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QUARTERLY GWMR

06/03/2011



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

TETRA TECH, INC.

June 3, 2011

RECEIVED OCD

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

> RE: (1 and 2) ConocoPhillips Company, Nell Hall No. 1, San Juan County, New Mexico -September 2010 and March 2011 Semi-Annual Groundwater Monitoring Reports

(3) ConocoPhillips Company Randleman No. 1 Site, San Juan County, New Mexico -September 2010 Quarterly Groundwater Monitoring Report

(4) ConocoPhillips Company, San Juan 27-5 No. 34A, Rio Arriba County, New Mexico -March 2011 Quarterly Groundwater Monitoring Report

(5) ConocoPhillips Company, Sategna No. 2E, San Juan County, New Mexico - March 2011Quarterly Groundwater Monitoring Report

(6) ConocoPhillips Company, Shepherd & Kelsey No. 1E, San Juan County, New Mexico -March 2011 Quarterly Groundwater Monitoring Report

(7 and 8) ConocoPhillips Company Wilmuth No. 1 Site, San Juan County, New Mexico -December 2010 and March 2011 Quarterly Groundwater Monitoring Reports

Dear Mr. von Gonten:

Enclosed please find a copy of the above-referenced documents as compiled by Tetra Tech, Inc., for these San Juan Basin 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 (8)

Cc: Brandon Powell, New Mexico Oil Conservation Division (Aztec, NM Office) Terry Lauck, ConocoPhillips Company Risk Management and Remediation (electronic only) Chris Jaquez, Landowner (Nell Hall No. 1 only)

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QUARTERLY GROUNDWATER MONITORING REPORT MARCH 2011 SAMPLING EVENT

CONOCOPHILLIPS COMPANY SHEPHERD & KELSEY NO.IE BLOOMFIELD, SAN JUAN COUNTY, NEW MEXICO

OCD # 3RP-98-0 API # - 30-045-24316

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. 9690121.100

June 2011

March 2011 Quarterly Groundwater Monitoring Report ConocoPhillips Company, Shepherd & Kelsey No. 1E, Bloomfield, New Mexico OCD #3RP-98-0

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QUARTERLY GROUNDWATER MONITORING REPORT CONOCOPHILLIPS COMPANY SHEPHERD & KELSEY NO. IE BLOOMFIELD, NEW MEXICO

I.0 INTRODUCTION

ConocoPhillips Company (ConocoPhillips) retained Tetra Tech, Inc (Tetra Tech) to perform additional site characterization work and quarterly groundwater monitoring at the Shepherd & Kelsey No. 1E site in Bloomfield, New Mexico (Site). This report presents the results of a quarterly groundwater monitoring event conducted at the Site by Tetra Tech on March 14, 2011. This sampling event represents the tenth consecutive quarter of groundwater monitoring completed by Tetra Tech at the Site to include all four Site monitoring wells.

The Site is located on private land leased by ConocoPhillips near the intersection of New Mexico Highway 64 and County Road 5097 in Bloomfield, NM. The Site consists of a gas production well head with associated equipment and installations and is surrounded by agricultural land. The geographical location coordinates are 36° 42' 6.8"N and 108° 01' 12.2" W; the location and general features of the Site are presented as **Figure 1** and **Figure 2**, respectively.

I.I Site History

A historical timeline for the Site is presented in **Table 1**, and is discussed in more detail below.

Contaminated soil was discovered at the Site during routine maintenance on June 5, 2007. Envirotech Inc. of Farmington, New Mexico (Envirotech) performed soil excavation (Excavation #1, **Figure 2**) at the Site, during which three soil samples were collected and analyzed for total petroleum hydrocarbons (TPH). The concentration of TPH was found to be below the New Mexico Oil Conservation Division (NMOCD) recommended action level. On June 12, 2007 a separate area of TPH soil contamination was discovered. An excavation of the additional area was performed by Envirotech from June 15 through June 18, 2007 (Excavation #2, **Figure 2**). Soil samples taken during the second excavation were found to be above the NMOCD recommended action level for TPH. Groundwater samples collected from the excavation were found to contain benzene and total xylenes above New Mexico Water Quality Control Commission (NMWQCC) groundwater quality standards. Monitor Well MW-I was installed by Envirotech on September 26, 2007. Soil and groundwater samples collected during drilling were analyzed for TPH and for benzene, toluene, ethylbenzene and total xylenes (BTEX); results were below NMOCD recommended action levels. In November 2007, Envirotech recommended plugging and abandoning MW-I and a no further action status from NMOCD. However, in April 2008, NMOCD indicated that further investigation was necessary before closure could be granted.

Tetra Tech began quarterly sampling of MW-1 on October 23, 2008. On January 22, 2009, three additional groundwater monitor wells were installed by WDC Exploration and Drilling of Peralta, NM (WDC), under the supervision of Tetra Tech. Monitor Wells MW-2, MW-3, and MW-4 were initially sampled on January 30, 2009 and have since been incorporated into the quarterly monitoring schedule

March 2011 Quarterly Groundwater Monitoring Report ConocoPhillips Company, Shepherd & Kelsey No. 1E, Bloomfield, New Mexico OCD #3RP-98-0

with MW-1. Typically, a generalized geologic cross section would have been prepared using soil sampling data collected during drilling activities and added as a figure to this report; however, due to the shallow depth to groundwater, soil samples were not collected, therefore, this could not be compiled.

2.0 METHODOLOGY AND RESULTS

Quarterly groundwater sampling was conducted on March 14, 2011. Groundwater samples were collected from Monitor Wells MW-1, MW-2, MW-3 and MW-4. Prior to sampling, depth to groundwater in each well was recorded using a dual interface probe. Results are summarized in **Table 2**.

The casings for all Site monitor wells were surveyed by Tetra Tech in January 2009, with the wellhead assigned an arbitrary reference elevation of 100 feet above mean sea level (amsl). Using these data, it was determined that the groundwater flow direction at the Site is to the south (**Figure 3**).

2.1 Groundwater Sampling Methodology

Monitor Wells MW-1, MW-2, MW-3, and MW-4 were sampled during the March 14, 2011 groundwater monitoring event. Prior to sampling, all monitor wells were purged of at least 3 casing volumes of groundwater using a dedicated, 1.5-inch diameter, polyethylene disposable bailer. Groundwater quality parameters were collected using a YSI 556 multi-parameter sonde during each purge. Results were recorded on a Tetra Tech Water Sampling Field Form (**Appendix A**). Groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain-of-custody documentation to Southern Petroleum Laboratory (SPL) of Houston, Texas. Samples were analyzed for dissolved manganese by EPA Method 6010B; total dissolved solids (TDS) by EPA Method 2540C; and for BTEX by EPA Method 8260B.

2.2 Groundwater Sampling Analytical Results

The NMWQCC mandates that groundwater quality in New Mexico be protected, and has issued groundwater quality standards in Title 20, Chapter 6, Part 2, Section 3103 of the New Mexico Administrative Code (20.6.2.3103 NMAC). A historical summary of groundwater analytical results is provided in **Table 3**. The laboratory analytical report is included as **Appendix B**.

Manganese

The groundwater quality standard for dissolved manganese is 0.2 milligrams per liter (mg/L). Groundwater samples collected on March 14, 2011 from Monitor Well MW-2 and MW-4 were found to contain dissolved manganese at concentrations of 0.242 mg/L and 0.602 mg/L, respectively.

TDS

The groundwater quality standard for TDS is 1000 mg/L. Groundwater samples collected from Monitor Well MW-2 and Monitor Well MW-4 were found at concentrations of 1,000 mg/L and 1,810 mg/L, respectively.

3.0 CONCLUSIONS

This is the tenth consecutive quarter with groundwater sample analytical results below NMWQCC standards for BTEX for all four Site monitoring wells. During this latest monitoring period, two wells (MW-2 and MW-4) revealed dissolved manganese and TDS concentrations at or above the NMWQCC standard. In order to move toward Site closure with NMOCD, continued groundwater quality monitoring is recommended for TDS and dissolved manganese to determine if seasonal trends are influencing Site groundwater quality and if the levels appear to be stable and at background concentrations. BTEX analysis will be discontinued at the site. The next groundwater monitoring event is scheduled for June 2011. Please contact Kelly Blanchard at 505-237-8440 or kelly.blanchard@tetratech.com if you have any questions or require additional information.

FIGURES

I. Site Location Map 2. Site Detail Map

3. Groundwater Contour Map – March 2011







TABLES

I. Site History Timeline 2. Groundwater Elevation Data Summary Groundwater Laboratory Analytical Results Summary

3.

Table 1. Site	History Timeline - ConocoPhillips Company Shepherd and Kelsey No. 1E
DATE	ACTIVITY
5-Jun-07	Hydrocarbon-impacted soil discovered during routine maintenance at the Site. Soil excavation was performed at the Site, and three soil samples were obtained. Sample results showed total petroleum hydrocarbon (TPH) concentrations below the NMOCD regulations of 100 parts per million (ppm). Original source of contamination was unknown.
12-Jun-07	A separate area of TPH soil contamination discovered.
June 15-18, 2007	A 50 foot by 20 foot by 4 foot excavation was completed. Soil samples taken from the second excavation show TPH at 992 ppm. Water samples obtained show benzene and total xylenes above State of New Mexico drinking water standards.
26-Sep-07	Ground water monitoring well installed to a depth of ten (10) feet below ground surface (bgs) by Envirotech Inc. of Farmington, NM (Envirotech). Depth to groundwater recorded at four (4) feet bgs. Soil and groundwater samples obtained for TPH, benzene, and benzene, toluene, ethylbenzene and total xylenes (BTEX) were below the respective NMOCD regulations of 100 ppm, 10 ppm and 50 ppm.
Nov-07	Envirotech report recommends plugging and abandonment of the temporary ground water monitoring well and no further action 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.
23-Oct-08	1st quarter sampling of MW-1 by Tetra Tech.
Jan-09	Installed additional monitoring wells MW-2, MW-3 and MW-4.
30-Jan-09	2nd quarter sampling of MW-1 by Tetra Tech; initial sampling of MW-2, MW-3, and MW-4.
1-Apr-09	Quarterly sampling of monitor wells MW-1, MW-2, MW-3, and MW-4.
18-Jun-09	Quarterly sampling of monitor wells MW-1, MW-2, MW-3, and MW-4.
21-Sep-09	Quarterly sampling of monitor wells MW-1, MW-2, MW-3, and MW-4. Dissolved metals analysis initated at the Site for metals with elevated total metal concentrations.
14-Dec-09	Quarterly sampling of monitor wells MW-1, MW-2, MW-3, and MW-4.
31-Mar-10	Quarterly sampling of monitor wells MW-1, MW-2, MW-3, and MW-4.
7-Jun-10	Quarterly sampling of monitor wells MW-1, MW-2, MW-3, and MW-4.
29-Sep-10	Quarterly sampling of monitor wells MW-1, MW-2, MW-3, and MW-4.
14-Dec-10	Tetra Tech conducted the ninth quarterly groundwater monitoring event at the Site (sampling of monitor wells MW-1, MW-2, MW-3, and MW-4.)
14-Mar-11	Tetra Tech conducted the tenth quarterly groundwater monitoring event at the Site (sampling of monitor wells MW-1, MW-2, MW-3, and MW-4.)

Tetra Tech, Inc.

1 of 1

Table 2 Groundwater Elevation Data Summar	v - ConocoPhillins Compan	v Shepherd & Kelsev	/ No. 1E
	y - conocor minips compan	y onephera a neisey	/ NO. 16

Well ID	Total Depth (ft bgs)	Screen Interval (ft)	*Elevation (ft) (TOC)	Date Measured	Depth to Groundwater (ft below TOC)	Relative Groundwater Elevation
				10/23/2008	4.02	92.51
				1/30/2009	5.70	90.83
				4/1/2009	5.90	90.63
•				6/18/2009	4.01	92.52
				9/21/2009	5.62	90.91
MW-1	12	2.5-10.0	96.53	12/14/2009	5.51	91.02
				3/31/2010	5.72	90.81
				6/7/2010	4.74	91.79
				9/26/2010	5.10	91.43
				12/14/2010	4.76	91.77
				3/14/2011	5.42	91.11
				1/30/2009	5.41	92.64
				4/1/2009	5.78	92.27
				6/18/2009	2.50	95.55
				9/21/2009	4.60	93.45
MM/_2	20 30	3.0 - 18.0	08.05	12/14/2009	4.99	93.06
10100-2	20.50	5.0 - 10.0	90.03	3/31/2010	5.53	92.52
	1		94 1	6/7/2010	2.70	95.35
	:			9/29/2010	3.56	94.49
	. I			12/14/2010	4.23	93.82
	\$:	3/14/2011	5.07	92.98
•	•		1.	1/30/2009	5.29	90.31
·· .	ł			4/1/2009	5.46	90.14
		· ·		6/18/2009	3.64	91.96
	• ,			9/21/2009	5.25	90.35
MM/_3	20 10	30-180	95.60	12/14/2009	5.19	90.41
10100-0	20.10	0.0 - 10.0	30.00	3/31/2010	5.30	90.30
				6/7/2010	5.52	· 90.08
				9/29/2010	4.81	90.79
	,			12/14/2010	5.13	90.47
				3/14/2011	5.05	90.55
				1/30/2009	6.33	89.90
				4/1/2009	6.40	89.83
				6/18/2009	5.51	90.72
				9/21/2009	6.13	90.10
MW-4	20,70	3.7 - 18.7	96.23	12/14/2009	5.91	90.32
	_0.70	0.1 10.1	00.20	3/31/2010	6.10	90.13
				6/7/2010	5.31	90.92
				9/29/2010	5.59	90.64
				12/14/2010	5.57	90.66
				3/14/2011	5.78	90.45

ft = Feet

TOC = Top of casing

bgs = below ground surface

* Elevation relative to wellhead

1 of 1

Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (μg/L)	Xylenes (µg/L)	Sulfate (mg/L)	Aluminum (mg/L)	Iron (mg/L)	Manganese (mg/L)	Total Dissolved Solids (mg/L)
9/26/2007	0.4	0.4	0.5	1.1	NA	NA	NA	NA	NA
10/23/2008	< 5	< 5	< 5	<5	438	NA	2.59*	0.417*	NA
1/30/2009	< 5	< 5	< 5	< 5	303	0.658*	1.45*	0.276*	692
4/1/2009	< 5	< 5	< 5	< 5	258	1.19*	1.9*	0.416*	1,340
6/18/2009	< 5	< 5	< 5	<5	NA	0.187*	0.209*	NA**	NA
9/21/2009	<1	<1	<1	<2	324	< 0.1	0.0458	0.0356	700
12/14/2009	<1	<1	<1	<1	NA	NA	NA	0.0539	661
3/31/2010	< 1	< 1	<1	<1	NA	NA	NA	0.0662	697
6/7/2010	<1	<1	<1	<1	NA	NA	NA	0.0599	778
9/29/2010	۲ ۲	۲ <u>۲</u>	<1	<1	NA	NA	NA	0.117	853
12/14/2010	4	< <u>-</u>	<1	<1	NA	NA	NA	0.102	770
3/14/2011	1>	4	<1	<1	NA	NA	NA	0.117	782
1/30/2009	< 5	< 5	< 5	<5	706	11.3*	22.4*	2.06*	1,130
4/1/2009	< 5	< 5	< 5	<5	613	4.39*	11.3*	0.964*	1,420
6/18/2009	< 5	<5	< 5	<5	NA	2.38*	4.01*	NA**	NA
9/21/2009	<1>	<1	<1	<2	421	< 0.1	< 0.02	0.158	740
12/14/2009	<1	<1	<1	<1	NA	NA	NA	0.106	764
3/31/2010	<	<1	<1	<1	NA	NA	NA	0.144	804
6/7/2010	<	<1	<1	<1	NA	NA	NA	0.152	826
9/29/2010	<1	1	~	4	NA	NA	NA	0.212	1090
12/14/2010	4	4	~	<1	NA	NA	NA	0.194	1120
3/14/2011	<1	1	<1	<1	NA	NA	NA	0.242	1000
1/30/2009	<5	<5	<5	<5	427	4.34*	5.77*	0.675*	918
4/1/2009	<5	<5	<5	<5	416	1.45*	3.0*	0.615*	1,010
6/18/2009	<5	<5	<5	<5	NA	0.67*	1.57*	NA**	NA
9/21/2009	<1	<1	<1	<2	359	< 0.1	< 0.02	0.115	733
12/14/2009	<1>	<1	<1	<1	NA	NA	NA	0.154	712
3/31/2010	<1	<1	<1	<1	NA	NA	NA	0.219	898
6/7/2010	<1>	<1	<1	<1	NA	NA	NA	0.132	841
9/29/2010	</td <td>۲×</td> <td><1</td> <td><1</td> <td>NA</td> <td>NA</td> <td>NA</td> <td>0.147</td> <td>849</td>	۲×	<1	<1	NA	NA	NA	0.147	849
12/14/2010	<u>۲</u>		<1	<1	NA	NA	NA	0.161	835
3/14/2011	4	4	<1	<1	NA	NA	NA	0.156	882
1/30/2009	< 5	< 5	< 5	< 5	539	7.29*	19.4*	16.7*	1,000
4/1/2009	< 5	< 5	< 5	< 5	512	11.4*	23.4*	3.36*	1,010
6/18/2009	< 5	<5	< 5	<5	NA	0.344*	0.362*	NA**	NA
9/21/2009	<1	<1	<1	<2	472	< 0.1	0.0376	0.286	963
12/14/2009	<1	<1	<1	<1	NA	NA	NA	0.283	861
3/31/2010	<1	<1	<1	<1	NA	NA	NA	0.336	1000
6/7/2010	<1	<1	<1	<1	NA	NA	NA	0.373	1300
9/29/2010	1>	<1	<1	<1	NA	NA	NA	0.571	1720
12/14/2010	<1	<1	<1	<1	NA	NA	NA	0.514	1580
3/14/2011	<1	<1	<1	<1	NA	NA	NA	0.602	1810
undwater	10 (µg/L)	750 (µg/L)	750 (µg/L)	620 (µg/L)	600 (mg/L)	5 (mg/L)	1 (mg/L)	0.2 (mg/L)	1000 (mg/L)
Idaid									

Table 3. Groundwater Laboratory Analytical Results - ConocoPhillips Company Shepherd & Kelsey No. 1E

 MW = monitor well

 NMWQCC = New Mexico Water Quality Control Commission

 Constituents in BOLD exceed NMWQCC Groundwater Quality Standards

 VOCs = volatile organic compounds

 mg/L = milligrams per liter

 ug/L = micrograms per liter

 MA* = not analyzed due to lab error

 NA = not analyzed

 NE = not established

 TDS - total dissolved solids

 Total Xylenes = the sum of m,p-xylene and o-xylene.

 * = Results reported for total metals analysis, results can not be compared to NMWQCC Standards for dissolved metals

 Analytical results for 9/26/2007 are presented as reported by Envirotech Inc.

Tetra Tech, Inc.

Well ID	
MW-2	
MW-3	
MW-4	
NMWQCC G Quality S Notes:	tar of

APPENDIX A

Groundwater Sampling Field Forms

TETRA	TECH, INC.		WATER S	AMPLING I	FIELD FOR	RM		
Project Name	Shepherd & Kelsey 1	E			Page	1	of	4
ı ,ct No.								
Site Location	Bloomfield, NM							
Site/Well No.	<u>MW-1</u>	Coded/ Replicate No.	1820	2	Dete	3.	14.11	
Weather SU	nny, cost 60°	Time Sampling Began	1805	_	Time Sampling Completed	18	315	
	Warm	>	EVACUATIO	N DATA	•			
Description of	Measuring Point (MP)	Ton of Casing		·····				
Height of MD								
			<u> </u>	MP Elevation		•		96.53
Total Sounded	Depth of Well Below I	$MP = \frac{11.96}{5.117}$		Water-Level Ele	vation			
Held	_Depth to Water Below	MP <u>5.96</u>	I	Diameter of Cas Gailons Pumped	ing <u>2"</u> Balled <u>2"</u>	0.00	<u> </u>	
Wet	Water Column in	Well 6149		Prior to Samplin	<u>ي _ </u>	3.45	>	
	Gallons per	Foot).16	Posselles Dump	Intoleo Dotting	۰. ۱		•
•) Gallons in	Weii	<u>58</u>	feet below land	surface)			
Purging Equip	ment Purge pump	HBailer X	3= 3.1	152	· · ·			
		SAMPLI	NG DATA/FIEL		35	·· ,	•	
Time	Temperature (°C)	pH Conduct	lvity (µS/cm ³)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)
1810	8.47	7.48 7	37	0.699	2.34	20.0	14.0	2.25
1811	8.30	7.42 7	32	0.698	2.23	19.0	13.8	2.75
1813	8.32	7.39 ; ·	130	0.696	213	18.1	13.1	3.25
	· · ·	· · · · · ·	. <u>i</u>		ļ			
	l		:	· ·				
Sampling Equi	pment <u>i</u>	Purge Purnp/Bailer			·	• <u> </u>	•	
<u>Constitu</u>	<u>ients Sampled</u>	Contain	er Description			Prese	ervative	
BTEX	• .	3 40mL VOA's	•		HCI			
Dissolved Mn		16 oz Plastic	· .		None			
TDS	· · · ·	16 oz Plastic		······	None			
			. l			• •		4
Remarks	H20	15 CRAB, N	10 000	t or all	een detee	ed		
Sampling Pers	onnel. Christine Ma	thews, Cassle Brown			· · · · · · · · · · · · · · · · · · ·			
			Well Casing \	/olumes				
	Gal./ft. 1 ¼" = 0	.077 2" =	0.16	3" =	0.37	4" = 0.65		
	1 ½" = 0	.10 21/2" =	0.24	3"1⁄2 =	0.50	6" = 1.46		
	l,	<u>.</u>						

R:\Share\Maxim Forms\Field Forms\SK1E Water Sampling,Field Forms

Project Name Shephard & Kelsey 1E Page _ 2 of _ 4 Jott No.	TE TETR	ATECH, INC.		WA	ATER S	SAMPLING	FIELD FOI	RM		
Let No. Site Location Bicomilied, NM Ste Location Bicomilied, NM Replicate No. Date $3 \cdot [4 \cdot 1]$ Weather SUMPLY, URLIM (W Time Sampling Boos The Sampling Completed g_{1} g_{2}	Project Name	Shepherd & Kelse	ey 1E				Pag	e2	of	4
Site Location Biomiteld, NM Site Vol No. MW-2 Replicate No. Weather SUMMY, UM (M) (00° Time Sampling (805) EVACUATION DATA EVACUATION DATA Description of Measuring Point (MP) Top of Caeing MP Elevation 98.05 Height of MP Above/Pelov Land Burface MP Elevation 98.05 Total Sounded Depth of Well Balaw MP 202 20.03 Water-Level Elevation 98.05 Total Sounded Depth of Well Balaw MP 202 20.03 Water-Level Elevation 98.05 Gallons Per Foot 0.16 Sampling Pump Intake Setting 7.25 7.25 Wet Water Column In Well 14.96 Sampling Pump Intake Setting 7.25 Purging Equipment Purge pum/ Pailly X3 = 7.18 5 7.19 7.25 Purging Equipment Purge pum/ Pailly X3 = 7.18 5 7.19 7.25 6.5 Time Temperature (°C) pH Conductivity (JsCm ²) 10.05 (mgL) 0.94 0.07 (mgL) 0.4 5.5 0.0 11.62 7.43 11.24 0.918 0.07 (mgL) 10.4 5.5<	ject No.									
SterWell No. MW-2 Coded' Replicate No. Date 3.141.11 Weather SUMMY Warm 60° Began Ime Sampling Completed Completed Weather SUMMY Warm 60° Time Sampling Bogan Ime Sampling Completed EVACUATION DATA EVACUATION DATA Description of Measuring Point (MP) Top of Casing MP Elevation 98.05 Held tof MP Above/Below Land Surface MP Elevation 72.92 Held	Site Location	Bloomfield, NM			<u></u>			A 1.	[.]	
Weather SUMMU Warm With Began Time Sampling Completed Completed Completed It 2.5 EVACUATION DATA Description of Measuring Point (MP) Top of Casing Height of MP Above/Below Land Surface MP Elevation 98.05 Total Sounded Depth of Weit Below MP 20.03 Water-Level Elevation 72.98 Heid Depth to Water Below MP 5.07 Galons Pumped/Bailer 2" Galons Pumped/Bailer 7.25 Galons for Weit 2.18 Wet Water Column in Weit 14.92 Value Column in Weit 7.25 Galons in Weit 2.92 Value Depth to Water Below MP 5.07 Galons in Weit 2.92 Galons in Weit 2.92 Purgle pump Inside Setting Constituents Sampling Equipment Purge pump//Bailer YALO	Site/Well No.	MW-2	Coded/	e No.			Date	3.4	617	
EVACUATION DATA Description of Measuring Point (MP) Top of Casing Height of MP Above/Below Land Surface MP Elevation Status Total Sounded Depth of Weil Below MP Colspan="2">Colspan="2" Heid Depth to Water Below MP Status Prote Office Callons in Weil Callon Conductivity (uslom) Callon Conductivity (uslom) Callon Conductivity (uslom) Ca	Weather	Sunny, warn	1600 Time Sa Began	mpling	(80	5	Time Samplin Completed	ng	P	1825
Description of Measuring Point (MP) Top of Caeling Height of MP Above/Below Land Surface		ч		ËV	ACUATIO	ON DATA				
Height of MP Above/Below Land Surface	Description o	f Measuring Point (N	P) Top of Casing	•				<u> </u>		
Total Sounded Depth of Well Below MP 201 20.03 Water-Level Elevation 92.98 Held Depth to Water Below MP 5.07 Diameter of Casing Galtons Pumpe(Ballet) 2" Wet Water Column in Well 14.10 Prior to Sampling 7.25 Galtons per Foot 0.16 Sampling Pump (Ballet) 7.25 Galtons in Well 2.394 Sampling Pump Intake Setting (teet below land surface) 7.25 Purging Equipment Purge pump (Ballet) X3 = 7.18 5 Time Temperature (*C) pH Conductivity (uSicm ³) DO (mgA). DO %. ORP (mV) Volume (gal.) 1820 11.63 7.43 11.24 0.498 201 18.14 -6.5 4.05 1820 11.63 7.43 11.24 0.498 201 18.14 -6.5 4.05 1820 11.43 7.36 11.4 0.475 4.9 17.4 7.25 Sampling Equipment Purge Pump(Ballet) Constituents Sambled Container Description Preservative BTEX 340mL VOA's HCi HCi HCi HCi HCi </td <td>Height of MP</td> <td>Above/Below Land</td> <td>Surface</td> <td></td> <td>·'t</td> <td>MP Elevation</td> <td></td> <td></td> <td></td> <td>- 98.05</td>	Height of MP	Above/Below Land	Surface		·'t	MP Elevation				- 98.05
Held Depth to Water Below MP 5.07 Diameter of Casing Galons Pumped/Ballett Prior to Sampling 2^{-} Wet Water Column in Well 14.96 Prior to Sampling 7.25 Galons per Foot 0.16 Sampling Pump Intake Setting 7.25 Galons in Well 2.394 Sampling Pump Intake Setting 7.25 Purging Equipment Purge pump/Ballett $32 - 7.18$ 7.25 SAMPLING DATA/FIELD PARAMETERS SAMPLING DATA/FIELD PARAMETERS 7.92 7.43 Time Temperature (*C) pH Conductivity (uS/cm ³) TDS (g/L) D0 (mg/L) D0 % ORP (mV) Volume (gal.) 1820 11.63 7.43 11.24 0.975 1.95 17.7 -7.25 1820 11.63 7.43 11.24 0.977 2.70 24.9 -71.6 7.25 1820 11.47 7.37 11.42 0.977 2.70 24.9 -71.6 7.25 Sampling Equipment Purge Pumg/Ballet Constituents Sampled Constituents Sampled Sampling Pump Intake Setting 6.5 Dissolved Mn	Total Sounde	d Depth of Well Bel	w MP20.2	1 20.03	3	Water-Level Ele	evation			92.98
Wet Water Column in Well U196 Gallons Pumper/Balletty 7.25 Gallons per Foot 0.16 Sampling Pump Intake Setting (test below land surface) Purging Equipment Purge pump/Balletty $32 = 7.18$ SAMPLING DATA/FIELD PARAMETERS Time Temperature (*C) pH Conductivity (.s/s/cn ³) TOS (g/L) DO (mg/L) DO % DRP (mV) Volume (gal.) QA 11.63 7.43 11.24 (J.98.1 2.01 18.4 -6.5 G.0 IB20 11.63 7.43 11.24 (J.98.1 2.01 18.4 -6.5 G.0 IB20 11.63 7.43 11.24 (J.98.1 2.01 18.4 -6.5 G.0 IB20 11.63 7.43 11.24 (J.98.1 2.01 18.4 -6.5 G.0 Sampling Equipment Conductivity (.slown ³) D.9.75 1.9.5 17.9 -17.6 7.255 Sampling Equipment Purge Pump/Bailetry Container Description Preservative Estive Sampling Dissolved Mn 16 oz Plastic None <td>. Held</td> <td>_ Depth to Water B</td> <td>alow MP 5</td> <td>.07</td> <td></td> <td>Diameter of Ca</td> <td>sing 2"</td> <td></td> <td></td> <td></td>	. Held	_ Depth to Water B	alow MP 5	.07		Diameter of Ca	sing 2"			
Gallons per Foot 0.16 Sampling Pump Intake Setting Gallons in Well 2.379 Sampling Pump Intake Setting Purge pump//Bailer X3 = 7.18 SAMPLING DATA/FELD PARAMETERS Time Tempe pump//Bailer X3 = 7.18 SAMPLING DATA/FELD PARAMETERS Time Tempe pump//Bailer SAMPLING DATA/FELD PARAMETERS Time Tempe pump//Bailer DO (mg/) DO (mg/) DO (mg/) Volume (gal) 16/20 11.63 7.43 112.41 0.97.5 1.95 17.9 -17.3 6.5 18/20 11.63 7.40 11.81 0.97.5 1.95 17.9 -17.6 7.255 Constituents Sambled Container Description Preserv	Wet	Water Column	n in Well	4.96		Gallons Pumpe Prior to Samplir	ng	7.	25	
Gallons in Well 2 394 Sampling Pump Indeke Setting Purging Equipment Purge pump / Bailer X3 = 7.18 SAMPLING DATA/FIELD PARAMETERS Time Temperature (*C) pH Conductivity (uS/cm ³) DD (g/L) DO % ORP (m/V) Volume (gel.) Idf8 II (b3 7.43 II 24 I 981 201 I8.4 -6.5 4.0 IB20 II (b3 7.43 II 24 I 981 201 I8.4 -6.5 4.0 IB20 II (b3 7.43 II 24 II 981 20.975 I.95 I7.9 -17.3 6.5 IB20 II (b3 Conductivity (uS/cm ³) DIS (g/L) DO (mg/L) DO % ORP (m/V) Volume (gel.) Sampling Equipment Purge Pum //Bailer Constituents Sambled Container Description Preservative BTEX 3 40mL VOA's HCI Dissolved Mn 16 oz Plastic None Dissolved Mn 16 oz Plastic None None Order Stream Order Stream Gal.fit. 1% = 0.077 2" = 0.16 <t< td=""><td>•</td><td>Gallons</td><td>per Foot</td><td>0.16</td><td>- - 1</td><td></td><td>• •</td><td></td><td></td><td>(A)</td></t<>	•	Gallons	per Foot	0.16	- - 1		• •			(A)
Purging Equipment Purge pump (Bailer) $33 = 7.18$ SAMPLING DATA/FIELD PARAMETERS Time Temperature (°C) pH Conductivity (µS/cm³) TDS (g/L) DO (mg/L) DO % ORP (mV) Volume (gal.) IAB I/63 7.43 I/24 (J.98) 2.01 I.8.4 -6.5 $g_{-0.0}$ IB20 I/43 I/27 J.95 I.95 I.7.9 -17.3 6.5 IB20 I/43 I/47 7.39 I/14 O.977 2.70 24.9 -7.6 7.225 Sampling Equipment Purge Pump (Bailer) Sampling Personnel Container Describtion Preservative BTEX 3 40mL VOA's HCI None None Sampling Personnel Sampling Personnel Christine Mathews, Cassie Brown		Gallon	s in Well	2,394	i.	Sampling Pump (feet below land	o Intake Setting d surface)	 		· · · · · · · · · · · · · · · · · · ·
SAMPLING DATA/FELD PARAMETERSTimeTemperature (°C)pHConductivity (μ S/cm³)TDS (g/L)DO (mg/L)DO %ORP (mV)Volume (gaL)IRDII.637.43II.24(I.9812.0118.4-6.5 $g.O$ IR20II.637.40II.80.9751.9517.9-17.36.5IR20II.637.40II.80.9751.9517.9-17.67.235IR20II.477.39II.140.9772.7024.977.67.235IR22II.477.39II.140.9772.7024.977.67.235Sampling EquipmentPurge Pumg/Bailer)Constituents SampledContainer DescriptionPreservativeBTEX3 40mL VOA'sHCIDissolved Mn16 oz PlasticNoneTDS16 oz PlasticNoneTDS16 oz PlasticNoneRemarksH.0Christine Mathews, Cassle BrownIVM P.244C.3 Volures, frack toWell Casing Volumes0.374" = 0.850.500.146 OctGal./R. 1 1/4" = 0.0772" = 0.163" = 0.374" = 0.850.146 Oct	, Purging Equi	oment <u>Purge pu</u>	ung / Bailer)	<u> </u>	-7.18	3	·			
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$		• ;• .	\bigvee	SAMPLING I	DATA/FIE		RS ·			· · ·
Image: Image of the second		Temperature (°C) pH	Conductivity	(µS/cm ³)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV) Volume (gal.)
IBCO III III IIIIII IIIIIIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		11.63	7.43	112	1 :	0.981	1.01	18.4	-6.5	6.2
Image: Image	1872	3 11 117	7 29		<u>5 </u>	0.915	7 7 7 7 0	711 0	-1/.0	7.75
Sampling Equipment Purge Pump/Bailer) Constituents Sampled Container Description Preservative BTEX 3 40mL VOA's HCI Dissolved Mn 16 oz Plastic None TDS 16 oz Plastic None Remarks HQI Structed allar, Hen Humved brown & Zvolunes, frack to Sampling Personnel Christine Mathews, Cassle Brown 1000000000000000000000000000000000000					7		2.20		11.0	1100
Sampling EquipmentPurge Pump/BailerConstituents SampledContainer DescriptionBTEX3 40mL VOA'sHCIBTEX3 40mL VOA'sHCIDissolved Mn16 oz PlasticNoneTDS16 oz PlasticNoneTDS16 oz PlasticNoneRemarksHQD Stated Clear, Hern Humed brown & Zvolunes, back toSampling PersonnelChristine Mathews, Cassle BrownWell Casing VolumesGal./ft.1 ½" = 0.0772" = 0.16Sampling Volumes3" \pm 0.506" = 1.46						·				
Constituents SampledContainer DescriptionPreservativeBTEX3 40mL VOA'sHCIDissolved Mn16 oz PlasticNoneTDS16 oz PlasticNoneTDS16 oz PlasticNoneRemarksHQD Statted allar, Hen Humed brown & Zvolunes, back toSampling PersonnelChristine Mathews, Cassle Brown100000 & Zvolunes, back toWell Casing VolumesGal.At.1 1/4" = 0.0772" = 0.163" = 0.374" = 0.65Vell Casing VolumesGal.At.1/2" = 0.163" = 0.374" = 0.651/2" = 0.163" = 0.374" = 0.651/2" = 0.163" = 0.374" = 0.651/2" = 0.163" = 0.374" = 0.651/2" = 0.163" = 0.374" = 0.651/2" = 0.163" = 0.374" = 0.651/2" = 0.163" = 0.374" = 0.651/2" = 0.163" = 0.374" = 0.651/2" = 0.163" = 0.506" = 1.46	Sampling Equ	lipment	Purge Pump/B	lailer		•	· · · · · · · · · · · · · · · · · · ·		· _	•
BTEX3 40mL VOA'sHCIDissolved Mn16 oz PlasticNoneTDS16 oz PlasticNoneRemarksHol Static (lear, Hen turned brown @ Zvoluces, back to Sampling PersonnelNoneChristine Mathews, Cassle Brown100 Personnel © Svoluces, back to Of Sheen Of Sheen Of Sheen Of Sheen Of Sheen Of Sheen Of Sheen Of Sheen Of Sheen Of Sheen	Consti	tuents Sampled	. •	Container E) Description	n .	· ·	Pres	ervative	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	BTEX	, 	3 40mL \	VOA's			HCI			
$\frac{\text{TDS}}{\text{Remarks}} = \frac{16 \text{ oz Plastic}}{\text{Hall Clear, Hen Humed brawn @ Zvolunes, frack to} \\ \text{Sampling Personnel Christine Mathews, Cassle Brown} = 110 + PSHAR @ 3 volunes. No odor \\ \hline \\ $	Dissolved Mn	·	16 oz Pl	astic			None			
Remarks <u>Hall Standed clear</u> , <u>Hen turned brawne Zvolunes</u> , <u>Back to</u> Sampling Personnel <u>Christine Mathews, Cassle Brown</u> <u>1100000000000000000000000000000000000</u>	TDS		<u>16 oz Pl</u>	astic			None			
Sampling Personnel Christine Mathews, Cassle Brown Image: Christine Mathews, Cassle	Remarks	Hal st	uted clea	ir, Hen	tum	ed brap	NP ZVO	lunes	bac	k to
Well Casing Volumes Gal./ft. $1 \frac{1}{4}^{"} = 0.077$ 2" = 0.16 3" = 0.37 4" = 0.65 $1 \frac{1}{2}^{"} = 0.10$ $2 \frac{1}{2}^{"} = 0.24$ $3^{"}\frac{1}{2} = 0.50$ $6^{"} = 1.46$ $6^{"}$ $6^{"$	Sampling Per	sonnel <u>Christine</u>	Mathews, Cassle	Brown			PAR	0.31	ohno	s. Wooder
Gal./ft. $1 \frac{14^{\circ}}{4^{\circ}} = 0.077$ 2° $= 0.16$ 3° $= 0.37$ 4° $= 0.65$ $1 \frac{14^{\circ}}{2^{\circ}} = 0.10$ $2 \frac{14^{\circ}}{2^{\circ}} = 0.24$ $3^{\circ} \frac{14^{\circ}}{2^{\circ}} = 0.50$ 6° $= 1.46$				We	(Casing	Volumes		·		or Sheen,
$1 \frac{1}{2}$ " = 0.10 $2 \frac{1}{2}$ " = 0.24 3 " $\frac{1}{2}$ = 0.50 6 " = 1.46		Gal./ft. 1 ¼"	= 0. 077	2" = 0.16	6	3ª =	0.37	4" = 0.65	;	othered
		1 1/2"	= 0.10	2 ½" = 0.24	4	3" 1⁄2 =	0.50	6" = 1.46	i	

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TETRA TECH, INC.	WATER SAMPLING	g Field Form				
Project Name Shepherd & Kelsey 1E	•	Page <u>3</u> of <u>4</u>				
Jet No.						
Site Location Bloomfield, NM	· · · · · · · · · · · · · · · · · · ·					
	ded/	3·14.11				
	ne Sampling (1 (2)	Time Sampling				
Weather SUNNY (1) UM (0) Be	gan <u>1050</u>	Completed 1945				
	EVACUATION DATA					
Description of Measuring Point (MP) Top of C	asing	·				
Height of MP Above/Below Land Surface	MP Elevation	n95.6				
Total Sounded Depth of Well Below MP	20.11 20.12 Water-Level	Elevation 90.55				
Held Depth to Water Below MP	5.05 Dlameter of	Casipg 2"				
Wet Water Column in Well	15.07 Gallons Pur Prior to Sam	nped/Bailed 1.25				
Gallogs per East	0.16					
	2.411 Sampling Pu	Imp Intake Setting				
	$\sqrt{2}$ (rest below t					
Purging Equipment Purge pump / Bailer	1 1,2=1.627					
	SAMPLING DATA/FIELD PARAME	TERS				
Time Temperature (°C) pH	$\frac{\text{Conductivity } (\mu \text{S/cm}^3)}{\Omega} \text{TDS } (g/L)$	$\frac{1}{710} \frac{1}{647} \frac{1}{10} \frac{1}{647} \frac{1}{10} \frac{1}{6} \frac{1}$				
10-10 1.19 1.1 10AD 7.18 7.4	1901 0.770	2,77 22.10 -2.0 10 75				
1843 7.60 7.	37 1-198 ().77	7 2.37 19.8 -2.5 7 25				
· · · ·						
Sampling Equipment Purge Pump/Bailer						
Constituents Sampled	Container Description	Preservative				
BTEX 34	0mL VOA's	нсі				
Dissolved Mn 16	oz Plastic	None				
TDS 16	oz Plastic	None				
		- Carlos				
Remarks Hoois Check	No oborror green	defend your Couleria you				
Sampling Personnel Christine Mathews, C	assie Brown	Q Volta				
	Well Casing Volumes					
Gel./ft 1 1/2° = 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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TE TETRATECH, INC. WATER	SAMPLING FIELD FORM
Project Name Shepherd & Kelsey 1E	Page4 of4
act No.	
Site Location Bloomfleld, NM	
Site/Well No. MW-4 Coded/ Replicate No.	Date 3 ·14 ·11
Weather SUMY WAM 60° Time Sampling 1840	Time Sampling 1855
EVACUATI	ON DATA
Description of Measuring Point (MP Top of Casing	· · · · · · · · · · · · · · · · · · ·
Height of MP Above/Below Land Surface	MP Elevation 96.23
Total Sounded Depth of Well Below MP 20:37 20:41	Water-Level Elevation 90.45
Held Depth to Water Below MP 5:18	Diameter of Caşing 2"
Wet Water Column in Well 14,63	Gallons Pumpet/Bailed 7,25
Gallons per Foot0.16	
Gallons in Weil 2,34	Sampling Pump Intake Setting (feet below land surface)
Purging Equipment Purge pump (Bailer) $\chi 3 = 7$	022
	ELD PARAMETERS
Time Temperature (°C) pH Conductivity (µS/cm ³) TDS (g/L) DO (mg/L) DO % ORP (mV) Volume (gal.)
1849 (1.88 7.32 565	1.347 1.61 150 2.1 6.0
1001 10.03 7.34 15.01 10.52 12.02 7.25 15.57	1.347 2.32 2.1 -3.1 6.5
1009 12.02 1100 1007	110-6 11/2 160 - 1.0 1.0
Sampling Equipment Purge Pump/Bailer	
Constituents Sampled Container Description	n <u>Preservative</u>
BTEX 3 40mL VOA's	HCI
Dissolved Mn 16 oz Plastic	None
TDS 16 oz Plastic	None
Remarks How stated out arounge (i) arange particulates until Ivol.
Sampling Personnel Christine Mathews, Cassle Brown	affer 1º vol. H=20 was light brown
Well Casing	Volumes Ne Ciclo
Gal./ft. 1 ¼" = 0.077 2" = 0.16	3" = 0.37 4" = 0.65
$1\frac{1}{2}^{n} = 0.10$ $2\frac{1}{2}^{n} = 0.24$	3" 1/2 = 0.50 6" = 1.46 005ewed

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APPENDIX B Groundwater Laboratory Analytical Report



Conoco Phillips

Certificate of Analysis Number:						
<u>110</u>	30374					
Report To:	Project Name: COP Shepherd Kelsey1E					
Tetra Tech, Inc.	Site: Bloomfield, NM					
Kelly Blanchard	Site Address:					
6121 Indian School Road, N.E.						
Suite 200	BO Number					
Albuquerque	<u>FO Number.</u>					
NM	State: New Mexico					
87110-	State Cert. No.:					
ph (505) 237-8440 fax: (505) 881-3283	Date Reported: 3/22/2011					

This Report Contains A Total Of 16 Pages

Excluding This Page, Chain Of Custody

And

Any Attachments

3/22/2011

Date

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



Case Narrative for: Conoco Phillips

Certificate of Analysis Number: <u>11030374</u>								
Report To:	. , .	Project Name:	COP Shepherd Kelsey1E					
Tetra Tech, Inc.		Site:	Bloomfield, NM					
Kelly Blanchard		Site Address:						
6121 Indian School Road, N.E.		· ·						
Suite 200	4 1	PO Number:						
Albuquerque		<u>ronumber.</u>						
NM		State:	New Mexico					
87110-		State Cert. No .:						
ph (505) 237-8440 fax: (5	05) 881-3283	Date Reported:	3/22/2011					

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.

III. GENERAL REPORTING COMMENTS:

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

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

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

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

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

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

ardenas

11030374 Page 1 3/22/2011

Erica Cardenas Project Manager

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

Version 2.1 - Modified February 11, 2011

Date



Case Narrative for: Conoco Phillips

Cert	tificate of Analysis	s Number:			
	11030374	<u>.</u>			
his designee, as verified by the following signature.		· · ·			
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11030374 Page 2 3/22/2011

Erica Cardenas Project Manager

Test results meet all requirements of NELAC, unless specified in the narrative. Version 2.1 - Modified February 11, 2011 Date

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Conoco Phillips

Cortificato	of Analy	ie Num	hor
Certificate	or Analy	isis nun	iber:

<u>11030374</u>

<u>Report To:</u>	Tetra Tech, Inc. Kelly Blanchard 6121 Indian School Ro Suite 200 Albuquerque	ad, N.E.	<u>Project Name:</u> <u>Site:</u> <u>Site Address:</u>	COP Shepherd Kelsey1E Bloomfield, NM
	NM 87110- ph (505) 237-8440	fax: (505) 881-3283	<u>PO Number:</u> <u>State:</u> State Cert, No :	New Mexico
<u>Fax To:</u>	· · ·		Date Reported:	3/22/2011

Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
11030374-01	Water	03/14/2011 18:15	3/16/2011 9:10:00 AM	302879	
11030374-02	Water	03/14/2011 18:25	3/16/2011 9:10:00 AM	302879	
11030374-03	Water	03/14/2011 18:45	3/16/2011 9:10:00 AM	302879	
11030374-04	Water	03/14/2011 18:55	3/16/2011 9:10:00 AM	302879	
11030374-04	Water	03/14/2011 18:55	3/16/2011 9:10:00 AM	302904	
11030374-05	Water	03/14/2011 18:20	3/16/2011 9:10:00 AM	302904	
11030374-06	Water	03/14/2011 0:00	3/16/2011 9:10:00 AM	302904	
	Lab Sample ID 11030374-01 11030374-02 11030374-03 11030374-04 11030374-04 11030374-04 11030374-05 11030374-06	Lab Sample ID Matrix 11030374-01 Water 11030374-02 Water 11030374-03 Water 11030374-04 Water 11030374-04 Water 11030374-04 Water 11030374-05 Water 11030374-04 Water 11030374-05 Water	Lab Sample ID Matrix Date Collected 11030374-01 Water 03/14/2011 18:15 11030374-02 Water 03/14/2011 18:25 11030374-03 Water 03/14/2011 18:45 11030374-04 Water 03/14/2011 18:55 11030374-04 Water 03/14/2011 18:55 11030374-05 Water 03/14/2011 18:55 11030374-05 Water 03/14/2011 18:20 11030374-06 Water 03/14/2011 0:00	Lab Sample ID Matrix Date Collected Date Received 11030374-01 Water 03/14/2011 18:15 3/16/2011 9:10:00 AM 11030374-02 Water 03/14/2011 18:25 3/16/2011 9:10:00 AM 11030374-03 Water 03/14/2011 18:25 3/16/2011 9:10:00 AM 11030374-04 Water 03/14/2011 18:55 3/16/2011 9:10:00 AM 11030374-04 Water 03/14/2011 18:55 3/16/2011 9:10:00 AM 11030374-04 Water 03/14/2011 18:55 3/16/2011 9:10:00 AM 11030374-05 Water 03/14/2011 18:20 3/16/2011 9:10:00 AM 11030374-05 Water 03/14/2011 18:20 3/16/2011 9:10:00 AM 11030374-06 Water 03/14/2011 0:00 3/16/2011 9:10:00 AM	Lab Sample ID Matrix Date Collected Date Received COC ID 11030374-01 Water 03/14/2011 18:15 3/16/2011 9:10:00 AM 302879 11030374-02 Water 03/14/2011 18:25 3/16/2011 9:10:00 AM 302879 11030374-03 Water 03/14/2011 18:45 3/16/2011 9:10:00 AM 302879 11030374-04 Water 03/14/2011 18:55 3/16/2011 9:10:00 AM 302879 11030374-04 Water 03/14/2011 18:55 3/16/2011 9:10:00 AM 302879 11030374-04 Water 03/14/2011 18:55 3/16/2011 9:10:00 AM 302904 11030374-05 Water 03/14/2011 18:20 3/16/2011 9:10:00 AM 302904 11030374-05 Water 03/14/2011 18:20 3/16/2011 9:10:00 AM 302904 11030374-06 Water 03/14/2011 0:00 3/16/2011 9:10:00 AM 302904

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3/22/2011

Erica Cardenas Project Manager

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

> > Ted Yen Quality Assurance Officer

Version 2.1 - Modified February 11, 2011

11030374 Page 3 3/22/2011 12:42:53 PM

Date

SPL ENVIRONMENTAL 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID MW	V-1		Collected: (03/14/2011 18	:15 SPL Sa	mple ID: 1103	0374-01
			Site: Blo	omfield, NM		×	
Analyses/Method	Result	QUAL	Rep.Limit	Dil. Fa	actor Date Ana	alyzed Analyst	Seq. #
METALS BY METHO	D 6010B, DISSOLVE)		MCL	SW6010B	Units: mg/L	
Manganese	0.117		0.005		1 03/18/11	15:50 R_V	5747860
Prep Method	Prep Date	Prep Initials	Prep Factor				
SW3005A	03/16/2011 11:45	M_W	1.00				
TOTAL DISSOLVED	SOLIDS			MCL	SM2540 C	Units: mg/L	
Total Dissolved Solids (Residue, Filterable)	782	· · ·	10		1 03/16/11	14:30 MM1	5745728
VOLATILE ORGANIC	S BY METHOD 8260	В		MCL	SW8260B	Units: ug/L	
Benzene	: ND	<	1		1 03/16/11	17:29 LU_L	5745530
Ethylbenzene	ND		1		1 03/16/11	17:29 LU_L	5745530
Toluene	ND	,	1		1 03/16/11	17:29 LU_L	5745530
m,p-Xylene	ND	;	2		1 03/16/11	17:29 LU_L	5745530
o-Xylene	ND		1		1 03/16/11	17:29 LU_L	5745530
Xylenes, Total	ND)	1		1 03/16/11	17:29 LU_L	5745530
Surr: 1,2-Dichloroetha	ane-d4 🤃 91.0	1	% 70-130		1 03/16/11	17:29 LU_L	5745530
Surr: 4-Bromofluorob	enzene 102	1	% 74-125		1 03/16/11	17:29 LU_L	5745530
Surr: Toluopo de	. 02.0	,	0/ 02 110		1 03/16/11	17.20 111 1	57/5530

Qualifiers: ND/U - Not Detected at the Reporting Limit

- B 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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SPL ENVIRONMENTAL

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID MW-2 Collected: 03/14/2011 18:25 11030374-02 SPL Sample ID: Site: **Bloomfield**, NM QUAL Dil. Factor Date Analyzed Analyst Seq. # Analyses/Method Result Rep.Limit METALS BY METHOD 6010B, DISSOLVED MCL SW6010B Units: mg/L 0.005 03/18/11 15:56 R_V 5747861 0.242 1 Manganese Prep Initials Prep Factor Prep Method Prep Date SW3005A 03/16/2011 11:45 M_W 1.00 MCL SM2540 C TOTAL DISSOLVED SOLIDS Units: mg/L 03/16/11 14:30 MM1 5745729 Total Dissolved Solids 1000 10 1 (Residue, Filterable) SW8260B Units: ug/L MCL VOLATILE ORGANICS BY METHOD 8260B 03/16/11 19:17 LU_L 5745534 Benzene ND ş 1 1 03/16/11 19:17 LU_L 5745534 Ethylbenzene ND 1 1 5745534 ND 1 1 03/16/11 19:17 LU_L Toluene m,p-Xylene ND 2 1 03/16/11 19:17 LU L 5745534 ND 1 1 03/16/11 19:17 LU_L 5745534 o-Xylene 5745534 Xylenes,Total ND 1 1 03/16/11 19:17 LU_L 03/16/11 19:17 LU L 5745534 Surr: 1,2-Dichloroethane-d4 85.5 % 70-130 1 Surr: 4-Bromofluorobenzene 101 74-125 1 03/16/11 19:17 LU_L 5745534 % Surr: Toluene-d8 97.0 % 82-118 03/16/11 19:17 LU L 5745534 1

Qualifiers: ND/U - Not De

ND/U - Not Detected at the Reporting Limit

- B 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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SPL ENVIRONMENTAL 8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Collected: 03/14/2011 18:45 11030374-03 SPL Sample ID: **Client Sample ID MW-3** Site: **Bloomfield**, NM Dil. Factor Date Analyzed Seq. # Result QUAL Rep.Limit Analyst Analyses/Method METALS BY METHOD 6010B, DISSOLVED MCL SW6010B Units: mg/L 0.005 1 03/18/11 16:24 R V 5747865 0.156 Manganese Prep Initials Prep Factor Prep Method Prep Date SW3005A 03/16/2011 11:45 мw 1.00 MCL SM2540 C TOTAL DISSOLVED SOLIDS Units: mg/L 5745730 03/16/11 14:30 MM1 **Total Dissolved Solids** 882 10 1 (Residue, Filterable) SW8260B Units: ug/L **VOLATILE ORGANICS BY METHOD 8260B** MCL 5745535 03/16/11 19:42 LU L Benzene ND 1 1) ND 1 1 03/16/11 19:42 LU L 5745535 Ethylbenzene . 03/16/11 19:42 LU_L 5745535 ND 1 1 Toluene i m.p-Xylene ND 2 1 03/16/11 19:42 LU L 5745535 '; ND 03/16/11 19:42 LU_L 5745535 o-Xylene 1 1 , Xylenes, Total ND 1 1 03/16/11 19:42 LU_L 5745535 ١ Surr: 1,2-Dichloroethane-d4 92.3 ... % 70-130 1 03/16/11 19:42 LU L 5745535 5745535 102 74-125 1 03/16/11 19:42 LU_L Surr: 4-Bromofluorobenzene % Surr: Toluene-d8 82-118 03/16/11 19:42 LU L 5745535 95.2 % 1 Ś

Qualifiers: ND/U - Not Detected at the Reporting Limit

B - 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

> 11030374 Page 6 3/22/2011 12:43:07 PM

ACCUTEST

SPL ENVIRONMENTAL

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

LABORATORIES

Client Samp	e ID MW-4
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Collected: 03/14/2011 18:55 SPL Sample ID:

le ID: 11030374-04

··· · ·					Sit	e: Blo	omfield,	NM				
Analyses/Method	÷	Result	QUAL	• .	Re	ep.Limit	0)il. Fac	tor Date Ana	lyzed	Analyst	Seq. #
METALS BY METHOD	6010B, DISS	OLVED					MCL		SW6010B	Ur	nits: mg/L	
Manganese		0.602				0.005		1	03/18/11	16:30	R_V	5747866
Prep Method	Prep Date		Prep Ini	<u>tials</u>	Prep	Factor						
SW3005A	03/16/2011 11:4	5	M_W		1.00							
TOTAL DISSOLVED SO	DLIDS						MCL		SM2540 C	Ur	nits: mg/L	
Total Dissolved Solids (Residue, Filterable)		• 1810		1		20		2	03/16/11	14:30	MM1	5745731
VOLATILE ORGANICS	BY METHOD	8260E	3				MCL		SW8260B	Ur	nits: ug/L	
Benzene		ND		•;		1		1	03/16/11	20:08	LU_L	5745536
Ethylbenzene		ND		:		1		1	03/16/11	20:08	LU_L	5745536
Toluene		ND		3		1		. 1	03/16/11	20:08	LU_L	5745536
m,p-Xytene		, ND)		2		1	03/16/11	20:08	LU_L	5745536
o-Xylene		ND				1		1	03/16/11	20:08	LU_L	5745536
Xylenes, Total		ND		:		1		1	03/16/11	20:08	LU_L	5745536
Surr: 1,2-Dichloroethan	e-d4	90.0		;	%	70-130		1	03/16/11	20:08	LU_L	5745536
Surr: 4-Bromofluoroben	zene	101		;	%	74-125		1	03/16/11	20:08	LU_L	5745536
Surr: Toluene-d8		96.1		3	%	82-118	•	1	03/16/11	20:08	LU_L	5745536

Qualifiers: ND/U - Not Detected at the Reporting Limit

- B 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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SPL ENVIRONMENTAL 8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Collected: 03/14/2011 18:20 SPL Sample ID: 11030374-05 **Client Sample ID** Duplicate Site: **Bloomfield**, NM QUAL Dil. Factor Date Analyzed Analyses/Method Result Rep.Limit Analyst Seq. # **VOLATILE ORGANICS BY METHOD 8260B** MCL SW8260B Units: ug/L 1 03/16/11 18:49 LU_L 5745533 Benzene ND 1 Ethylbenzene ND 1 03/16/11 18:49 LU_L 5745533 1 Toluene ND 03/16/11 18:49 LU_L 5745533 1 1 03/16/11 18:49 LU_L 5745533 m,p-Xylene ND 2 1 5745533 o-Xylene ND 1 1 03/16/11 18:49 LU_L 5745533 Xylenes, Total ND 1 1 03/16/11 18:49 LU_L Surr: 1,2-Dichloroethane-d4 03/16/11 18:49 LU_L 5745533 89.1 % 70-130 1 5745533 Surr: 4-Bromofluorobenzene 103 74-125 03/16/11 18:49 LU_L 1 % 1 Surr: Toluene-d8 96.9 82-118 03/16/11 18:49 LU_L 5745533 3. % 1

Qualifiers: ND/U - Not Detected at the Reporting Limit

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

Client Sample ID Trip Blank

Collected: 03/14/2011 0:00

SPL Sample ID: 11030374-06

,			Si	te: Bloc	omfield,	NM				
Analyses/Method	Result	QUAL	R	ep.Limit	D	il. Factor	Date Ana	yzed An	alyst.	Seq. #
VOLATILE ORGANICS BY MET	HOD 8260B				MCL	SV	V8260B	Units:	ug/L	
Benzene	ND			1		1	03/16/11	17:04 LU_	L	5745529
Ethylbenzene	ND			1		1	03/16/11	17:04 LU_	L	5745529
Toluene	ND			1		1	03/16/11	17:04 LU_	L	5745529
m,p-Xylene	ND			2		1	03/16/11	17:04 LU_	L	5745529
o-Xylene	ND			1		1	03/16/11	17:04 LU_	L	5745529
Xylenes,Total	. ND	,		1		1	03/16/11	17:04 LU_	Ļ	5745529
Surr: 1,2-Dichloroethane-d4	92.7		%	70-130		1	03/16/11	17:04 LU_	L	5745529
Surr: 4-Bromofluorobenzene	103		%	74-125		1	03/16/11	17:04 LU_	L	5745529
Surr: Toluene-d8	95.6	1	%	82-118		1	03/16/11	17:04 LU_	L	5745529

Qualifiers: ND/U - Not Detected at the Reporting Limit

- B 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

Version 2.1 - Modified February 11, 2011

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Quality Control Report

Conoco Phillips

COP Shonberd Kelsev1E

unID: ICP2_ nalvsis Date:					•					Lab Batch I	D: 10	5503	•	
unID: ICP2_ nalvsis Date:		Met	hod Blank	_	<u>.</u> .		Samp	oles in Ana	lytical	Batch:				
nalvsis Date:	_110318A-574784	15	Units:	mg/L			Lab S	ample ID	-	Clien	t Sample I	D		
	03/18/201	1 14:12	Analyst:	R_V			11030	0374-01B		MM-	1		•	
reparation Date	e: 03/16/201	1 11:45	Prep By:	M_ 1	Method SW	3005A	11030)374-02B		MW-2	2			
			;				11030	0374-03B		MW-	3			
ſ		Analyte		Result	Rep Limit		11030)374-04B		MW⊸	1			
M	anganese	,		ND	0.005	- 								
		•	• •			· ·						•		
· · · · · · · · · · · · · · · · · · ·				La	aboratory C	ontrol Sa	mple (L	CS)						
• .		RuniD):	ICP2 110)318A-574784	46 Unit	s: m	na/L			•	•		
*	7	Analys	sis Date:	03/18/20)11 14:18	Ana	lvst: R	.g.= . V						
•		Prepa	ration Date:	03/16/20)11 11:45	Prep	By: N	 1Methor	sw3	005A				
								-						
•		• • •	Analvt	e		Spike	Result	Percent	Low	/er Upper	· · .		: .	
						Added		Recovery	Lin	nit Limit		· .	•	
		Mangane	se			0.1000	0.1015	101.	5	80 1	20			
					I				.					
		·								•				
			<u>Matrix</u>	Spike (N	AS) / Matrix	Spike Du	plicate	(MSD)					•	
				44000										•
		Sam	ipie Spikea:	11030	370-02 103190 5747	949 11-	ite.	ma/l						
	•	Kun	ID: Veis Date:	03/19/	10310A-5747	040 ∪r ∆r	nis: volvet:	mg/L PV						
•		Pror	varation Date	03/16/2	2011 14.30	Pr	en Bvr	rn_v Mi Meth	od SW	30054				
			aration Date.	00/10/1	2011 11.40		ор Бу.							
	Analyte		Sample	MS	MS	MS %	MS			MSD %	RPD	1	Low	High
•	Analyte		Result	Spike	Result	Recove	ery Spil	ke Res	ult	Recovery		RPD	Limit	Limit
				Added	•		Add	led				Limit		
langanese			0.06240	0.1	0.1626	5 10	0.2	0.1 0	.1620	99.60	0.3697	20	75	125
				I I		1							•	·
				,										
										•				
Jualifiere		acted at the	- Reporting Lin	 nit		N.I	- Matrix	Interference						
guainici 5.	R - Analyte Det	ected in Th	a Associated !	Method P	iank	ויאי	- Recove	nucliorence	- ahle du	e to Dilution				
	J - Estimated V	alue Retwo	en MDI Ând E			*_	Recover	v Outside /	.dvisahl	le OC Limite				
	F - Estimated V	alue betwe	ds calibration	curve			1 COUVE	y Outside P	10 VI 30U					
	N/C - Not Calci	ilated - Sar	nole concentra	ation is an	eater than 4	times the	amount	of spike add	led Co	ntrol limits do	not apply			
	TNTC - Too nu	marcue to	npie concentre count	autio gr				or opine add			not oppiy.	11	030374	Page 11

QC resul le QC Summary Rep calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules. 3/22/2011 12:43:13 PM



3/22/2011 12:43:13 PM

Quality Control Report

Conoco Phillips

COP Shepherd Kelsey1E

Analysis: Method:	Volatile SW8260	Organics by Metho B	d 8260B	. •			Wor Lab	kOrder: Batch ID:	11030374 R317172	
		Method Bla	nk .	•	Samp	oles in Analy	tical Batc	h:		
RunID: K_	110316B-5745528	Uni	ts: ug/L		Lah S	Sample ID		Client Sar	nnle ID	
Analysis Dat	e: 03/16/20	11 16:39 Ana	alvst: LU L		11030	0374-01A		MW-1		
· · · · · / - · · · · · ·			······································		11030	0374-02A		MW-2		
	•				11030	0374-03A		MW-3		
	·				11030	0374-04A		MW-4		
		Analyte	Result Rep Lir	nit	11030	0374-05A		Duplicate		
	Ethylbenzene			1.0	11030	0374-06A		Trip Blank		
	Toluene		ND	1.0				-		ι.
	m,p-Xylene		ND 2	2.0						
	Xylenes,Total		ND	1.0						
	Surr: 1,2-Dichlo	oroethane-d4	94.2 70-1	30						
	Surr: 4-Bromof	luorobenzene	106.3 74-1	25						
	Sun. Toluene-C		54.0 02*1	10		•				
					·					
	.)	· · ·	Laborator	v Control	Sample (L	CS)				
· ·		· ·	K 440040D 57455	A7 11					•	
		RuniD:	K_110316B-57455	2/ U	nits: u	g/L				
	4	Analysis Date:	03/16/2011 15:4:		nalyst: L	U_L				
	•		. .		. •					
`			·	- <u> </u>				·····		
ι,			Analyte	Spike	Result	Percent	Lower	Upper		
	,	-		Audeu		Recovery				
		Benzene		20.0	21.5	107	74	123		
		Ethylbenzene		20.0	20.9	105	72	127		
	•			20.0	19.7	98.0	74	120		· .
		ni,p-Aylene		40.0	41.1	103	74	129	. •	
		Vulonos Total	· · · · · · · · · · · · · · · · · · ·	20.0	20.0	102	74	130		
		Surr: 1.2-Dichl	proethane-d4	50.0	44.8	80.7	70	130		
		Surr: 4-Bromof		50.0	52.9	106	70	125		
		Surr: Toluene-o	18	50.0	47.7	95.4	82	118		
				1						
		M	atrix Spike (MS) / Ma	trix Spike	Duplicate	(MSD)				
		_								
Qualifiers:	ND/U - Not De	etected at the Reporting	ng Limit		MI - Matrix	Interference				
	B - Analyte De	etected In The Associ	ated Method Blank		D - Recove	ery Unreporta	ble due to l	Dilution		
	J - Estimated	Value Between MDL	And PQL		* - Recover	ry Outside Ad	lvisable QC	: Limits		
	E - Estimated	Value exceeds calibra	ation curve							
	N/C - Not Calo	culated - Sample cond	entration is greater tha	n 4 times th	e amount o	of spike adde	d. Control I	imits do not a	apply.	
	TNTC - Too n	umerous to count							1103	0374 Page 12

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.



Quality Control Report

Conoco Phillips COP Shepherd Kelsey1E

Analysis: Method:	Volatile Organics by Me SW8260B	hod 8260B			WorkOrder: Lab Batch ID:	11030374 R317172	. •
	Sample S	piked: 11030374-01				. •	
	RuniD:	K_110316B-5745531	Units:	ug/L			
	Analysis [Date: 03/16/2011 17:58	Analyst:	LU_L			

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	21.7	108	20	22.2	111	2.64	22	70	124
Ethylbenzene	ND	20	19.9	99.4	20	20.1	· 100	0.906	20	76	122
Toluene	ND	20	20.0	100	20	20.4	102	1.71	24	80	117
m,p-Xylene	. ND	40	40.0	99.9	40	40.1	100	0.347	· 20	69	127
o-Xylene	. ND	20	21.1	105	20	20.2	101	4.37	20	84	114
Xylenes,Total	: ND	60	61.1	102	60	60.3	100	1.26	20	69	· 127
Surr: 1,2-Dichloroethane-d4) ND	50	42.3	84.6	50	44.5	89.1	5.15	30	70	130
Surr: 4-Bromofluorobenzene	ND	50	51	102	50	50.5	· 101	0.962	30	74	125
Surr: Toluene-d8	ND	. 50	47.4	94.9	50	48.0	96.0	1.18	. 30	82	118

Qualifiers:

s: ND/U - Not Detected at the Reporting Limit

B - 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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Quality Control Report

Conoco Phillips

COP Shepherd Kelsey1E

Analysis: Method:	Total Dissolved So SM2540 C	olids					1	WorkOrder: Lab Batch I	D:	110303 R31717	74 '9A	
	Me	thod Blank				Samples ir	n Analytical E	Batch:	•			
RunID: WET_1 Analysis Date:	10316N-5745713 03/16/2011 14:30	Units: Analysi	mg/l t: MM ⁻	L 1 .		<u>Lab Sampl</u> 11030374-0	e ID 01C	<u>Clien</u> MW-1	<u>t Sampl</u> 1	e ID		
		,			·	11030374-0 11030374-0	02C 03C	MW-3	2 3		·	
	Analyte		Resu	It Rep Limit		11030374-0	04C	MW-4	1			
Tota	al Dissolved Solids (Residu	ue,Filterable)		ND 10								1
		• .									•	:
	Labora	tory Control	Sample	/Laboratory (Control Sam	ple Duplica	ate (LCS/LCS	<u>SD)</u>				÷.
1	RuniD	· WE	T 110316	6N-5745715 I	Units: m	na/L	•	• •	•			1
	Analysis Da	ate: 03/	16/2011	14:30	Analyst: N	1M1						t e
				· . ·	•							ŀ
ļ.	Analyte .	LCS Spike	LCS Result	LCS Percent Recovery	LCSD Spike	LCSD Result	LCSD · Percent	RPD	RPD Limit	Lower Limit	Upper Limit	
Total Dissolved S	olids (Residue Eilterabl	200.0	199.0	99.50	200.0	198.0	99.00	0.5	5 10	95	107	•
·		200.0	100.0	Sam	ple Duplica	te						
· · ·	O R A	riginal Sampl unID: nalysis Date:	e: 11 Wi 03	030374-04 ET_110316N-57 /16/2011 14:30	45731 Un) An	its: mg/ alyst: MM	/L 1		• •	•	· ·	•
			,									
•			Analyte	e ·	Sample Result	DUP Result	RPD	RPD Limit		•		
	Т	otal Dissolved	l Solids (Residue,Filtera	abl 181	0 1836	1.65	10				
						•						
. •						•						
			· .									
Qualifiers: N	D/U - Not Detected at th	e Reporting I	Limit		Mi -	Matrix Interfe	erence					
B	- Analyte Detected In Ti - Estimated Value Betw	he Associated een MDL And	d Method	l Blank	D - F * - R	Recovery Un ecovery Out	reportable due side Advisable	e to Dilution e 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

E - Estimated Value exceeds calibration curve

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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Sample Receipt Checklist

And Chain of Custody

Version 2.1 - Modified February 11, 2011

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Sample Receipt Checklist

Workorder: 11030374 Date and Time Received: 3/16/2011 9:10:00 AM Temperature: 4.0/4.0°C		Received By: Carrier name: Chilled by:	NB Fedex-Standard Overnight Water Ice
1. Shipping container/cooler in good condition?	Yes 🗹	Νο	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 🗹	Νο	
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 🗹	Νο	
9. Sufficient sample volume for indicated test?	Yes 🗹	Νο	
10. All samples received within holding time?	Yes 🗹	No 🗌	
11. Container/Temp Blank temperature in compliance?	Yes 🗹	Νο	
12. Water - VOA vials have zero headspace?	Yes 🗹		/ials Not Present
13. Water - Preservation checked upon receipt (except VOA*)?	Yes	No	Not Applicable
*VOA Preservation Checked After Sample Analysis			
SPL Representative:	Contact Date &	Time:	·
Client Name Contacted:			
Non Conformance Issues:			
Client Instructions:		41 - 20 - 1,0 - 10	· ·
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