

**3R - 0069**

**ANNUAL  
MONITORING  
REPORT**

**03/27/2008**

~~3R071~~  
3R069

# ANNUAL GROUNDWATER MONITORING REPORT

BULLINGTON

**CONOCOPHILLIPS**  
**HAMPTON #4 M**  
**AZTEC, NEW MEXICO**

OCD # \_\_\_\_\_

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APR 02 2008

Prepared for:

Oil Conservation Division  
Environmental Bureau

  
**ConocoPhillips**

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Prepared by:



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Tetra Tech Project No. 1158690062

March 27, 2008

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## **ANNUAL GROUNDWATER MONITORING REPORT HAMPTON #4M, AZTEC, NEW MEXICO**

### **1.0 INTRODUCTION**

This report presents the results of quarterly groundwater monitoring events conducted by Lode Star LLC in March and June 2007, and by Tetra Tech, Inc. (Tetra Tech) in November 2007 and January 2008, at the ConocoPhillips Hampton #4M site near Aztec, New Mexico,

The site is located approximately  $\frac{1}{4}$  mile south of Hampton Arroyo and 2 miles southeast of Aztec, New Mexico. The site consists of a gas production well and associated equipment and installations. The location and general features of the Hampton #4M site are shown on Figures 1 and 2, respectively.

#### **1.1 Site Background**

The environmental investigation at this site began in 1997 with the implementation of various stages of excavation, installation of a monitoring well network, and development of a quarterly groundwater monitoring program for the well network and a local seep to monitor the progression of natural remediation at the site. The current monitor well network consists of wells MW-1, MW-5, MW-7, MW-9, MW-11, MW-12, MW-15, MW-16, and TMW-1, which are sampled quarterly. A seep on location is also sampled on a quarterly basis.

### **2.0 MONITORING SUMMARY AND SAMPLING METHODOLOGY / RESULTS**

#### **2.1 Monitoring Summary**

Quarterly groundwater sampling was conducted in March, June, and November 2007 and in January 2008. Groundwater samples were collected from monitoring wells MW-1, MW-5, MW-7, MW-9, MW-11, MW-12, MW-15, MW-16, TMW-1, and a seep on location. During the November 2007 and January 2008 sampling event, water levels were measured by Tetra Tech in monitoring wells MW-1, MW-5, MW-7, MW-9, MW-11, MW-12, MW-15, MW-16, and TMW-1. Calculated groundwater elevations for each monitoring well are presented on Table 1. A groundwater elevation contour map was generated using the November 2007 water level data and is presented on Figure 2.

#### **2.2 Groundwater Sampling Methodology**

Monitoring wells MW-1, MW-5, MW-7, MW-9, MW-11, MW-12, MW-15, MW-16, and TMW-1 were purged of three volumes of water and sampled. A 1.5-inch clear, poly-vinyl, disposable bailer was used to purge each well and to collect the groundwater sample. The purge water generated during the event was disposed of in the waste water tank located on site (Figure 2). The groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped with chain-of-custody documentation. All samples collected were analyzed for the presence of benzene, toluene, ethylbenzene, and xylenes (BTEX) by Environmental Protection Agency (EPA) Method 8260B. Analysis of the March and June 2007 samples was

performed by ACZ Laboratories, Inc. in Steamboat Springs, Colorado. Analysis of the November 2007 and January 2008 samples was performed by Lancaster Laboratories in Lancaster, Pennsylvania.

## 2.3 Groundwater Sampling Analytical Results

Samples collected during the 2007 monitoring period indicate the following results:

- Groundwater concentrations for BTEX were below laboratory method detection limits (MDL) / practical quantitation limits (PQL) in monitor wells MW-1, MW-9, MW-11, MW-15, and the onsite seep.
- Groundwater concentrations exceeded the New Mexico Water Quality Control Commission (NMWQCC) standard for:
  - benzene (10 micrograms per liter [ $\mu\text{g/L}$ ]), toluene (750  $\mu\text{g/L}$ ), and total xylenes (620  $\mu\text{g/L}$ ) in monitoring wells MW-5 and MW-16 for the entire monitoring period;
  - benzene in monitoring wells MW-7 and MW-12 for the entire monitoring period;
  - toluene and total xylenes in monitoring well MW-12 during the first and fourth quarters of the monitoring period.
  - ethylbenzene in monitoring well MW-16 during the second quarter of the monitoring period.
- The highest BTEX concentrations were detected in monitoring well MW-16 at 5500, 12,000, 770, and 7760  $\mu\text{g/L}$ , respectively.
- BTEX concentrations, especially benzene, decreased dramatically in monitoring well TMW-1 between the third and fourth quarters of the monitoring period.

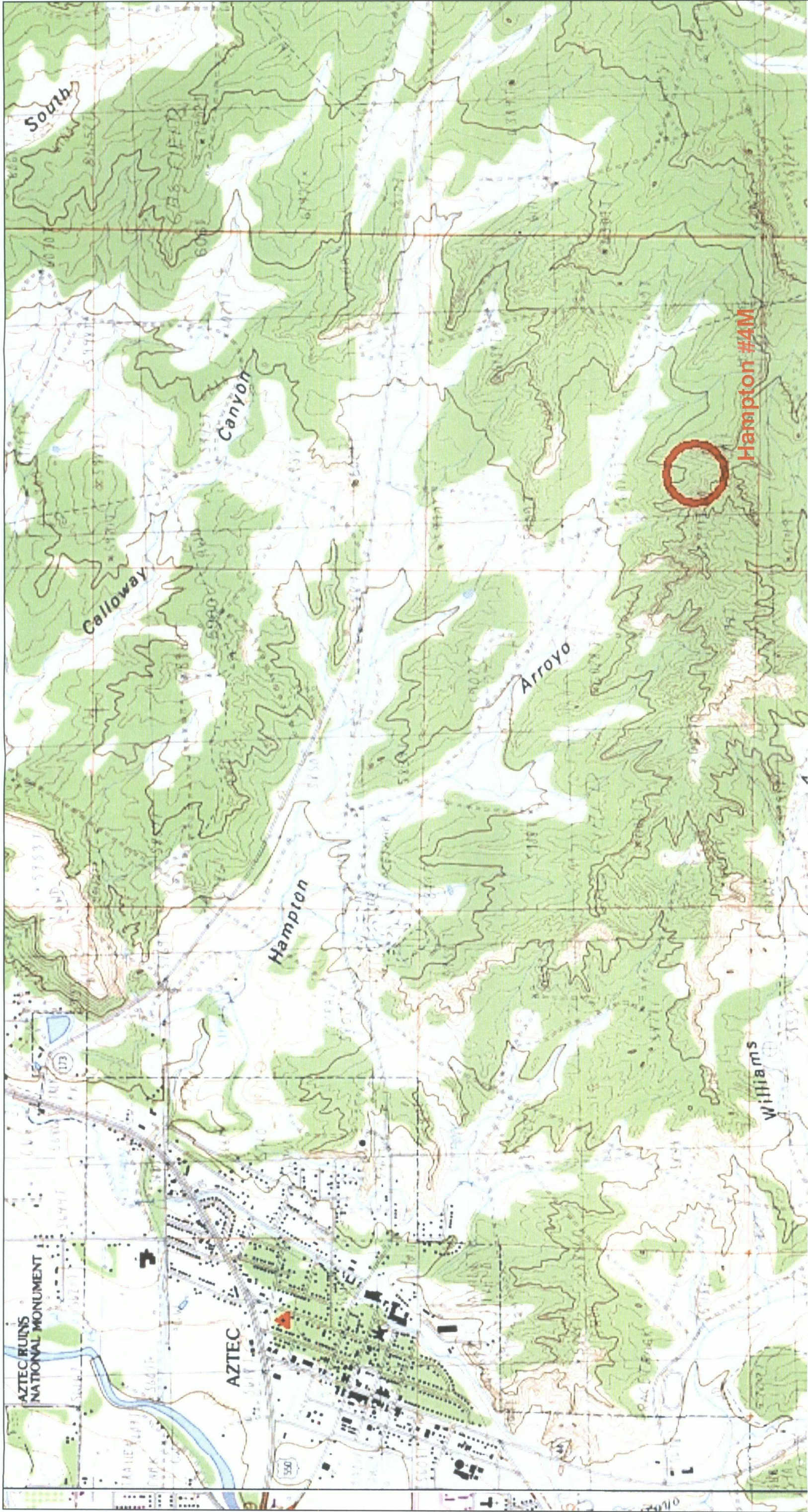
Table 2 summarizes the laboratory analytical results for each quarterly groundwater sampling event. The corresponding laboratory analysis reports including quality control summaries are included in Appendix A.

## 3.0 CONCLUSIONS

Tetra Tech will continue to conduct quarterly groundwater monitoring of the existing well network at the Hampton 4M site during March, June, September and December 2008. Please contact Kelly Blanchard at 505-237-8440 or [kelly.blanchard@tetrattech.com](mailto:kelly.blanchard@tetrattech.com) if you have any questions or require additional information.

## FIGURES





Approximate Scale:



Figure 1. Site Location Map  
ConocoPhillips Hampton #4M Site  
Aztec, New Mexico



TETRA TECH, INC.



Approx. 0.25 miles from MW-11 site, near turnoff to site from residential dirt road.

MW-7

Approx. 135 feet

TMW-1

Approx. 200-225 feet

MW-5

Seep \*

Drainage

Entrance Road

MW-12

MW-16

Old Machinery

MW-9

NG Well Head Assembly

Sandstone Hill / Ridge

Gravel berm

MW-15

Dirt berm

In-Ground Condensate Tank

AST

Approximate scale:  
0 20 40  
FEET

MW-1 (Approximate Location)



TETRA TECH, INC.

Figure 2. Hampton #4M Site Map  
San Juan, County, New Mexico

Monitoring Well





Approx. 0.25 miles from MW-11 site, near turnoff to site from residential dirt road.

MW-11  
5959.89

MW-7  
6046.41

Approx. 135 feet

TMW-1

Approx. 200-225 feet

MW-5  
6075.18

6070.00

Seep \*

Entrance Road

Drainage

6080.00

MW-12  
6088.78

MW-16

6090.00

MW-9  
6099.76

Old Machinery

6100.00

NG Well Head Assembly

Sandstone Hill / Ridge

Gravel berm

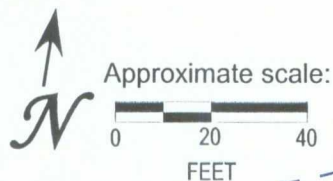
MW-15

Dirt berm

In-Ground Condensate Tank

AST

6105.00



TETRA TECH, INC.

Figure 3. Hampton #4M  
Groundwater Elevation Map (01/08)  
San Juan, County, New Mexico

Monitoring Well

6106.46 Groundwater Elevation ft. MSL

MW-1 (Approximate Location)

6106.46

## TABLES

**Table 1. ConocoPhillips Hampton #4M - Groundwater Elevation Summary  
(November 2007 and January 2008)**

Monitor Well	TOC Elevation (ft AMSL)	Sample Date	GW Elevation (ft AMSL)
MW-1	6149.42	11/8/2007	6106.61
		1/17/2008	6106.46
MW-5	6090.83	11/8/2007	6074.31
		1/17/2008	6075.18
TMW-1	No survey - DTW only	11/8/2007	19.06 DTW
		1/17/2008	NM
MW-7	6066.91	11/8/2007	6046.69
		1/17/2008	6046.41
MW-9	6122.52	11/8/2007	6099.61
		1/17/2008	6099.76
MW-11	6015.75	11/8/2007	5959.75
		1/17/2008	5959.89
MW-12	6109.02	11/8/2007	6088.56
		1/17/2008	6088.78
MW-15	No survey - DTW only	11/8/2007	18.03 DTW
		1/17/2008	18.20 DTW
MW-16	No survey - DTW only	11/8/2007	25.03 DTW
		1/17/2008	24.88 DTW

**Explanation**

AMSL = Above mean sea level

DTW = Depth to water

NM = Not measured



**Table 2. ConocoPhillips Hampton #4M - Groundwater Laboratory  
Analytical Results Summary**

Well ID	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes
		(µg/L)			
MW-1	3/26/2007	<0.3 U	0.3 J	0.2 J	0.4 J
	6/26/2007	<0.3 U	<0.2 U	<0.2 U	<0.6 U
	11/8/2007	<0.5 U	<0.7 U	<0.8 U	<0.8 U
	1/15/2008	<0.5 U	<0.7 U	<0.8 U	<0.8 U
MW-5	3/26/2007	660	6470	530	5450
	6/26/2007	740	8070	640	7320
	11/8/2007	410	4800	390	5000
	1/17/2008	440	6400	510	6100
MW-7	3/26/2007	11.5	1.0	0.6 J	0.8 J
	6/26/2007	56	0.4 J	17.7	1.3
	11/8/2007	44	<0.7 U	2.0	<0.8 U
	1/17/2008	17	<0.7 U	3.0	<0.8 U
MW-9	3/26/2007	<0.3 U	<0.2 U	<0.2 U	<0.6 U
	6/26/2007	<0.3 U	<0.2 U	<0.2 U	<0.6 U
	11/8/2007	<0.5 U	<0.7 U	<0.8 U	<0.8 U
	1/17/2008	<0.5 U	<0.7 U	<0.8 U	<0.8 U
MW-11	3/26/2007	<0.3 U	<0.2 U	<0.2 U	<0.6 U
	6/26/2007	<0.3 U	<0.2 U	<0.2 U	<0.6 U
	11/8/2007	<0.5 U	<0.7 U	<0.8 U	<0.8 U
	1/17/2008	<0.5 U	<0.7 U	<0.8 U	<0.8 U
MW-12	3/26/2007	4130	1680	340	1180
	6/26/2007	1520	432	118	340
	11/8/2007	780	310	43	170
	1/17/2008	2000	1400	180	790
MW-15	3/26/2007	<0.3 U	<0.2 U	<0.2 U	<0.6 U
	6/26/2007	<0.3 U	0.5 J	<0.2 U	<0.6 U
	11/8/2007	<0.5 U	<0.7 U	<0.8 U	<0.8 U
	1/17/2008	<0.5 U	<0.7 U	<0.8 U	<0.8 U
MW-16	3/26/2007	2970	2820	260	5220
	6/26/2007	5230	9110	770	7760
	11/8/2007	5500	12000	570	6200
	1/17/2008	4600	9100	550	5600
TMW-1	3/26/2007	NA	NA	NA	NA
	6/26/2007	269	2.6	4.9	15.7
	11/8/2007	300	12	6	38
	1/17/2008	0.8	<0.7 U	<0.8 U	1.0
Seep	3/26/2007	<0.3 U	0.3 J	<0.2 U	<0.6 UJ
	6/26/2007	<0.3 U	<0.2 U	<0.2 U	<0.6 U
	11/8/2007	<0.5 U	<0.7 U	<0.8 U	<0.8 U
	1/17/2008	NA	NA	NA	NA
NMWQCC Standards		10 (µg/L)	750 (µg/L)	750 (µg/L)	620 (µg/L)

**Explanation**

J = Analyte concentration detected at a value between MDL and PQL

MDL = Method Detection Limit

NA = Not Analyzed

NMWQCC = New Mexico Water Quality Control Commission

PQL = Practical Quantitation Limit

U = Analyte was analyzed for but not detected at the indicated MDL

µg/L = micrograms per liter (parts per billion)

**APPENDIX A**  
**LABORATORY ANALYSIS REPORT**

March 30, 2007

## Report to:

Gregg Wurtz  
ConocoPhillips Company  
3401 E. 30th St. P.O. Box 4289  
Farmington, NM 87499

## Bill to:

B. Curley  
ConocoPhillips Company  
Burlington Resources P.O. Box 2200  
Bartlesville, OK 74005

cc: Martin Nee

Project ID: HAMPTON 4M

ACZ Project ID: L61725

Gregg Wurtz:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on March 28, 2007. This project has been assigned to ACZ's project number, L61725. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L61725. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after April 30, 2007. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

30/Mar/07

Tony Antalek, Project Manager, has reviewed and approved this report in its entirety.





**ConocoPhillips Company**

Project ID: HAMPTON 4M  
Sample ID: HAMPTON 4M MW-1

ACZ Sample ID: **L61725-01**  
Date Sampled: 03/26/07 9:36  
Date Received: 03/28/07  
Sample Matrix: Ground Water

**Benzene, Toluene, Ethylbenzene & Xylene**

Analysis Method: **M8021B GC/PID**  
Extract Method:

Workgroup: **WG222372**

Analyst: *ccp*

Extract Date:

Analysis Date: **03/29/07 13:31**

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	71-43-2		U	1		ug/L	0.3	1
Ethylbenzene	100-41-4	0.2	J	1		ug/L	0.2	1
m p Xylene	1330-20-7	0.4	J	1		ug/L	0.4	2
o Xylene	95-47-6		U	1		ug/L	0.2	1
Toluene	108-88-3	0.3	J	1		ug/L	0.2	1

Surrogate Recoveries	CAS	% Recovery	Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	103	1		%	70	130

**ConocoPhillips Company**

Project ID: HAMPTON 4M  
Sample ID: HAMPTON 4M MW-15

ACZ Sample ID: **L61725-02**  
Date Sampled: 03/26/07 10:11  
Date Received: 03/28/07  
Sample Matrix: Ground Water

**Benzene, Toluene, Ethylbenzene & Xylene**

Analysis Method: M8021B GC/PID  
Extract Method:

Workgroup: **WG222372**  
Analyst: ccp  
Extract Date:  
Analysis Date: **03/29/07 15:42**

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	71-43-2	U		1		ug/L	0.3	1
Ethylbenzene	100-41-4	U		1		ug/L	0.2	1
m p Xylene	1330-20-7	U		1		ug/L	0.4	2
o Xylene	95-47-6	U		1		ug/L	0.2	1
Toluene	108-88-3	U		1		ug/L	0.2	1

Surrogate Recoveries	CAS	% Recovery	Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	102.4	1		%	70	130

**ConocoPhillips Company**

Project ID: HAMPTON 4M  
Sample ID: HAMPTON 4M MW-9

ACZ Sample ID: **L61725-03**  
Date Sampled: 03/26/07 10:32  
Date Received: 03/28/07  
Sample Matrix: Ground Water

**Benzene, Toluene, Ethylbenzene & Xylene**

Analysis Method: **M8021B GC/PID**  
Extract Method:

Workgroup: **WG222372**  
Analyst: ccp  
Extract Date:  
Analysis Date: **03/29/07 16:26**

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	71-43-2		U	1		ug/L	0.3	1
Ethylbenzene	100-41-4		U	1		ug/L	0.2	1
m p Xylene	1330-20-7		U	1		ug/L	0.4	2
o Xylene	95-47-6		U	1		ug/L	0.2	1
Toluene	108-88-3		U	1		ug/L	0.2	1

Surrogate Recoveries	CAS	% Recovery	Dilution	XQ	Units	LGL	UCL
Bromofluorobenzene	460-00-4	102.5	1		%	70	130



**ConocoPhillips Company**

Project ID: HAMPTON 4M  
Sample ID: HAMPTON 4M MW-12

ACZ Sample ID: **L61725-04**  
Date Sampled: 03/26/07 11:43  
Date Received: 03/28/07  
Sample Matrix: Ground Water

**Benzene, Toluene, Ethylbenzene & Xylene**

Analysis Method: **M8021B GC/PID**  
Extract Method:

Workgroup: **WG222372**  
Analyst: *ccp*  
Extract Date:  
Analysis Date: **03/30/07 10:28**

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	71-43-2	4130		50		ug/L	20	50
Ethylbenzene	100-41-4	340		50		ug/L	10	50
m p Xylene	1330-20-7	880		50		ug/L	20	100
o Xylene	95-47-6	300		50		ug/L	10	50
Toluene	108-88-3	1680		50		ug/L	10	50

Surrogate Recoveries	CAS	% Recovery	Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	113.8	50		%	70	130

**ConocoPhillips Company**

Project ID: HAMPTON 4M  
Sample ID: HAMPTON 4M MW-16

ACZ Sample ID: **L61725-05**  
Date Sampled: 03/26/07 12:15  
Date Received: 03/28/07  
Sample Matrix: Ground Water

**Benzene, Toluene, Ethylbenzene & Xylene**

Analysis Method: **M8021B GC/PID**  
Extract Method:

Workgroup: **WG222372**  
Analyst: **ccp**  
Extract Date:  
Analysis Date: **03/29/07 17:53**

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	71-43-2	2970		100	*	ug/L	30	100
Ethylbenzene	100-41-4	260		100	*	ug/L	20	100
m p Xylene	1330-20-7	3640		100	*	ug/L	40	200
o Xylene	95-47-6	1580		100	*	ug/L	20	100
Toluene	108-88-3	2820		100	*	ug/L	20	100

Surrogate Recoveries	CAS	% Recovery	Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	113.6	100	*	%	70	130

**ConocoPhillips Company**

Project ID: HAMPTON 4M  
Sample ID: HAMPTON 4M SEEP

ACZ Sample ID: **L61725-06**  
Date Sampled: 03/26/07 12:28  
Date Received: 03/28/07  
Sample Matrix: Ground Water

**Benzene, Toluene, Ethylbenzene & Xylene**

Analysis Method: **M8021B GC/PID**  
Extract Method:

Workgroup: **WG222372**

Analyst: ccp

Extract Date:

Analysis Date: **03/29/07 19:20**

Compound	CAS	Result	QUAL	Dilution	XO	Units	MDL	PQL
Benzene	71-43-2		U	1	*	ug/L	0.3	1
Ethylbenzene	100-41-4		U	1	*	ug/L	0.2	1
m p Xylene	1330-20-7		U	1	*	ug/L	0.4	2
o Xylene	95-47-6	0.3	J	1	*	ug/L	0.2	1
Toluene	108-88-3	0.5	J	1	*	ug/L	0.2	1

Surrogate Recoveries	CAS	% Recovery	Dilution	XO	Units	LCL	UCL
Bromofluorobenzene	460-00-4	100.4	1	*	%	70	130



**ConocoPhillips Company**

Project ID: HAMPTON 4M  
Sample ID: HAMPTON 4M MW-5

ACZ Sample ID: **L61725-07**  
Date Sampled: 03/26/07 12:49  
Date Received: 03/28/07  
Sample Matrix: Ground Water

**Benzene, Toluene, Ethylbenzene & Xylene**

Analysis Method: **M8021B GC/PID**  
Extract Method:

Workgroup: **WG222372**  
Analyst: ccp  
Extract Date:  
Analysis Date: **03/29/07 20:04**

Compound	CAS	Result	QUAL	Dilution	XG	Units	MDL	PQL
Benzene	71-43-2	660		100		ug/L	30	100
Ethylbenzene	100-41-4	530		100		ug/L	20	100
m p Xylene	1330-20-7	4300		100		ug/L	40	200
o Xylene	95-47-6	1150		100		ug/L	20	100
Toluene	108-88-3	6470		100		ug/L	20	100

Surrogate Recoveries	CAS	% Recovery	Dilution	XG	Units	LCL	UCL
Bromofluorobenzene	460-00-4	109.5	100		%	70	130

**ConocoPhillips Company**

Project ID: HAMPTON 4M  
Sample ID: HAMPTON 4M MW-11

ACZ Sample ID: **L61725-08**  
Date Sampled: 03/26/07 13:47  
Date Received: 03/28/07  
Sample Matrix: Ground Water

**Benzene, Toluene, Ethylbenzene & Xylene**

Analysis Method: **M8021B GC/PID**  
Extract Method:

Workgroup: **WG222372**  
Analyst: ccp  
Extract Date:  
Analysis Date: **03/29/07 20:48**

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	71-43-2		U	1		ug/L	0.3	1
Ethylbenzene	100-41-4		U	1		ug/L	0.2	1
m p Xylene	1330-20-7		U	1		ug/L	0.4	2
o Xylene	95-47-6		U	1		ug/L	0.2	1
Toluene	108-88-3		U	1		ug/L	0.2	1

Surrogate Recoveries	CAS	% Recovery	Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	101.5	1		%	70	130

**ConocoPhillips Company**Project ID: HAMPTON 4M  
Sample ID: HAMPTON 4M MW-7ACZ Sample ID: **L61725-09**  
Date Sampled: 03/26/07 13:10  
Date Received: 03/28/07  
Sample Matrix: Ground Water**Benzene, Toluene, Ethylbenzene & Xylene**Analysis Method: **M8021B GC/PID**  
Extract Method:Workgroup: **WG222372**  
Analyst: ccp  
Extract Date:  
Analysis Date: **03/29/07 21:33**

Compound	CAS	Result	QUAL	Dilution	XO	Units	MDL	PQL
Benzene	71-43-2	11.5		1		ug/L	0.3	1
Ethylbenzene	100-41-4	0.6	J	1		ug/L	0.2	1
m p Xylene	1330-20-7		U	1		ug/L	0.4	2
o Xylene	95-47-6	0.8	J	1		ug/L	0.2	1
Toluene	108-88-3	1		1	*	ug/L	0.2	1

Surrogate Recoveries	CAS	% Recovery	Dilution	XO	Units	LCL	UCL
Bromofluorobenzene	460-00-4	128	1		%	70	130

**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>LCL</i>	Lower Control Limit
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>UCL</i>	Upper Control Limit
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>SURR</i>	Surrogate	<i>LFM</i>	Laboratory Fortified Matrix
<i>INTS</i>	Internal Standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>MS/MSD</i>	Matrix Spike/Matrix Spike Duplicate
<i>LCSW</i>	Laboratory Control Sample - Water	<i>PBS</i>	Prep Blank - Soil
<i>LFB</i>	Laboratory Fortified Blank	<i>PBW</i>	Prep Blank - Water

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.

**ACZ Qualifiers (Qual)**

B	Analyte detected in daily blank
H	Analysis exceeded method hold time.
J	Analyte concentration detected at a value between MDL and PQL
R	Poor spike recovery accepted because the other spike in the set fell within the given limits.
T	High Relative Percent Difference (RPD) accepted because sample concentrations are less than 10x the MDL.
U	Analyte was analyzed for but not detected at the indicated MDL
V	High blank data accepted because sample concentration is 10 times higher than blank concentration
W	Poor recovery for Silver quality control is accepted because Silver often precipitates with Chloride.
X	Quality control sample is out of control.
Z	Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.
P	Analyte concentration differs from second detector by more than 40%.
E	Analyte concentration is estimated due to result exceeding calibration range.
M	Analyte concentration is estimated due to matrix interferences.

**Method References**

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/4-90/020. Methods for the Determination of Organic Compounds in Drinking Water (I), July 1990.
- (3) EPA 600/R-92/129. Methods for the Determination of Organic Compounds in Drinking Water (II), July 1990.
- (5) EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December, 1996.
- (6) Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Organic analyses are reported on an "as received" basis.

ConocoPhillips Company

ACZ Project ID: **L61725**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L61725-05	WG222372	*All Compounds*	M8021B GC/PID	Q3	Sample received with improper chemical preservation.
		Ethylbenzene	M8021B GC/PID	C7	Sample RPD between the primary and confirmatory analysis exceeded 40%. Per EPA Method 8000B, the lower value was reported due to apparent chromatographic interference.
L61725-06	WG222372	*All Compounds*	M8021B GC/PID	Q3	Sample received with improper chemical preservation.
L61725-09	WG222372	Toluene	M8021B GC/PID	C7	Sample RPD between the primary and confirmatory analysis exceeded 40%. Per EPA Method 8000B, the lower value was reported due to apparent chromatographic interference.



ConocoPhillips Company

ACZ Project ID: **L61725**

No certification qualifiers associated with this analysis

# ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

## Sample Receipt

ConocoPhillips Company  
HAMPTON 4M

ACZ Project ID: L61725  
Date Received: 3/28/2007  
Received By:  
Date Printed: 3/28/2007

### Receipt Verification

- 1) Does this project require special handling procedures such as CLP protocol?
- 2) Are the custody seals on the cooler intact?
- 3) Are the custody seals on the sample containers intact?
- 4) Is there a Chain of Custody or other directive shipping papers present?
- 5) Is the Chain of Custody complete?
- 6) Is the Chain of Custody in agreement with the samples received?
- 7) Is there enough sample for all requested analyses?
- 8) Are all samples within holding times for requested analyses?
- 9) Were all sample containers received intact?
- 10) Are the temperature blanks present?
- 11) Are the trip blanks (VOA and/or Cyanide) present?
- 12) Are samples requiring no headspace, headspace free?
- 13) Do the samples that require a Foreign Soils Permit have one?

YES	NO	NA
		X
X		
		X
X		
X		
X		
X		
X		
		X
		X
	X	
		X

### Exceptions: If you answered no to any of the above questions, please describe

One of 2 vials for sample #5 contained headspace.

### Contact (For any discrepancies, the client must be contacted)

The client was not contacted.

### Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
1106	3.9	15

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

### Notes

# ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

## Sample Receipt

ConocoPhillips Company  
HAMPTON 4M

ACZ Project ID: L61725  
Date Received: 3/28/2007  
Received By:

### Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L61725-01	HAMPTON 4M MW-1									X		<input type="checkbox"/>
L61725-02	HAMPTON 4M MW-15									X		<input type="checkbox"/>
L61725-03	HAMPTON 4M MW-9									X		<input type="checkbox"/>
L61725-04	HAMPTON 4M MW-12									X		<input type="checkbox"/>
L61725-05	HAMPTON 4M MW-16									X		<input type="checkbox"/>
L61725-06	HAMPTON 4M SEEP									X		<input type="checkbox"/>
L61725-07	HAMPTON 4M MW-5									X		<input type="checkbox"/>
L61725-08	HAMPTON 4M MW-11									X		<input type="checkbox"/>
L61725-09	HAMPTON 4M MW-7									X		<input type="checkbox"/>

### Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_



Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

L61725

CHAIN of CUSTODY

Report to:

Name: Gregg Wurtz  
Company: Burlington-ConocoPhillips  
E-mail: gwurtz@BR-inc.com

Address: Box 4289  
Farmington, NM  
Telephone: 505-326-9537

Copy of Report to:

Name: Martin Nee  
Company: Lodestar Services, Inc.

E-mail: mjn@lodestarservices.com  
Telephone: 505-334-2791

Invoice to:

Name: Gregg Wurtz  
Company: as above  
E-mail:

Address:  
  
Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?

YES ☒  
NO ☐

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO"

is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #:

Project/PO #: Hampton 4M

Reporting state for compliance testing:

Sampler's Name: Ashley Ager

Are any samples NRC licensable material?

# of Containers

BTEX 8021B

SAMPLE IDENTIFICATION DATE TIME Matrix

SAMPLE IDENTIFICATION	DATE TIME	Matrix	# of Containers	BTEX 8021B															
Hampton 4M MW-1	03-26-07: 0936	GW	2	✓															
Hampton 4M MW-15	03-26-07: 1011	GW	2	✓															
Hampton 4M MW-9	03-26-07: 1032	GW	2	✓															
Hampton 4M MW-12	03-26-07: 1143	GW	2	✓															
Hampton 4M MW-16	03-26-07: 1215	GW	2	✓															
Hampton 4M Seep	03-26-07: 1228	GW	2	✓															
Hampton 4M MW-5	03-26-07: 1249	GW	2	✓															
<del>Hampton 4M LAMW-1</del>	<del>03-26-07: 1310</del>	<del>GW</del>	<del>2</del>	<del>✓</del>															
Hampton 4M MW-11	03-26-07: 1347	GW	2	✓															
Hampton 4M MW-7	03-26-07: 1310	GW	2	✓															

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY

DATE TIME

RECEIVED BY

DATE TIME

Ashley Ager

03-27-07 1400

EEG

03-28-07 10:28

July 12, 2007

## Report to:

Gregg Wurtz  
ConocoPhillips Company  
3401 E. 30th St. P.O. Box 4289  
Farmington, NM 87499

## Bill to:

B. Curley  
Burlington Resources, Inc.  
P.O. Box 2200  
Bartlesville, OK 74005

cc: Martin Nee

Project ID: HAMPTON 4M

ACZ Project ID: L63464

Gregg Wurtz:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 27, 2007. This project has been assigned to ACZ's project number, L63464. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L63464. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 12, 2007. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

30/Mar/07

Tony Antalek, Project Manager, has reviewed and approved this report in its entirety.





ConocoPhillips Company

July 12, 2007

Project ID: HAMPTON 4M

ACZ Project ID: L63464

**Sample Receipt**

ACZ Laboratories, Inc. (ACZ) received 10 ground water samples from ConocoPhillips Company on June 27, 2007. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L63464. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

**Holding Times**

All analyses were performed within EPA recommended holding times.

**Sample Analysis**

These samples were analyzed for organic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The following anomaly required further explanation not provided by the Extended Qualifier Report:

1. For sample -08 flagged with an "E1", benzene exceeded the calibration range. The result is considered estimated.

**ConocoPhillips Company**

Project ID: HAMPTON 4M  
Sample ID: HAMPTON 4M MW-1

ACZ Sample ID: **L63464-01**  
Date Sampled: 06/26/07 7:00  
Date Received: 06/27/07  
Sample Matrix: Ground Water

**Benzene, Toluene, Ethylbenzene & Xylene**Analysis Method: **M8021B GC/FID**

Extract Method:

**Workgroup:** WG227741

Analyst: ccp/jj

Extract Date:

Analysis Date: 07/05/07 15:01

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	71-43-2		U	1		ug/L	0.3	1
Ethylbenzene	100-41-4		U	1		ug/L	0.2	1
m p Xylene	1330-20-7		U	1		ug/L	0.4	2
o Xylene	95-47-6		U	1		ug/L	0.2	1
Toluene	108-88-3		U	1		ug/L	0.2	1

Surrogate Recoveries	CAS	% Recovery	Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	91.6	1		%	70	130

**ConocoPhillips Company**

Project ID: HAMPTON 4M  
Sample ID: HAMPTON 4M MW-15

ACZ Sample ID: **L63464-02**  
Date Sampled: 06/26/07 7:35  
Date Received: 06/27/07  
Sample Matrix: Ground Water

**Benzene, Toluene, Ethylbenzene & Xylene**Analysis Method: **M8021B GC/PID**

Extract Method:

**Workgroup:** WG227741

Analyst: ccp/jj

Extract Date:

Analysis Date: 07/05/07 15:44

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	71-43-2		U	1		ug/L	0.3	1
Ethylbenzene	100-41-4		U	1		ug/L	0.2	1
m p Xylene	1330-20-7		U	1		ug/L	0.4	2
o Xylene	95-47-6		U	1		ug/L	0.2	1
Toluene	108-88-3	0.5	J	1		ug/L	0.2	1

Surrogate Recoveries	CAS	% Recovery	Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	89.4	1		%	70	130

**ConocoPhillips Company**

Project ID: HAMPTON 4M  
Sample ID: HAMPTON 4M MW-9

ACZ Sample ID: **L63464-03**  
Date Sampled: 06/26/07 8:12  
Date Received: 06/27/07  
Sample Matrix: Ground Water

**Benzene, Toluene, Ethylbenzene & Xylene**Analysis Method: **M8021B GC/FID**

Extract Method:

Workgroup: **WG227741**

Analyst: ccp/jj

Extract Date:

Analysis Date: 07/05/07 16:27

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	71-43-2		U	1		ug/L	0.3	1
Ethylbenzene	100-41-4		U	1		ug/L	0.2	1
m p Xylene	1330-20-7		U	1		ug/L	0.4	2
o Xylene	95-47-6		U	1		ug/L	0.2	1
Toluene	108-88-3		U	1		ug/L	0.2	1

Surrogate Recoveries	CAS	% Recovery	Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	92	1		%	70	130

**ConocoPhillips Company**

Project ID: HAMPTON 4M  
Sample ID: HAMPTON 4M MW-16

ACZ Sample ID: **L63464-04**  
Date Sampled: 06/26/07 8:50  
Date Received: 06/27/07  
Sample Matrix: Ground Water

**Benzene, Toluene, Ethylbenzene & Xylene**Analysis Method: **M8021B GC/FID**

Extract Method:

**Workgroup:** WG227741

Analyst: ccp/jj

Extract Date:

Analysis Date: 07/05/07 17:53

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	71-43-2	5230		100	*	ug/L	30	100
Ethylbenzene	100-41-4	770		100	*	ug/L	20	100
m p Xylene	1330-20-7	5840		100	*	ug/L	40	200
o Xylene	95-47-6	1920		100	*	ug/L	20	100
Toluene	108-88-3	9110		100	*	ug/L	20	100

Surrogate Recoveries	CAS	% Recovery	Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	103.9	100		%	70	130

**ConocoPhillips Company**Project ID: HAMPTON 4M  
Sample ID: HAMPTON 4M MW-12ACZ Sample ID: **L63464-05**  
Date Sampled: 06/26/07 9:26  
Date Received: 06/27/07  
Sample Matrix: Ground Water**Benzene, Toluene, Ethylbenzene & Xylene**Analysis Method: **M8021B GC/FID**  
Extract Method:**Workgroup:** **WG227741**

Analyst: ccp/jj

Extract Date:

Analysis Date: 07/05/07 18:37

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	71-43-2	1520		20	*	ug/L	6	20
Ethylbenzene	100-41-4	118		20	*	ug/L	4	20
m p Xylene	1330-20-7	239		20	*	ug/L	8	40
o Xylene	95-47-6	101		20	*	ug/L	4	20
Toluene	108-88-3	432		20	*	ug/L	4	20
Surrogate Recoveries	CAS	% Recovery		Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	94.2		20		%	70	130



**ConocoPhillips Company**

Project ID: HAMPTON 4M  
Sample ID: HAMPTON 4M SEEP

ACZ Sample ID: **L63464-06**  
Date Sampled: 06/26/07 9:37  
Date Received: 06/27/07  
Sample Matrix: Ground Water

**Benzene, Toluene, Ethylbenzene & Xylene**Analysis Method: **M8021B GC/PID**

Extract Method:

Workgroup: **WG227741**

Analyst: ccp/jj

Extract Date:

Analysis Date: 07/05/07 19:19

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	71-43-2		U	1		ug/L	0.3	1
Ethylbenzene	100-41-4		U	1		ug/L	0.2	1
m p Xylene	1330-20-7		U	1		ug/L	0.4	2
o Xylene	95-47-6		U	1		ug/L	0.2	1
Toluene	108-88-3		U	1		ug/L	0.2	1

Surrogate Recoveries	CAS	% Recovery	Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	91.6	1		%	70	130

**ConocoPhillips Company**

Project ID: HAMPTON 4M

Sample ID: HAMPTON 4M MW-5

ACZ Sample ID: **L63464-07**

Date Sampled: 06/26/07 10:12

Date Received: 06/27/07

Sample Matrix: Ground Water

**Benzene, Toluene, Ethylbenzene & Xylene**Analysis Method: **M8021B GC/FID**

Extract Method:

**Workgroup:** WC227741

Analyst: ccp/jj

Extract Date:

Analysis Date: 07/05/07 20:03

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	71-43-2	740		100	*	ug/L	30	100
Ethylbenzene	100-41-4	640		100	*	ug/L	20	100
m p Xylene	1330-20-7	5770		100	*	ug/L	40	200
o Xylene	95-47-6	1550		100	*	ug/L	20	100
Toluene	108-88-3	8070		100	*	ug/L	20	100
Surrogate Recoveries	CAS	% Recovery		Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	105.9		100		%	70	130

**ConocoPhillips Company**

Project ID: HAMPTON 4M  
Sample ID: HAMPTON 4M TMW-1

ACZ Sample ID: **L63464-08**  
Date Sampled: 06/26/07 10:40  
Date Received: 06/27/07  
Sample Matrix: Ground Water

**Benzene, Toluene, Ethylbenzene & Xylene**Analysis Method: **M8021B GC/PID**

Extract Method:

**Workgroup:** **WG221141**

Analyst: ccp/jj

Extract Date:

Analysis Date: 07/05/07 20:46

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	71-43-2	269		1	*	ug/L	0.3	1
Ethylbenzene	100-41-4	4.9		1		ug/L	0.2	1
m p Xylene	1330-20-7	11.1		1		ug/L	0.4	2
o Xylene	95-47-6	4.6		1		ug/L	0.2	1
Toluene	108-88-3	2.6		1		ug/L	0.2	1

Surrogate Recoveries	CAS	% Recovery	Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	105.9	1		%	70	130

**ConocoPhillips Company**

Project ID: HAMPTON 4M  
Sample ID: HAMPTON 4M MW-7

ACZ Sample ID: **L63464-09**  
Date Sampled: 06/26/07 11:10  
Date Received: 06/27/07  
Sample Matrix: Ground Water

**Benzene, Toluene, Ethylbenzene & Xylene**Analysis Method: **M8021B GC/PID**

Extract Method:

Workgroup: **WC227741**

Analyst: ccp/jj

Extract Date:

Analysis Date: 07/05/07 21:29

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	71-43-2	56		1		ug/L	0.3	1
Ethylbenzene	100-41-4	17.7		1		ug/L	0.2	1
m p Xylene	1330-20-7		U	1		ug/L	0.4	2
o Xylene	95-47-6	1.3		1		ug/L	0.2	1
Toluene	108-88-3	0.4	J	1		ug/L	0.2	1

Surrogate Recoveries	CAS	% Recovery	Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	111	1		%	70	130

**ConocoPhillips Company**

Project ID: HAMPTON 4M

Sample ID: HAMPTON 4M MW-11

ACZ Sample ID: **L63464-10**

Date Sampled: 06/26/07 12:15

Date Received: 06/27/07

Sample Matrix: Ground Water

**Benzene, Toluene, Ethylbenzene & Xylene**Analysis Method: **M8021B GC/FID**

Extract Method:

**Workgroup:** WC227741

Analyst: ccp/jj

Extract Date:

Analysis Date: 07/05/07 22:12

Compound	CAS	Result	QUAL	Dilution	Xc	Units	MDL	PQL
Benzene	71-43-2		U	1		ug/L	0.3	1
Ethylbenzene	100-41-4		U	1		ug/L	0.2	1
m p Xylene	1330-20-7		U	1		ug/L	0.4	2
o Xylene	95-47-6		U	1		ug/L	0.2	1
Toluene	108-88-3		U	1		ug/L	0.2	1
Surrogate Recoveries	CAS	% Recovery		Dilution	Xc	Units	LCL	UCL
Bromofluorobenzene	460-00-4	100.5		1		%	70	130

**Report Header Explanations**

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>LCL</i>	Lower Control Limit
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>UCL</i>	Upper Control Limit
<i>Sample</i>	Value of the Sample of interest

**QC Sample Types**

<i>SURR</i>	Surrogate	<i>LFM</i>	Laboratory Fortified Matrix
<i>INTS</i>	Internal Standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>MS/MSD</i>	Matrix Spike/Matrix Spike Duplicate
<i>LCSW</i>	Laboratory Control Sample - Water	<i>PBS</i>	Prep Blank - Soil
<i>LFB</i>	Laboratory Fortified Blank	<i>PBW</i>	Prep Blank - Water

**QC Sample Type Explanations**

Blanks	Verifies that there is no or minimal contamination in the prep method procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.

**ACZ Qualifiers (Qual)**

B	Analyte detected in daily blank
H	Analysis exceeded method hold time.
J	Analyte concentration detected at a value between MDL and PQL
R	Poor spike recovery accepted because the other spike in the set fell within the given limits.
T	High Relative Percent Difference (RPD) accepted because sample concentrations are less than 10x the MDL.
U	Analyte was analyzed for but not detected at the indicated MDL
V	High blank data accepted because sample concentration is 10 times higher than blank concentration
W	Poor recovery for Silver quality control is accepted because Silver often precipitates with Chloride.
X	Quality control sample is out of control.
Z	Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.
P	Analyte concentration differs from second detector by more than 40%.
E	Analyte concentration is estimated due to result exceeding calibration range.
M	Analyte concentration is estimated due to matrix interferences.

**Method References**

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/4-90/020. Methods for the Determination of Organic Compounds in Drinking Water (I), July 1990.
- (3) EPA 600/R-92/129. Methods for the Determination of Organic Compounds in Drinking Water (II), July 1990.
- (5) EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December, 1996.
- (6) Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

**Comments**

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Organic analyses are reported on an "as received" basis.



ConocoPhillips Company

ACZ Project ID: **L63464**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L63464-04	WG227741	Benzene	M8021B GC/PID	D2	Sample required dilution. Target analyte exceeded calibration range.
		Ethylbenzene	M8021B GC/PID	D2	Sample required dilution. Target analyte exceeded calibration range.
		m p Xylene	M8021B GC/PID	D2	Sample required dilution. Target analyte exceeded calibration range.
		o Xylene	M8021B GC/PID	D2	Sample required dilution. Target analyte exceeded calibration range.
		Toluene	M8021B GC/PID	D2	Sample required dilution. Target analyte exceeded calibration range.
L63464-05	WG227741	Benzene	M8021B GC/PID	D2	Sample required dilution. Target analyte exceeded calibration range.
		Ethylbenzene	M8021B GC/PID	D2	Sample required dilution. Target analyte exceeded calibration range.
		m p Xylene	M8021B GC/PID	D2	Sample required dilution. Target analyte exceeded calibration range.
		o Xylene	M8021B GC/PID	D2	Sample required dilution. Target analyte exceeded calibration range.
		Toluene	M8021B GC/PID	D2	Sample required dilution. Target analyte exceeded calibration range.
L63464-07	WG227741	Benzene	M8021B GC/PID	D2	Sample required dilution. Target analyte exceeded calibration range.
		Ethylbenzene	M8021B GC/PID	D2	Sample required dilution. Target analyte exceeded calibration range.
		m p Xylene	M8021B GC/PID	D2	Sample required dilution. Target analyte exceeded calibration range.
		o Xylene	M8021B GC/PID	D2	Sample required dilution. Target analyte exceeded calibration range.
		Toluene	M8021B GC/PID	D2	Sample required dilution. Target analyte exceeded calibration range.
L63464-08	WG227741	Benzene	M8021B GC/PID	E1	Concentration estimated. Analyte exceeded calibration range. See Case Narrative.

ConocoPhillips Company

ACZ Project ID: **L63464**

No certification qualifiers associated with this analysis

**ConocoPhillips Company**  
HAMPTON 4M

ACZ Project ID: L63464  
Date Received: 6/27/2007  
Received By:  
Date Printed: 6/27/2007

**Receipt Verification**

- 1) Does this project require special handling procedures such as CLP protocol?
- 2) Are the custody seals on the cooler intact?
- 3) Are the custody seals on the sample containers intact?
- 4) Is there a Chain of Custody or other directive shipping papers present?
- 5) Is the Chain of Custody complete?
- 6) Is the Chain of Custody in agreement with the samples received?
- 7) Is there enough sample for all requested analyses?
- 8) Are all samples within holding times for requested analyses?
- 9) Were all sample containers received intact?
- 10) Are the temperature blanks present?
- 11) Are the trip blanks (VOA and/or Cyanide) present?
- 12) Are samples requiring no headspace, headspace free?
- 13) Do the samples that require a Foreign Soils Permit have one?

YES	NO	NA
		X
X		
		X
X		
X		
X		
X		
		X
		X
X		
		X

**Exceptions: If you answered no to any of the above questions, please describe**

N/A

**Contact (For any discrepancies, the client must be contacted)**

N/A

**Shipping Containers**

Cooler Id	Temp (°C)	Rad (μR/hr)
1092	4.4	13

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

**Notes**

# ACZ Laboratories, Inc.











2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

## Sample Receipt

ConocoPhillips Company  
HAMPTON 4M

ACZ Project ID: L63464  
Date Received: 6/27/2007  
Received By:

### Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y < 2	YG < 2	B < 2	O < 2	T > 12	N/A	RAD	ID
L63464-01	HAMPTON 4M MW-1											
L63464-02	HAMPTON 4M MW-15											
L63464-03	HAMPTON 4M MW-9											
L63464-04	HAMPTON 4M MW-16											
L63464-05	HAMPTON 4M MW-12											
L63464-06	HAMPTON 4M SEEP											
L63464-07	HAMPTON 4M MW-5											
L63464-08	HAMPTON 4M TMW-1											
L63464-09	HAMPTON 4M MW-7											
L63464-10	HAMPTON 4M MW-11											

### Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: \_\_\_\_\_

L63464



Laboratories, Inc.

CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report to:

Name: Gregg Wurtz

Company: Conoco Phillips Burlington

E-mail: Gregg.G.Wurtz@ConocoPhillips.com

Address: PO 4289

Farmington NM 87401

Telephone: 505 326 9537

Copy of Report to:

Name: M. Nee

Company: Lodestar Services

E-mail: mjnee@lodestarservices.com

Telephone: 505 320 9675

Invoice to:

Name: Gregg Wurtz

Company: as above

E-mail:

Address:

Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?

YES

☒

NO

☐

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO"

is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #:

Project/PO #: Hampton 4m

Reporting state for compliance testing:

Sampler's Name: Martin Nee

Are any samples NRC licensable material?

# of Containers

8021 B  
0724

SAMPLE IDENTIFICATION

DATE-TIME

Matrix

Hampton 4m MW-1

62607 0700

WG

2

✓

Hampton 4m MW-15

62607 0735

WG

2

✓

Hampton 4m MW-9

62607 0812

WG

2

✓

Hampton 4m MW-16

62607 0850

WG

2

✓

Hampton 4m MW-12

62607 0926

WG

2

✓

Hampton 4m Seep

62607 0937

WG

2

✓

Hampton 4m MW-5

62607 1012

WG

2

✓

Hampton 4m TMW-1

62607 1040

WG

2

✓

Hampton 4m MW-7

62607 1110

WG

2

✓

Hampton 4m MW-11

62607 1215

WG

2

✓

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:

DATE-TIME

RECEIVED BY:

DATE-TIME

[Signature]

62607 1630

[Signature]

6-27-07 16:52



## Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

### ANALYTICAL RESULTS

Prepared for:

ConocoPhillips  
PO Box 2200  
Bartlesville OK 74005

Prepared by:

Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17605-2425

### SAMPLE GROUP

The sample group for this submittal is 1065260. Samples arrived at the laboratory on Tuesday, November 13, 2007. The PO# for this group is 4506560639 and the release number is MULDOON.

#### Client Description

MW-1 Grab Water Sample

#### Lancaster Labs Number

5211122

ELECTRONIC    Tetra Tech  
COPY TO

Attn: Kelly Blanchard

Questions? Contact your Client Services Representative  
Barbara A Weyandt at (717) 656-2300

Respectfully Submitted,

Christine Dulaney  
Senior Specialist



# Analysis Report

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Page 1 of 1

Lancaster Laboratories Sample No. WW 5211122

MW-1 Grab Water Sample  
Site#  
Howell K-1

Collected: 11/09/2007 15:00 by MC

Account Number: 11288

Submitted: 11/13/2007 09:10  
Reported: 11/15/2007 at 19:17  
Discard: 12/16/2007

ConocoPhillips  
PO Box 2200  
Bartlesville OK 74005

HOMW1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Units	Dilution Factor
02300	GC/MS Volatiles						
05401	Benzene	71-43-2	N.D.	0.5	5.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	5.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	5.	ug/l	1
06310	Xylene (Total)	1330-20-7	0.9	0.8	5.	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02300	GC/MS Volatiles	SW-846 8260B	1	11/14/2007 13:03	Matthew F Regan	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	11/14/2007 13:03	Matthew F Regan	1

\*=This limit was used in the evaluation of the final result





# Analysis Report

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Page 1 of 1

## Quality Control Summary

Client Name: ConocoPhillips  
Reported: 11/15/07 at 07:17 PM

Group Number: 1065260

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

## Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: T073181AB	Sample number(s): 5211122								
Benzene	N.D.	0.5	5.	ug/l	104	101	78-119	3	30
Toluene	N.D.	0.7	5.	ug/l	102	97	85-115	5	30
Ethylbenzene	N.D.	0.8	5.	ug/l	90	88	82-119	3	30
Xylene (Total)	N.D.	0.8	5.	ug/l	93	89	83-113	5	30

## Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike  
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: T073181AB	Sample number(s): 5211122 UNSPK: P211139								
Benzene	110		83-128						
Toluene	109		83-127						
Ethylbenzene	101		82-129						
Xylene (Total)	103		82-130						

## Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: GC/MS Volatiles  
Batch number: T073181AB

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5211122	102	96	101	107
Blank	102	94	100	104
LCS	101	99	104	105
LCSD	101	92	104	106
MS	101	96	103	105
Limits:	80-116	77-113	80-113	78-113

\*- Outside of specification

\*\* - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.



## Lancaster Laboratories Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

<b>N.D.</b>	none detected	<b>BMQL</b>	Below Minimum Quantitation Level
<b>TNTC</b>	Too Numerous To Count	<b>MPN</b>	Most Probable Number
<b>IU</b>	International Units	<b>CP Units</b>	cobalt-chloroplatinate units
<b>umhos/cm</b>	micromhos/cm	<b>NTU</b>	nephelometric turbidity units
<b>C</b>	degrees Celsius	<b>F</b>	degrees Fahrenheit
<b>Cal</b>	(diet) calories	<b>lb.</b>	pound(s)
<b>meq</b>	milliequivalents	<b>kg</b>	kilogram(s)
<b>g</b>	gram(s)	<b>mg</b>	milligram(s)
<b>ug</b>	microgram(s)	<b>l</b>	liter(s)
<b>ml</b>	milliliter(s)	<b>ul</b>	microliter(s)
<b>m3</b>	cubic meter(s)	<b>fib &gt;5 um/ml</b>	fibers greater than 5 microns in length per ml
<b>&lt;</b>	less than – The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
<b>&gt;</b>	greater than		
<b>ppm</b>	parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
<b>ppb</b>	parts per billion		
<b>Dry weight basis</b>	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.		

U.S. EPA data qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
<b>A</b>	TIC is a possible aldol-condensation product	<b>B</b>	Value is <CRDL, but ≥IDL
<b>B</b>	Analyte was also detected in the blank	<b>E</b>	Estimated due to interference
<b>C</b>	Pesticide result confirmed by GC/MS	<b>M</b>	Duplicate injection precision not met
<b>D</b>	Compound quantitated on a diluted sample	<b>N</b>	Spike amount not within control limits
<b>E</b>	Concentration exceeds the calibration range of the instrument	<b>S</b>	Method of standard additions (MSA) used for calculation
<b>J</b>	Estimated value	<b>U</b>	Compound was not detected
<b>N</b>	Presumptive evidence of a compound (TICs only)	<b>W</b>	Post digestion spike out of control limits
<b>P</b>	Concentration difference between primary and confirmation columns >25%	<b>*</b>	Duplicate analysis not within control limits
<b>U</b>	Compound was not detected	<b>+</b>	Correlation coefficient for MSA <0.995
<b>X,Y,Z</b>	Defined in case narrative		

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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## Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

### ANALYTICAL RESULTS

Prepared for:

ConocoPhillips  
PO Box 2200  
Bartlesville OK 74005

Prepared by:

Lancaster Laboratories  
2425 New Holland Pike  
Lancaster, PA 17605-2425

### SAMPLE GROUP

The sample group for this submittal is 1074019. Samples arrived at the laboratory on Saturday, January 19, 2008. The PO# for this group is 4509350133 and the release number is LAUCKE.

### Client Description

MW-1 Grab Water Sample

### Lancaster Labs Number

5260849

ELECTRONIC    Tetra Tech  
COPY TO

Attn: Kelly Blanchard

Questions? Contact your Client Services Representative  
Barbara A Weyandt at (717) 656-2300

Respectfully Submitted,

Marla S. Lord  
Senior Specialist



## ***Analysis Report***

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# Analysis Report

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Page 1 of 1

Lancaster Laboratories Sample No. 5260849 WW Group No. 1074019

MW-1 Grab Water Sample  
Site# 04930  
Howell K-1 - Aztec, NM

Collected: 01/15/2008 15:10 by AM

Account Number: 11288

Submitted: 01/19/2008 10:40  
Reported: 02/12/2008 at 20:07  
Discard: 03/14/2008

ConocoPhillips  
PO Box 2200  
Bartlesville OK 74005

HWLK1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Units	Dilution Factor
02300	GC/MS Volatiles						
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	5.	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	5.	ug/l	1
05407	Toluene	108-88-3	N.D.	0.7	5.	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.8	5.	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.8	5.	ug/l	1

Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02300	GC/MS Volatiles	SW-846 8260B	1	01/22/2008 20:19	Matthew F Regan	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	01/22/2008 20:19	Matthew F Regan	1

\*=This limit was used in the evaluation of the final result

## Quality Control Summary

Client Name: ConocoPhillips  
Reported: 02/12/08 at 08:07 PM

Group Number: 1074019

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

## Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: T080221AA	Sample number(s): 5260849								
Methyl Tertiary Butyl Ether	N.D.	0.5	5.	ug/l	105	104	73-119	1	30
Benzene	N.D.	0.5	5.	ug/l	101	96	78-119	5	30
Toluene	N.D.	0.7	5.	ug/l	106	103	85-115	3	30
Ethylbenzene	N.D.	0.8	5.	ug/l	100	101	82-119	1	30
Xylene (Total)	N.D.	0.8	5.	ug/l	103	101	83-113	1	30

## Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike  
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: T080221AA	Sample number(s): 5260849 UNSPK: P260403								
Methyl Tertiary Butyl Ether	101		69-127						
Benzene	101		83-128						
Toluene	108		83-127						
Ethylbenzene	102		82-129						
Xylene (Total)	103		82-130						

## Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: GC/MS Volatiles  
Batch number: T080221AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5260849	99	95	104	109
Blank	99	97	107	108
LCS	96	96	107	110
LCSD	95	99	108	108
MS	96	97	107	110
Limits:	80-116	77-113	80-113	78-113

\*- Outside of specification

\*\* - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.





## Lancaster Laboratories Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

<b>N.D.</b>	none detected	<b>BMQL</b>	Below Minimum Quantitation Level
<b>TNTC</b>	Too Numerous To Count	<b>MPN</b>	Most Probable Number
<b>IU</b>	International Units	<b>CP Units</b>	cobalt-chloroplatinate units
<b>umhos/cm</b>	micromhos/cm	<b>NTU</b>	nephelometric turbidity units
<b>C</b>	degrees Celsius	<b>F</b>	degrees Fahrenheit
<b>Cal</b>	(diet) calories	<b>lb.</b>	pound(s)
<b>meq</b>	milliequivalents	<b>kg</b>	kilogram(s)
<b>g</b>	gram(s)	<b>mg</b>	milligram(s)
<b>ug</b>	microgram(s)	<b>l</b>	liter(s)
<b>ml</b>	milliliter(s)	<b>ul</b>	microliter(s)
<b>m3</b>	cubic meter(s)	<b>fib &gt;5 um/ml</b>	fibers greater than 5 microns in length per ml
<b>&lt;</b>	less than – The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
<b>&gt;</b>	greater than		
<b>ppm</b>	parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
<b>ppb</b>	parts per billion		
<b>Dry weight basis</b>	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.		

U.S. EPA data qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
<b>A</b>	TIC is a possible aldol-condensation product	<b>B</b>	Value is <CRDL, but ≥IDL
<b>B</b>	Analyte was also detected in the blank	<b>E</b>	Estimated due to interference
<b>C</b>	Pesticide result confirmed by GC/MS	<b>M</b>	Duplicate injection precision not met
<b>D</b>	Compound quantitated on a diluted sample	<b>N</b>	Spike amount not within control limits
<b>E</b>	Concentration exceeds the calibration range of the instrument	<b>S</b>	Method of standard additions (MSA) used for calculation
<b>J</b>	Estimated value	<b>U</b>	Compound was not detected
<b>N</b>	Presumptive evidence of a compound (TICs only)	<b>W</b>	Post digestion spike out of control limits
<b>P</b>	Concentration difference between primary and confirmation columns >25%	<b>*</b>	Duplicate analysis not within control limits
<b>U</b>	Compound was not detected	<b>+</b>	Correlation coefficient for MSA <0.995
<b>X,Y,Z</b>	Defined in case narrative		

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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