sampled A DP(BTE2) LH, Maluw	Bailer SAMPLI pH G. Y Z G. S G Purge Pump/Bai <u>3 40mL VC</u>	NG DATA/FIELD P Conductivity (µS/cn 1095 115 125 125 iler Container Descrip OA's	PARAMETERS n ⁻] TDS (g/L) .952 .772 .772 .773 	DO (mg/L)	ORP (mV) 57,5 34,7 72.6 Preservative	TUR 166.5 414.3
Time Time IQUD IQUD IQUD IQUD IQUD IQUD IQUD IQUD	Purge pump / Temperature (°C) 18.15 18.43 uipment tituents Sampled DP(BTE2) LH, Malum rsonnel	Bailer SAMPLII pH (, Y Z (, Z G C, Z G C	NG DATA/FIELD P Conductivity (µS/cn \095 \115 \1254 iler Container Descrip OA's	ARAMETERS n ⁻] TDS (g/L) .952 .772 .772 .773 	DO (mg/L)	ORP (mV) 57,5 34,7 72.6 Preservative	TUR 166.5 414.3
Time Time IGO IGO Cons Cons TEX FC, Mo Icmarks Lemarks Lemarks	Purge pump / Temperature (°C) 18.15 18.43 Uipment tituents Sampled A DP(BTE2) LH, Muluy rsonnel	Bailer SAMPLII pH G. 4 Z G. 3 G Purge Pump/Bai 3 40mL VC	NG DATA/FIELD P Conductivity (µS/cm \D95 \124 iler Container Descrip OA's Scier or S Well Casing V	ARAMETERS n ³) TDS (g/L) .952 .722 .721 tion tion	DO (mg/L)	ORP (mV) 57.5 34.7 ZZ.6 Preservative	TUR1 166.5 414.3
Purging Equip Time (40) (100 (100) Sampling Equip Sampling Equip Sampling Equip Sampling Per Sampling Per	Purge pump / Temperature (°C) 18.15 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.45 18.45	Bailer SAMPLII pH (, 42 (, 36 (, 36 (, 36 (, 36 (, 36 (, 36 (, 36 (, 36 (, 36 (, 12 (, 36 (, 36 (, 12 (, 12))))))))))))))))))))))))))))))))))))	NG DATA/FIELD P Conductivity (µS/cn \09 \115 \124 iler Container Descrip OA's Cler Or Well Casing V 2" = 0.16	ARAMETERS n ³) TDS (g/L) .952 .721 .7131 tion Volumes 3" =	DO (mg/L)	ORP (mV) 57,5 34,7 72.6 Preservative	TUR 166.5 414.3

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Tt:	A TECH, INC.	WATER SA	MPLING FIELD FOR	RM
Project Name	Faye Burdette No. 1		······	Page <u>2</u> of <u>4</u>
Project No.				
Site Location	Aztec, NM			
Site/Well No.	MW-2	Coded/ Replicate No.	Date	glillog
Weather	Cool breeze	Time Sampling Began132	Time : 2 Comp	Sampling lieted 1240
		EVACUATION	DATA	, ,
Description of	Measuring Point (MP)	Top of Casing		
Height of MP	Above/Below Land Surfa	ICe	MP Elevation	
Total Sounder	d Depth of Well Below M	P <u>19.45</u>	Water-Level Elevation	
Held	_ Depth to Water Belo	WMP 10.76	Diameter of Casing	2"
Wet	Water Column ir	1 Well 8.69	Prior to Sampling	
	Gallons pe Gallons ir	$\frac{0.16}{1.391 \times 3^{-2} - 4.17}$	Sampling Pump Intake (feet below land	e
Purging Equip	oment Purge pump	/ Bailer		
Time	Temperature (°C)	SAMPLING DATA/FIELD	PARAMETERS	(mall) LORP (mV) TURIR
1330	17,45	6,13 1074	-69× 2,	01 171.4 (100-Flashi
124	6.23	$\begin{array}{c c} 0.32 \\ 0.39 \\ 0.18 \end{array}$	709 2.	47 1847 615 2
Sampling Equ	ipment	Purge Pump/Bailer		
Const	lituents Sampled	Container Desc	ription	Preservative
BTEX		3 40mL VOA's	HCI	
AL FC,	Mn	32 02	No	UNL
			· · · · · · · · · · · · · · · · · · ·	-
Remarks		no Super). R	mus silk w	c ter
Sampling Per	sonnei <u>GD</u>			······································
		Well Casing	Volumes	
	Gal./ft. 1 ¼" =	0.077 2" = 0.16	3" = 0.37	4" = 0.65
	1 1⁄2" =	0.10 2 ½" = 0.24	$3'' \frac{1}{2} = 0.50$	6" = 1.46

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Tt Terra	TECH, INC.		WATER	SAMPLING	; FIELD	FORM		
Project Name	Faye Burdette No	<u>. 1 </u>				Paç	je <u>3</u>	of <u>4</u>
Project No.								
Site Location	Aztec, NM			<u> </u>				
Site/Well No.	<u>MW-3</u>	Code Repli	d/ cate No.			Date	9/22/0	9
Weather	700	Time Bega	Sampling n	1345		Time Sample Completed	^{ing} 135	D
,			EVACUAT	ION DATA				
Description of	Measuring Point (I	MP) Top of Cas	ing					
Height of MP	Above/Below Land	Surface		MP E	levation			
Total Sounded	Depth of Well Be	ow MP2	2.96	Wate	r-Level Ele	vation		
Held	Depth to Wate	r Below MP	10.57	Diam	eter of Cas	ing <u>2"</u>		
Wet	Water Colu	umn in Well	2.39	Gallo Prior	ns Pumpeo to Samplin	J/Bailed		
	Gallo	ns per Foot	$\frac{0.16}{\sqrt{2} - 694}$	Sam	ling Pump	Intake Setting	g .	
Duraina Equin	gan mont Durge n			(iceri	Deluwianu			
r urging Equip	nen <u>ruige</u> p							
Time	Temperature (°C) pH	Conductivity	(µS/cm ³) Ti	DS (g/L)	DO (mg/L)	ORP (mV)	Turb
1746	15.86	6.62	- 1051		<u>1683</u>	264	26,2	233.1
								ייי <i>ו</i>
·····					- <u></u>			
Sampling Equ	ipment	Purge Pum	p/Bailer			. <u> </u>		
Const	ituents Sampled		Container [Description			<u>Preservative</u>	
BTEX	· · · · · · · · · · · · · · · · · · ·	<u>3 40r</u>	nL VOA's			HCI		
Dissolved	AL Fe M	<u>n (-</u>	32 07 plas	stic		rone.		
				<u> </u>		<u></u>		
				_	N			
Remarks	·			<u>+</u>				
Sampling Per	sonnel				<u></u>			. <u></u>
			Well Ca	sing Volumes				7
								1
	Gai./ft. 1 ½	4" = 0.077	2" = 0.10	3	3" =	0.37	4" = 0.65	

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TETRA	TECH, INC.	WATE	R SAMPLING I	FIELD FORM	
Project Name	Faye Burdette No. 1			P:	age4 of4
Project No.					
Site Location	Aztec, NM				
Site/Well No.	MW-4	Coded/ Replicate No.		Date	9/22/09
Weather	70°	Time Sampling Began	1405	Time Sam Completed	pling 1415
	······································	EVACU		•	
Description of	Measuring Point (MP)	an of Casing			
Height of MP /	Nove/Below Land Surface			wation	
					,
I otal Sounded		22.28	VVater-L	Level Elevation	
Held	_ Depth to Water Below	MP	_ Diamete Gallons	er of Casing <u>2</u> Pumped/Bailed	a
Wet	- Water Column in V	Well 12.12	_ Prior to	Sampling	
	Gallons per l Gallons in ^v	Foot0.16 Well_ <u>1.93x3=5</u>	3 -79 Samplir (feet be	ng Pump Intake Setti low land surface)	ng
Purging Equip	ment Purge pump / E	Bailer			
		SAMPLING DATA	VFIELD PARAMETEI	RS	
Time	Temperature (°C)	pH Conducti	vity (µS/cm ³) TDS チーロー	3 (g/L) DO (mg/ 7/4 25	L) ORP (mV) 142
1410	16.97	6.61 105	5 0,0	685 209	21.7 435.3
1413	7.30	6.46 164	<u>s </u>	076 2.18	12.6 499.6
Sampling Equi	pment <u>F</u>	Purge Pump/Bailer			
Const	ituents Sampled	Contain	er Description		Preservative
BTEX		3 40mL VOA's		HCI	
Dissolved	AL, Fe, Mn	1-32-07 p	lastic	non	2
<u> </u>	· · ·	·			
Remarks	<u> </u>			<u> </u>	
Sampling Pers	onnel		<u></u>		
	· ·	Well	Casing Volumes	· <u></u>	·
	Gal./ft. $1\frac{1}{4}^{\circ} = 0$.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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APPENDIX B

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Conoco Phillips

Certificate of Analysis Number: <u>09091080</u>						
Report To:	Project Name:	COP Faye-Burdette				
Tetra Tech, Inc.	Site:	Aztec, NM				
Kelly Blanchard	Site Address:					
6121 Indian School Road, N.E.						
Suite 200			·			
Albuquerque	<u>PO Number:</u>					
NM	State:	New Mexico				
87110-	State Cert. No .:					
ph: (505) 237-8440 fax:	Date Reported:	10/4/2009				

This Report Contains A Total Of 15 Pages

Excluding This Page, Chain Of Custody

And

Any Attachments

10/5/2009

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



Case Narrative for: Conoco Phillips

Certificate of Analysis Number:

<u>09091080</u>						
Report To:	Project Name:	COP Faye-Burdette				
Tetra Tech, Inc.	Site:	Aztec, NM				
Kelly Blanchard	Site Address:					
6121 Indian School Road, N.E.						
Suite 200	PO Number					
Albuquerque	PO Nulliber:					
NM	State:	New Mexico				
87110-	State Cert. No.:					
ph: (505) 237-8440 fax:	Date Reported:	10/4/2009				

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.

Total Metals (6010):

Sample ID "MW-1" (SPL ID: 09091080-01) was randomly selected for use in SPL's quality control program for Batch ID: 94027. The MS and MSD recoveries were outside of the advisable quality control limits for Aluminum and Iron due to matrix interference. A Post Digestion Spike (PDS) and Post Digestion Spike Duplicate (PDSD) was performed and all recoveries were within quality control limits. A Laboratory Control Sample (LCS) was analyzed as a quality control check for the analytical batch and all recoveries were within acceptable limits.

III. GENERAL REPORTING COMMENTS:

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

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

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

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

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

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

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

- (adenas

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10/5/2009

Erica Cardenas Project Manager

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



Conoco Phillips Certificate of Analysis Number:

			<u>09091080</u>		
Report To:	Tetra Tech, Inc.			Project Name:	COP Faye-Burdette
	Kelly Blanchard			Site:	Aztec, NM
	6121 Indian School Road	, N.E.			
	Suite 200			Sile Audress:	
	Albuquerque				
	NM			PO Number:	
	87110-			<u>State:</u>	New Mexico
	ph: (505) 237-8440	fax: (505) 881-3283		State Cert. No.:	
Fax To:				Date Reported:	10/4/2009

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
MW-1	09091080-01	Water	9/22/2009 2:25:00 PM	9/23/2009 10:00:00 AM	331980	
MW-2	09091080-02	Water	9/22/2009 1:40:00 PM	9/23/2009 10:00:00 AM	331980	
MW-3	09091080-03	Water	9/22/2009 1:50:00 PM	9/23/2009 10:00:00 AM	331980	
MW-4	09091080-04	Water	9/22/2009 2:15:00 PM	9/23/2009 10:00:00 AM	331980	
Duplicate	09091080-05	Water	9/22/2009 2:15:00 PM	9/23/2009 10:00:00 AM	331980	
Trip Blank	09091080-06	Water	9/22/2009 3:00:00 PM	9/23/2009 10:00:00 AM	331980	

a Cardinas 6

Erica Cardenas Project Manager

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

> Ted Yen Quality Assurance Officer

> > 09091080 Page 2 10/5/2009 2:04:14 PM

10/5/2009 Date



8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

09/24/09 14:21 E_G

CI	ient	: Sam	ple ID:	MW-1
----	------	-------	---------	------

Collected: 09/22/2009 14:25 SPL Sample ID:

09091080-01

			Site: Az	tec, NM				
Analyses/Method	Resul	t QUAL	Rep.Limit	Di	il. Factor	Date Analyzed	Analyst	Seq. #
METALS BY METHO	DD 6010B, DISSOLVE	D		MCL	SV	V6010B U	nits: mg/L	
Aluminum	0.443		0.1		1	10/02/09 13:49	EG	5228661
Iron	0.445		0.02		1	10/02/09 13:49	EG	5228661
Manganese	1.44		0.005		1	10/02/09 13:49	EG	5228661
Prep Method	Prep Date	Prep Initials	Prep Factor					
SW3005A	09/23/2009 19:00	R_V	1.00					
VOLATILE ORGANI	CS BY METHOD 8260	B		MCL	SV	V8260B U	nits: ug/L	
Benzene	ND		1		1	09/24/09 14:21	E_G	5217990
Ethylbenzene	ND		1		1	09/24/09 14:21	E_G	5217990
Toluene	ND		1		1	09/24/09 14:21	E_G	5217990
m,p-Xylene	ND		2		1	09/24/09 14:21	E_G	5217990
o-Xylene	ND		1		1	09/24/09 14:21	E_G	5217990
Xylenes,Total	ND		1		1	09/24/09 14:21	E_G	5217990
Surr: 1,2-Dichloroet	hane-d4 93.5		% 78-116		1	09/24/09 14:21	E_G	5217990
Surr: 4-Bromofluoro	benzene 110		% 74-125		1	09/24/09 14:21	E_G	5217990
Surr: Toluene-d8	98.4		% 82-118		1	09/24/09 14:21	E∙G	5217990

% 82-118

Qualifiers:

- ND/U Not Detected at the Reporting Limit
- B/V Analyte detected in the associated Method Blank
- * Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

E - Estimated Value exceeds calibration curve TNTC - Too numerous to count

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client	lient Sample ID:MW-2			Colle	cted: 09	/22/20	09 13:40	SPL Sa	nple	D: 0909	€ €1080-02
				Site	Azteo	c, NM			_		
Analys	ses/Method	Result	QUAL	Rep	.Limit		Dil. Facto	r Date Ana	lyzed	Analyst	Seq. #
META	LS BY METHOD	6010B, DISSOLVED)			MCL	S	W6010B	Un	nits: mg/L	
Alum	ninum	ND			0.1		1	10/02/09	14:23	EG	5228672
Iron		ND			0.02		1	10/02/09	14:23	EG	5228672
Man	ganese	0.0264			0.005		1	10/02/09	14:23	EG	5228672
	Prep Method	Prep Date	Prep Initials	Prep F	actor						
	SW3005A	09/23/2009 19:00	R_V	1.00							
VOLA	TILE ORGANICS	BY METHOD 8260E	3			MCL	S	W8260B	Ur	nits: ug/L	
Benz	zene	ND			1		1	09/24/09	17:16	E_G	5217993
Ethy	lbenzene	ND			1		1	09/24/09	17:16	E_G	5217993
Tolu	ene	ND			1		1	09/24/09	17:16	E_G	5217993
m,p-	Xylene	ND			2		1	09/24/09	17:16	E_G	5217993
o-Xy	lene	ND			1		1	09/24/09	17:16	E_G	5217993
Xyler	nes,Total	ND	· · · ·		1		1	09/24/09	17:16	E_G	5217993
Su	urr: 1,2-Dichloroethane	e-d4 98.0		%	78-116		1	09/24/09	17:16	E_G	5217993
Sı	urr: 4-Bromofluoroben:	zene 110		%	74-125		1	09/24/09	17:16	E_G	5217993
Sı	urr: Toluene-d8	101		%	32-118		1	09/24/09	17:16	E_G	5217993

Qualifiers:

ND/U - Not Detected at the Reporting Limit

 $\ensuremath{\mathsf{B/V}}$ - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

E - Estimated Value exceeds calibration curve TNTC - Too numerous to count

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID:MV	V-3		Coll	ected: 0	9/22/20	09 13:50	SPL Sam	ple I	D: 0909	1080-03
			Site	e: Azte	ec, NM					
Analyses/Method	Result	QUAL	Re	p.Limit		Dil. Factor	Date Analy	/zed	Analyst	Seq. #
METALS BY METHO	D 6010B, DISSOLVED)			MCL	. SV	V6010B	Un	its: mg/L	
Aluminum	ND	· · ·		0.1		1	10/02/09 1	4:27	EG	5228673
Iron	0.0291			0.02		1	10/02/09 1	4:27	EG	5228673
Manganese	0.0201			0.005		1	10/02/09 1	4:27	EG	5228673
Prep Method	Prep Date	Prep Initials	Prep	Factor						
SW3005A	09/23/2009 19:00	R_V	1.00							
VOLATILE ORGANIC	CS BY METHOD 8260	3			MCL	. sv	V8260B	Un	its: ug/L	
Benzene	ND			1		1	09/24/09 1	7:39	E_G	5217994
Ethylbenzene	ND			1		1	09/24/09 1	7:39	E_G	5217994
Toluene	ND			1		1	09/24/09 1	7:39	E_G	5217994
m,p-Xylene	ND			2		1	09/24/09 1	7:39	E_G	5217994
o-Xylene	ND			. 1		1	09/24/09 1	7:39	E_G	5217994
Xylenes, Total	ND			1		1	09/24/09 1	7:39	E_G	5217994
Surr: 1,2-Dichloroeth	ane-d4 94.8		%	78-116		1	09/24/09 1	7:39	E_G	5217994
Surr: 4-Bromofluorob	enzene 107		%	74-125		1	09/24/09 1	7:39	E_G	5217994
Surr: Toluene-d8	104		%	82-118		1	09/24/09 1	7:39	E·G	5217994

Qualifiers:

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

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8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

Client Sample ID:M	N-4		Collect	ted: 09	9/22/2009	14:15	SPL Samp	ole ID	: 0909	1080-04
			Site:	Azte	c, NM					
Analyses/Method	Result	QUAL	Rep.L	.imit	Di	. Factor	Date Analyz	ed	Analyst	Seq. #
METALS BY METHO	D 6010B, DISSOLVED)			MCL	SV	V6010B	Unit	s: mg/L	
Aluminum	ND			0.1		1	10/02/09 14	:31 I	EG	5228675
Iron	0.108			0.02		1	10/02/09 14	:31	EG	5228675
Manganese	0.476		0	.005		1	10/02/09 14	:31	EG	5228675
Prep Method	Prep Date	Prep Initials	Prep Fa	ctor						
SW3005A	09/23/2009 19:00	R_V	1.00							
VOLATILE ORGANI	CS BY METHOD 8260E	3			MCL	SV	V8260B	Unit	s: ug/L	
Benzene	ND			1		1	09/24/09 18	3:03 E	E_G	5217995
Ethylbenzene	ND			1		1	09/24/09 18	3:03 E		5217995
Toluene	ND			1		1	09/24/09 18	3:03 E	G	5217995
m,p-Xylene	ND			2		1	09/24/09 18	3:03 E	E_G	521799
o-Xylene	ND			1		1	.09/24/09 18	3:03 E	<u>_</u> G	5217998
Xylenes, Total	ND			1		1	09/24/09 18	3:03 E		5217998
Surr: 1,2-Dichloroeth	nane-d4 95.8		% 78	-116		1	09/24/09 18	3:03 E		5217995
Surr: 4-Bromofluoro	benzene 111		% 74	-125		1	09/24/09 18	3:03 E	E_G	5217995
Surr: Toluene-d8	102		% 82	-118		1	09/24/09 18	3:03 E	E_G	521799
									the second se	

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B/V - Analyte detected in the associated Method Blank * - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

E - Estimated Value exceeds calibration curve

TNTC - Too numerous to count

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

SPL Sample ID:

09091080-05

Client Sample ID: Duplicate

Site: Artec NM

Collected: 09/22/2009 14:15

			Sit	e: Azte	C, NM				
Analyses/Method	Result	QUAL	R	ep.Limit	Dil. Facto	or Date Anal	yzəd	Analyst	Seq. #
VOLATILE ORGANICS BY MET	HOD 8260B				MCL S	SW8260B	Ur	nits: ug/L	
Benzene	ND			1	1	09/24/09	18:26	E_G	5217996
Ethylbenzene	ND			1	1	09/24/09	18:26	E_G	5217996
Toluene	ND			1	1	09/24/09	18:26	E_G	5217996
m,p-Xylene	ND			2	1	09/24/09	18:26	E_G	5217996
o-Xylene	ND			1	1	09/24/09	18:26	E_G	5217996
Xylenes,Total	ND			1	1	09/24/09	18:26	E_G	5217996
Surr: 1,2-Dichloroethane-d4	94.7		%	78-116	1	09/24/09	18:26	E_G	5217996
Surr: 4-Bromofluorobenzene	105		%	74-125	1	09/24/09	18:26	E_G	5217996
Surr: Toluene-d8	103		%	82-118	1	09/24/09	18:26	EG	5217996

Qualifiers:

- ND/U Not Detected at the Reporting Limit
- $\ensuremath{\mathsf{B/\!V}}$ Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

E - Estimated Value exceeds calibration curve

TNTC - Too numerous to count

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: Trip Blank

Collected: 09/22/2009 15:00

SPL Sample ID: 09091080-06

			Site:	Azte	ec, NM					
Analyses/Method	Result	QUAL	Rep	.Limit	•	Dil. Factor	Date Anal	yzed	Analyst	Seq. #
VOLATILE ORGANICS BY ME	THOD 8260B				MCL	. SI	N8260B	Ur	its: ug/L	
Benzene	ND			1		1	09/24/09	13:10	E_G	5218006
Ethylbenzene	ND			1		1	09/24/09	13:10	E_G	5218006
Toluene	ND			1		1	09/24/09	13:10	E_G	5218006
m,p-Xylene	ND			2		1	09/24/09	13:10	E_G	5218006
o-Xylene	ND			1		1	09/24/09	13:10	E_G	5218006
Xylenes, Total	ND			1		1	09/24/09	13:10	E_G	5218006
Surr: 1,2-Dichloroethane-d4	92.1		% 7	78-116		1	09/24/09	13:10	E_G	5218006
Surr: 4-Bromofluorobenzene	106		% 7	4-125		1	09/24/09	13:10	E_G	5218006
Surr: Toluene-d8	102		% 8	32-118		1	09/24/09	13:10	E_G	5218006

Qualifiers:

- ND/U Not Detected at the Reporting Limit
- $\ensuremath{\mathsf{B/V}}\xspace$ Analyte detected in the associated Method Blank
- * Surrogate Recovery Outside Advisable QC Limits
- J Estimated Value between MDL and PQL
- E Estimated Value exceeds calibration curve

TNTC - Too numerous to count

>MCL - Result Over Maximum Contamination Limit(MCL)
 D - Surrogate Recovery Unreportable due to Dilution
 MI - Matrix Interference

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Quality Control Documentation

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Conoco Phillips COP Faye-Burdette

Analysis: Method:	Metals by Method 6 SW6010B	010B, Dissolved		WorkOrder: Lab Batch ID:	09091080 94027
	Met	nod Blank	Samples in Analytic	al Batch:	
RunID: ICP2_09 Analysis Date: Preparation Date:	1002A-5228659 10/02/2009 13:41 09/23/2009 19:00	Units: mg/L Analyst: EG Prep By: R_V Method SW3005	Lab Sample ID 09091080-01B 5A 09091080-02B 09091080-03B	<u>Client Sa</u> MW-1 MW-2 MW-3	<u>mple ID</u>
Alum Iron Mang	Analyte ninum ganese	Result Rep Limit ND 0.1 ND 0.02 ND 0.005	09091080-04B	MW-4	
	·····	Laboratory Contr	ol Sample (LCS)		
	RunID	ICP2_091002A-5228660	Units: mg/L		

RunID: Analysis Date: Preparation Date:

10/02/2009 13:45 09/23/2009 19:00

Units: mg/L Analyst: EG Prep By: R_V Method SW3005A

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Aluminum	1.000	1.068	106.8	80	120
Iron	1.000	1.038	103.8	80	120
Manganese	1.000	1.075	107.5	80	120

Post Digestion Spike (PDS) / Post Digestion Spike Duplicate (PDSD)

Sample Spiked:	09091080-01		
RunID:	ICP2_091002A-5228667	Units:	mg/L
Analysis Date:	10/02/2009 14:06	Analyst:	EG .

Analyte	Sample Result	PDS Spike Added	PDS Result	PDS % Recovery	PDSD Spike Added	PDSD Result	PDSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Aluminum	0.443	1	1.458	101.5	1	1.478	103.5	1.362	20	75	125
Iron	0.445	1	1.445	100.0	1	1.442	99.74	0.2078	20	75	125

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

	Sample Spiked: RunID: Analysis Date: Preparation Date:	09091080-01 ICP2_091002A-5228662 10/02/2009 13:53 09/23/2009 19:00	Units: Analyst: Prep By:	mg/L EG R_V Method SW3005A	
Qualifiers:	ND/U - Not Detected at the Report	ng Limit	MI - Matrix Ir	nterference	
	B/V - Analyte detected in the assoc	iated Method Blank	D - Recover	y Unreportable due to Dilution	
	J - Estimated value between MDL a	and PQL	* - Recovery	Outside Advisable QC Limits	
	E - Estimated Value exceeds calibr	ation curve			
	N/C - Not Calculated - Sample con-	centration is greater than	4 times the a	mount of spike added. Control limits do n	ot apply.
	TNTC - Too numerous to count				09091080 Page 10
OC requite proc	ented on the OC Summany Report have	been rounded RPD and	norcont roco	von voluos	

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

10/5/2009 2:04:29 PM



Conoco Phillips COP Faye-Burdette

Analysis: Method:	Metals by Metho SW6010B	od 6010B, Dissol	ved					WorkOrder: Lab Batch I	: 090 D: 940	91080 927		
	Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Aluminum		0.4431	1	1.092	64.89 *	1	1.154	71.09 *	5.521	20	75	125
Iron		0.4446	1	1.113	66.84 *	1	1.163	71.84 *	4.394	20	75	125
Manganese		1.444	1	2.460	101.6	1	2.463	101.9	0.1219	20	75	125

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B/V - Analyte detected in the associated Method Blank

J - Estimated value between MDL and PQL E - Estimated Value exceeds calibration curve MI - Matrix Interference

D - Recovery Unreportable due to Dilution

* - Recovery Outside Advisable QC Limits

N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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

Conoco Phillips COP Faye-Burdette

Analysis: Method:	Volatile Organics by SW8260B	Method 8260)B		WorkOrder: Lab Batch ID:	09091080 R284630
	Meth	od Blank		Samples in Analytical	Batch:	
RunID: L_09092	4A-5217989	Units:	ug/L	Lab Sample ID	Client Sar	nple ID
Analysis Date:	09/24/2009 12:46	Analyst:	E_G	09091080-01A	MW-1	
				09091080-02A	MW-2	

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Toluene	ND	1.0
m,p-Xylene	ND	2.0
o-Xylene	ND	1.0
Xylenes, Total	ND	1.0
Surr: 1,2-Dichloroethane-d4	95.2	78-116
Surr: 4-Bromofluorobenzene	106.5	74-125
Surr: Toluene-d8	103.1	82-118

ab Sample ID	Client Sample ID
091080-01A	MW -1
9091080-02A	MW-2
9091080-03A	MW-3
9091080-04A	MW-4
091080-05A	Duplicate
9091080-06A	Trip Blarik

	Laboratory Co	ntrol Sample	(LCS)	
RunID:	L_090924A-5217988	Units:	ug/L	
Analysis Date:	09/24/2009 11:49	Analyst:	E_G	

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	20.0	17.8	89.1	74	123
Ethylbenzene	20.0	19.4	97.2	72	127
Toluene	20.0	19.2	95.7	74	126
m,p-Xylene	40.0	40.5	101	71	129
o-Xylene	20.0	20.6	103	74	130
Xylenes,Total	60.0	61.1	102	71	130
Surr: 1,2-Dichloroethane-d4	50.0	46.5	93.0	78	116
Surr: 4-Bromofluorobenzene	50.0	52.8	106	74	125
Surr: Toluene-d8	50.0	50.3	101	82	118

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

Sample Spiked:	09091080-01		
RunID:	L_090924A-5217991	Units:	ug/L
Analysis Date:	09/24/2009 14:44	Analyst:	E_G

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B/V - Analyte detected in the associated Method Blank

MI - Matrix Interference D - Recovery Unreportable due to Dilution

J - Estimated value between MDL and PQL * - Recovery Outside Advisable QC Limits

E - Estimated Value exceeds calibration curve

N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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10/5/2009 2:04:30 PM



HOUSTON LABORATORY 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

Conoco Phillips COP Faye-Burdette

Analysis: Volatile (Method: SW82608	Drganics by Method 826 3	0B					WorkOrder Lab Batch	: 090 ID: R28	91080 84630		
Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	ND	20	16.9	84.5	20	17.4	86.8	2.70	22	70	124
Ethylbenzene	ND	20	18.6	93.1	20	18.4	92.0	1.19	20	76	122
Toluene	ND	20	18.4	92.2	20	17.6	88.0	4.72	24	80	117
m,p-Xylene	ND	40	38.7	96.8	40	38.5	96.3	0.570	20	69	127
o-Xylene	ND	20	. 19.6	97.9	20	19.3	96.5	1.37	20	84	114
Xylenes,Total	ND	60	58.3	97.2	60	57.8	96.4	0.839	20	69	127
Surr: 1,2-Dichloroethane-d4	ND	50	45.6	91.3	50	45.9	91.8	0.618	30	78	116
Surr: 4-Bromofluorobenzene	e ND	50	53.5	107	50	53.2	106	0.422	30	74	125
Surr: Toluene-d8	ND	50	50	100	50	48.7	97.4	2.62	30	82	118

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B/V - Analyte detected in the associated Method Blank

J - Estimated value between MDL and PQL E - Estimated Value exceeds calibration curve MI - Matrix Interference

D - Recovery Unreportable due to Dilution

* - Recovery Outside Advisable QC Limits

N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

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QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

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> 09091080 Page 14 10/5/2009 2:04:30 PM



Sample Receipt Checklist

Workorder: 09091080 Date and Time Received: 9/23/2009 10:00:00 AM Temperature: 1.3°C		Received By: Carrier name: Chilled by:	L_D Fedex-Priority Water Ice
1. Shipping container/cooler in good condition?	Yes 🗹	No 🗌	Not Present
2. Custody seals intact on shippping container/cooler?	Yes 🔽	No 🗌	Not Present
3. Custody seals intact on sample bottles?	Yes	No 🗌	Not Present
4. Chain of custody present?	Yes 🗹	No 🗌	
5. Chain of custody signed when relinquished and received?	Yes 🔽	Νο	
6. Chain of custody agrees with sample labels?	Yes 🗹	No	
7. Samples in proper container/bottle?	Yes 🗹	No 🗌	
8. Sample containers intact?	Yes 🔽	No 🗌	
9. Sufficient sample volume for indicated test?	Yes 🗹	No 🗔	
10. All samples received within holding time?	Yes 🗹	No 🗌	
11. Container/Temp Blank temperature in compliance?	Yes 🗹	No 🗌	
12. Water - VOA vials have zero headspace?	Yes 🗹		Vials Not Present
13. Water - Preservation checked upon receipt (except VOA*)?	Yes 🗌	No 🗌	Not Applicable
*VOA Preservation Checked After Sample Analysis			
SPL Representative:	Contact Date 8	k Time:	
Non Conformance issues:		· · · ·	
Client Instructions:			

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