

**3R-87**

**Annual Monitoring  
Report**

**Date  
2006**



**2006 ANNUAL MONITORING REPORT  
CONOCOPHILLIPS  
FEDERAL #15  
FARMINGTON, NM**



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**ConocoPhillips**



**TETRA TECH, INC.**

**January 2007**



# **2006 ANNUAL GROUNDWATER AND SITE ACTIVITIES REPORT**

## **FEDERAL #15 FARMINGTON, NEW MEXICO**

**Prepared for:**



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Houston, TX 77079

**Prepared by:**



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January 2, 2007

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## **2006 ANNUAL GROUNDWATER MONITORING AND SITE ACTIVITIES REPORT FEDERAL #15, FARMINGTON, NEW MEXICO**

### **1.0 SITE HISTORY**

This report presents the results of groundwater monitoring and a summary of vacuum truck pumping events that took place during 2006 at the ConocoPhillips Federal #15 Site in Farmington, New Mexico, by Tetra Tech, Inc. (Tetra Tech).

The site is located on the north side of Gila Street. The closest cross street is Main Street, located approximately 0.5 miles to the west of the site. The site consists of gas production well and associated equipment and installations. The location and general features of the Federal #15 site are shown on Figures 1 and 2, respectively.

On Saturday, October 23, 2004 a release was discovered at the site. It was estimated that up to 15 barrels of condensate was unaccounted for. Approximately 1,500 cubic yards of affected soil were excavated and replaced with clean fill during the week of October 25, 2004.

Following soil remediation activities, four, 2-inch PVC groundwater monitoring wells were installed on November 16 and 17, 2004 by Biosphere Environmental Sciences and Technologies, LLC to depths of approximately 20 feet below ground surface (bgs). An additional, downgradient monitoring well, MW-5, was installed to a depth of approximately 17.5 feet bgs on the property south of the site on October 19, 2005 by Spectrum Drilling under the supervision of Tetra Tech.

### **2.0 SITE ACTIVITIES SUMMARY**

#### **2.1 Groundwater Pumping**

On February 16<sup>th</sup>, May 15<sup>th</sup>, August 2<sup>nd</sup>, and November 14<sup>th</sup>, 2006 Tetra Tech was onsite to conduct groundwater removal events using a vacuum truck operated by Riley Industrial Services of Farmington, New Mexico. Approximately 143.71, 295.9, 380, and 439.7 gallons of water were removed from MW-2, respectively. Fluids were disposed of in the onsite waste water tank.

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

A groundwater sampling event was conducted by Tetra Tech on November 14<sup>th</sup>. Groundwater samples from MW-1, MW-2, MW-3, MW-4, and MW-5 were collected. Monitoring wells were purged of at least



three casing volumes of water. Approximately 6 gallons of water were removed from each well. The purged water was disposed of in the waste water tank located on site (Figure 2). A 1.5-inch dedicated, clear, poly-vinyl, disposable bailer was used in each well to collect groundwater samples. The samples were placed in laboratory prepared bottles, packed on ice, and shipped with chain of custody documentation to Severn Trent Laboratories located in Denver, Colorado. The samples were analyzed for presence of benzene, toluene, ethyl-benzene, and xylenes (BTEX) by Environmental Protection Agency (EPA) Method 8260B, semi-volatile organic compounds (SVOCs) by EPA Method 8270C, and chloride by EPA Method 300.0A.

Groundwater levels were recorded before well sampling. The water levels collected prior to sampling during each event were used to create the groundwater elevation contour map shown as Figure 3. Table I presents the groundwater levels and the top of casing survey results used to calculate the groundwater elevations at the site.

### **2.3 Groundwater Sampling Analytical Results**

The sample collected from monitoring well MW-2 contained a concentration of benzene above the New Mexico Water Quality Control Commission (NMWQCC) standard of 10 µg/L, at 23 micrograms per liter (µg/L). The duplicate sample collected from MW-2 contained a concentration of benzene at 45 µg/L. Both the sample from MW-2 and the duplicate sample contained concentrations of toluene, ethylbenzene, and xylenes below NMWQCC standards. All other samples were below laboratory detection limits for benzene, toluene, ethylbenzene, and xylenes. The downgradient well located on the adjacent property remained un-impacted.

All samples contained chloride concentrations below the NMWQCC standard of 250 mg/L (milligrams per liter). Chloride concentrations ranged from 36 mg/L in MW-1 to 79 mg/L in MW-5. All samples collected were non-detect for naphthalenes. Groundwater laboratory analytical data is provided in Table 2. The laboratory analytical report is located in Appendix A.

### **3.0 CONCLUSIONS**

Approximately one year after impacted soil was removed from the site, the benzene concentration in MW-2 was 1100 µg/L during the October 2005 sampling event. The benzene concentration in MW-2 decreased to between 23 µg/L and 45 µg/L during the November 2006 sampling event. Tetra Tech has conducted quarterly pumping events in MW-2 since July 2005. The decrease in benzene in MW-2 suggests the pumping events have been effective. Tetra Tech will continue to pump MW-2 quarterly during 2007. Following the annual sampling event during November 2007, Tetra Tech will reevaluate the continuation of quarterly pumping events. If MW-2 and all other site wells have reached compliance, pumping will be discontinued and quarterly groundwater sampling will begin.



## FIGURES



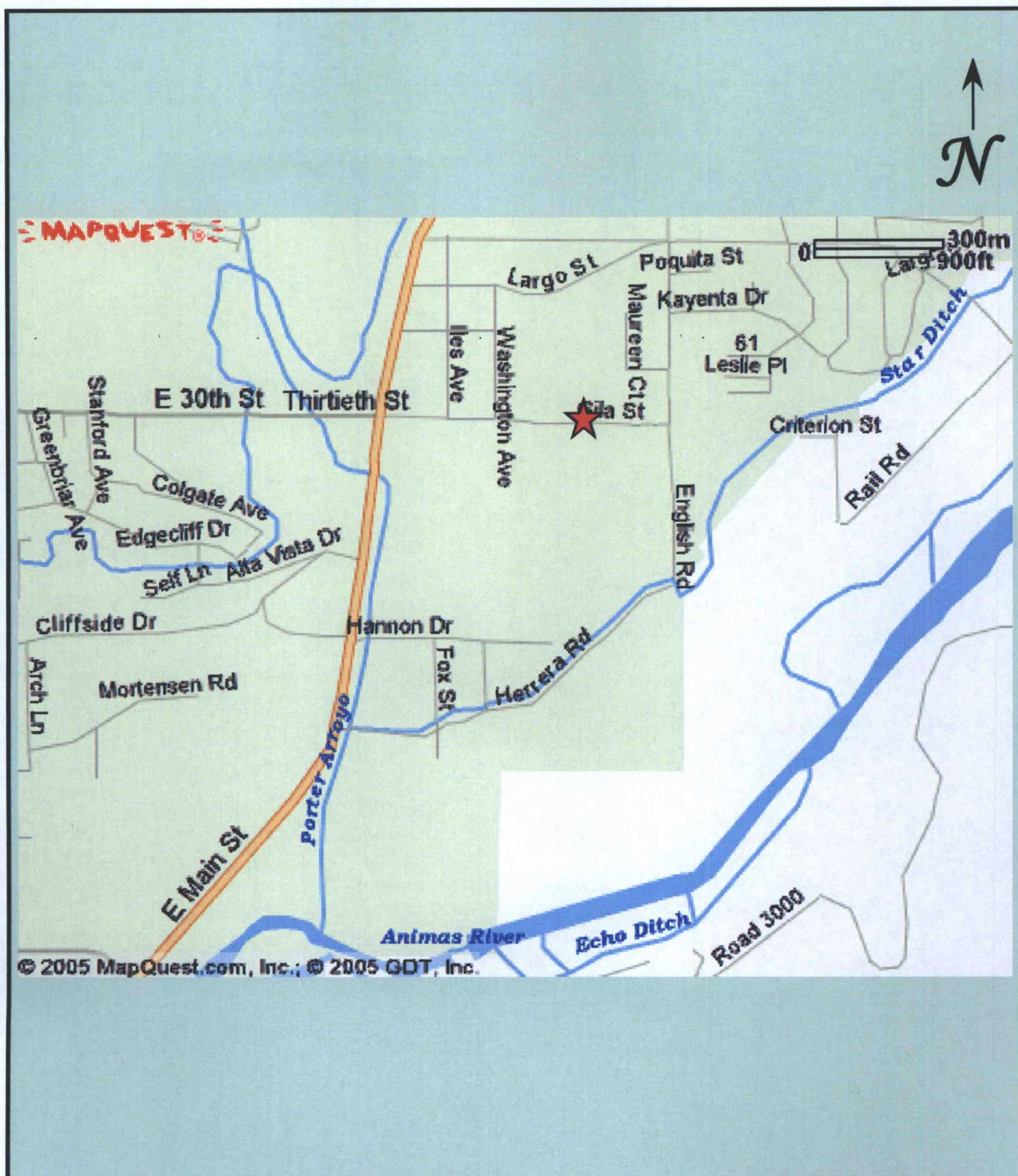


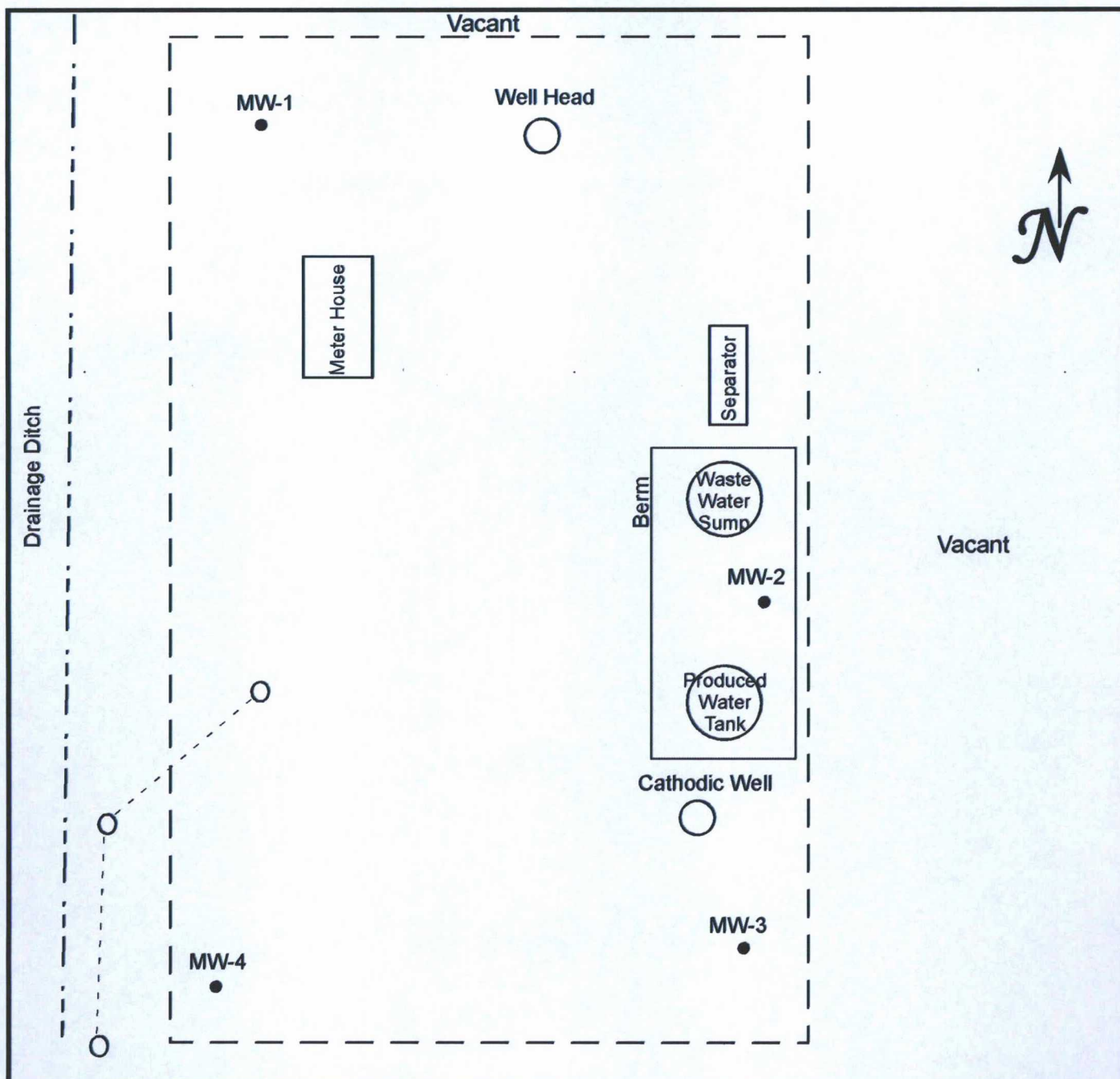
Figure 1. Site Location Map  
 ConocoPhillips  
 Federal #15  
 Farmington, New Mexico 87401

★ = Approximate ConocoPhillips  
 Federal #15 Site Location

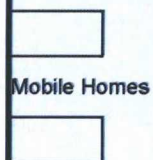


TETRA TECH, INC.





Gila Street



Vacant Lot

MW-5

Mobile Home Park

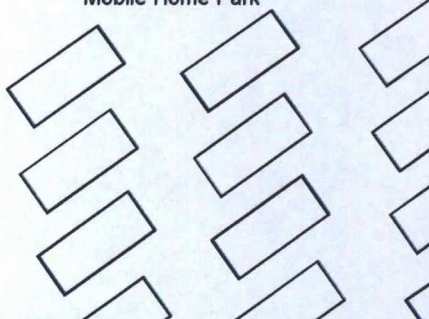


Figure 2. Site Layout Map  
ConocoPhillips  
Federal #15  
Farmington, New Mexico 87401



TETRA TECH, INC.

- Monitoring Well
- - - Overhead Electric Line

Not to scale

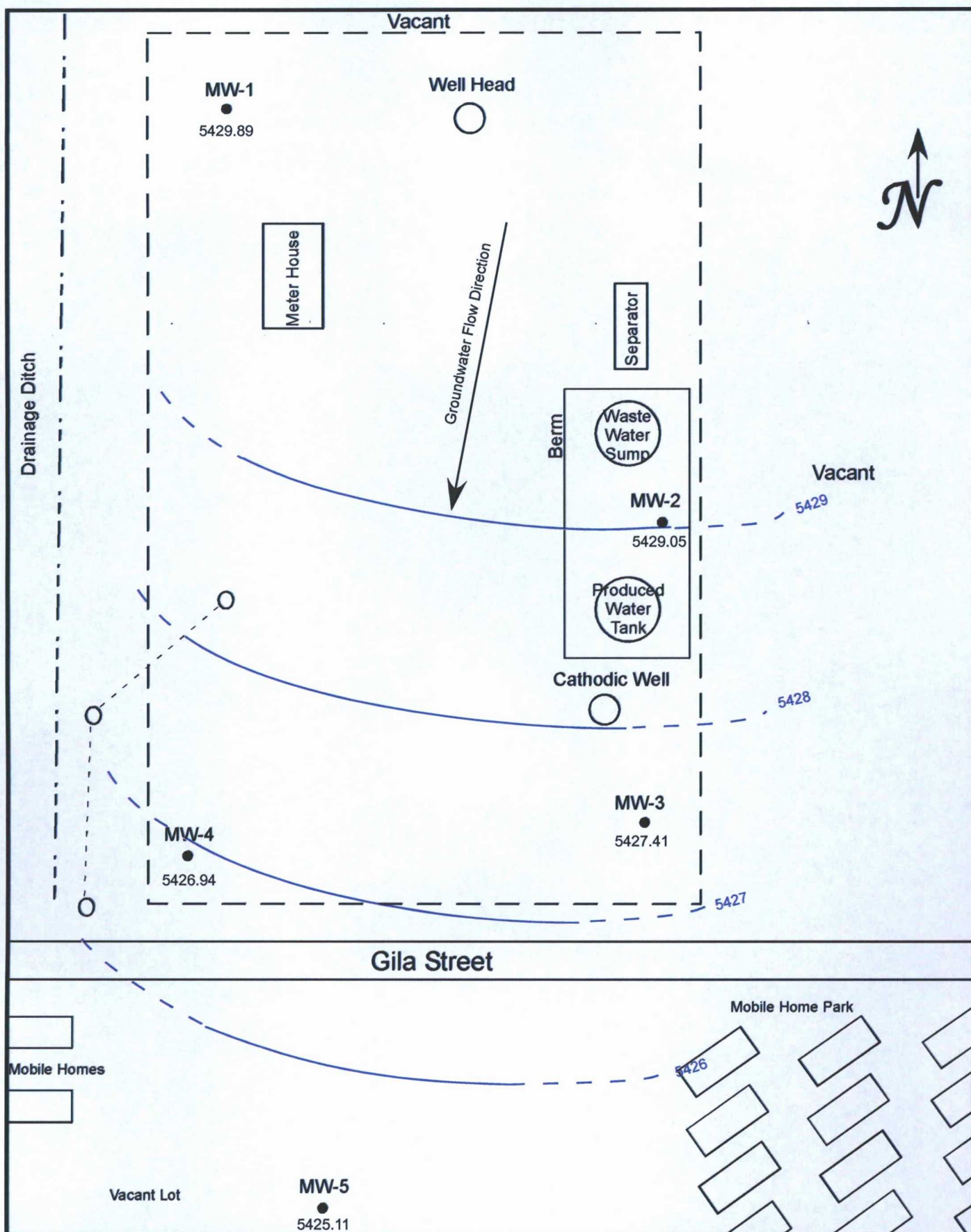


Figure 3. Groundwater Elevation  
Contour Map  
ConocoPhillips  
Federal #15  
Farmington, New Mexico 87401



- Monitoring Well
- - - Overhead Electric Line
- Groundwater contour line
- - - Inferred groundwater contour line
- Not to scale



## TABLES

Table 1. ConocoPhillips Federal #15 Groundwater Elevation Table

Well ID	Date Installed	Total Depth (ft. bgs)	Screen Interval (ft)	Date Measured	Groundwater Level (ft TOC)	Elevation (ft. msl) (TOC)	Groundwater Elevation (ft msl)
MW-1	11/17/2004	20	5 - 20	1/18/2005	8.92	5437.99	5429.07
				10/19/2005	8.03		5429.96
				11/15/2006	8.1		5429.89
MW-2	11/17/2004	20	5 - 20	1/18/2005	9.49	5437.33	5427.84
				10/19/2005	8.66		5428.67
				11/14/2006	8.28		5429.05
MW-3	11/22/2004	20	5 - 20	1/18/2005	8.54	5435.13	5426.59
				10/19/2005	7.75		5427.38
				11/14/2006	7.72		5427.41
MW-4	11/22/2004	20	5 - 20	1/18/2005	8.65	5434.68	5426.03
				10/19/2005	7.72		5426.96
				11/14/2006	7.74		5426.94
MW-5	10/19/2005	17.5	3.5-17.5	10/20/2005	9.11	5434.16	5425.05
				11/14/2006	9.05		5425.11

ft. = Feet

msl = Mean sea level

TOC = Top of casing

bgs = below ground surface



**Table 2. Federal #15 Groundwater Laboratory Analytical Data**

Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	2-Methylnaphthalene (µg/L)	1-Methylnaphthalene (µg/L)	Naphthalene (µg/L)	Total Naphthalene (µg/L)	Chloride (mg/L)
MW-1	1/18/2005	<1.0	<1.0	<1.0	<2.0	<10	<10	<10	<10	85
	10/18/2005	<1.0	<1.0	<1.0	<2.0	<10	<10	<10	<10	39
	11/15/2006	<1.0	<1.0	<1.0	<2.0	<10	<10	<10	ND	36
MW-2	1/18/2005	1200	3300	380	3500	72	34	51	157	41
	Duplicate	1300	3700	410	3800	--	--	--	--	--
	10/19/2005	1100	410	160	470	18	11	15	44	60
	Duplicate	1100	500	150	610	--	--	--	--	--
	11/14/2006	23	29	6.6	120	<10	<10	<10	ND	50
	Duplicate	45	57	12	220	--	--	--	--	--
MW-3	1/18/2005	190	<5.0	<5.0	<10	<10	<10	<10	<10	34
	10/19/2005	<1.0	<1.0	<1.0	<2.0	<10	<10	<10	<10	42
	11/14/2006	<1.0	<1.0	<1.0	<2.0	<10	<10	<10	ND	39
MW-4	1/18/2005	2.8	<1.0	<1.0	<2.0	<10	<10	<10	<10	37
	10/19/2005	23	2.2	<1.0	4.3	<10	<10	<10	<10	51
	11/14/2006	1.1	<1.0	<1.0	<2.0	<10	<10	<10	ND	44
MW-5	10/20/2005	<1.0	<1.0	<1.0	<2.0	<10	<10	<10	<10	73
	11/14/2006	<1.0	<1.0	<1.0	<2.0	<10	<10	<10	<10	79
NMWQCC Standards		10 (µg/L)	750 (µg/L)	750 (µg/L)	620 (µg/L)	NE	NE	NE	30 (µg/L)	250 mg/L

NMWQCC = New Mexico Water Quality Control Commission

mg/L = milligrams per liter (parts per million)

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

NE=Not Established

-- = Not Analyzed





## **APPENDIX A**

Groundwater Laboratory Analytical Report



SEVERN  
TRENT

STL

STL Denver  
4955 Yarrow Street  
Arvada, CO 80002

Tel: 303 736 0100 Fax: 303 431 7171  
www.stl-inc.com

## ANALYTICAL REPORT

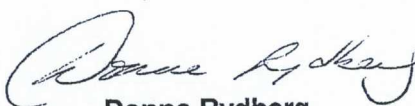
Federal Com #15

Lot #: D6K160291

Ms. Kelly Henderson

Tetra Tech  
6121 Indian School Rd NE  
Suite 200  
Albuquerque, NM 87110

Severn Trent Laboratories



Donna Rydberg  
Project Manager

November 30, 2006

# Table Of Contents

## *Standard Deliverables*

### Report Contents

### Total Number of Pages

#### **Standard Deliverables**

*The Cover Letter and the Report Cover page are considered integral parts of this Standard Deliverable package. This report is incomplete unless all pages indicated in this Table of Contents are included.*



- Table of Contents
- Case Narrative
- Executive Summary – Detection Highlights
- Methods Summary
- Method/Analyst Summary
- Sample Summary
- Analytical Results
- QC Data Association Summary
- QC Evaluation and/or Data Reports
- Chain-of-Custody



## **Case Narrative**

### **D6J160291**

The following report contains the analytical result for six samples and Trip Blank submitted to STL Denver on October 16, 2006, according to documented sample acceptance procedures.

The results included in this report have been reviewed for compliance with STL's Quality Assurance/Quality Control (QA/QC) plan.

Dilution factors and footnotes have been provided to assist in the interpretation of the results. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at concentrations above the linear calibration curve, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the analytical methods summary page in accordance with the methods indicated. A summary of quality control parameters is provided below.

This report shall not be reproduced except in full, without the written approval of the laboratory.

The test results shown in this report meet all requirements of NELAC. Any exceptions are noted below.

#### **Supplemental QC Information**

##### **Sample Arrival and Receipt**

The samples presented in this report were received at the laboratory at temperatures of 2.9°C and 2.2°C. Sample containers were received in acceptable condition.

##### **Method 8260B – GC/MS Volatile**

Samples D6K160291-002 and -006 were analyzed at a dilution to bring target compounds within the instrument calibration range. Reporting limits were raised accordingly.

The percent recoveries for Chlorobenzene and surrogate 1,2-Dichloroethene-d4 were outside control limits in the MS and/or MSD and associated with prep batch 6325194. The associated LCS and Method Blank were in control and demonstrate that operating procedures were in control. No further action was required.

No other anomalies were observed.

##### **Method 8270C – PAH**

No anomalies were observed.

##### **General Chemistry**

Sample D6K160291-005 was analyzed at dilution due to high concentrations of chloride. The reporting limits were raised accordingly. The data was flagged "Q".

No other anomalies were observed.

# EXECUTIVE SUMMARY - Detection Highlights

D6K160291

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>MW-1 11/15/06 08:30 001</b>				
Chloride	36	3.0	mg/L	MCAWW 300.0A
<b>MW-2 11/14/06 17:00 002</b>				
Benzene	23	5.0	ug/L	SW846 8260B
Ethylbenzene	29	5.0	ug/L	SW846 8260B
Toluene	6.6	5.0	ug/L	SW846 8260B
Xylenes (total)	120	10	ug/L	SW846 8260B
Chloride	50	3.0	mg/L	MCAWW 300.0A
<b>MW-3 11/14/06 15:30 003</b>				
Chloride	39	3.0	mg/L	MCAWW 300.0A
<b>MW-4 11/14/06 16:45 004</b>				
Benzene	1.1	1.0	ug/L	SW846 8260B
Chloride	44	3.0	mg/L	MCAWW 300.0A
<b>MW-5 11/14/06 15:15 005</b>				
Chloride	79 Q	15	mg/L	MCAWW 300.0A
<b>DUPLICATE 11/14/06 17:30 006</b>				
Benzene	45	10	ug/L	SW846 8260B
Ethylbenzene	57	10	ug/L	SW846 8260B
Toluene	12	10	ug/L	SW846 8260B
Xylenes (total)	220	20	ug/L	SW846 8260B



## METHODS SUMMARY

D6K160291

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Chloride	MCAWW 300.0A	MCAWW 300.0A
Semivolatile Organic Compounds by GC/MS	SW846 8270C	SW846 3520C
Volatile Organics by GC/MS	SW846 8260B	SW846 5030B/826

### References:

MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

## METHOD / ANALYST SUMMARY

D6K160291

<u>ANALYTICAL METHOD</u>	<u>ANALYST</u>	<u>ANALYST ID</u>
MCAWW 300.0A	Grant Henshaw	004878
SW846 8260B	Hauqing Zhou	005417
SW846 8270C	Tamera Ashcraft	009005

### References:

MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.



## SAMPLE SUMMARY

D6K160291

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
JJV30	001	MW-1	11/15/06	08:30
JJV4Q	002	MW-2	11/14/06	17:00
JJV4V	003	MW-3	11/14/06	15:30
JJV41	004	MW-4	11/14/06	16:45
JJV44	005	MW-5	11/14/06	15:15
JJV45	006	DUPLICATE	11/14/06	17:30
JJV5M	007	TRIP BLANK	11/15/06	16:00

### NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

ConocoPhillips Company

Client Sample ID: MW-1

GC/MS Volatiles

Lot-Sample #....: D6K160291-001 Work Order #....: JJV301AD Matrix.....: WATER  
 Date Sampled....: 11/15/06 08:30 Date Received...: 11/16/06  
 Prep Date.....: 11/20/06 Analysis Date...: 11/20/06  
 Prep Batch #....: 6325194 Analysis Time...: 14:29  
 Dilution Factor: 1  
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.16
Ethylbenzene	ND	1.0	ug/L	0.16
Toluene	ND	1.0	ug/L	0.17
Xylenes (total)	ND	2.0	ug/L	0.19

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	95	(79 - 119)
1,2-Dichloroethane-d4	79	(65 - 126)
4-Bromofluorobenzene	95	(75 - 115)
Toluene-d8	96	(78 - 118)

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L

Not detected at 1.0 ug/L



ConocoPhillips Company

Client Sample ID: MW-2

GC/MS Volatiles

Lot-Sample #....: D6K160291-002    Work Order #....: JJV4Q1AD    Matrix.....: WATER  
 Date Sampled....: 11/14/06 17:00    Date Received...: 11/16/06  
 Prep Date.....: 11/20/06    Analysis Date...: 11/20/06  
 Prep Batch #....: 6325194    Analysis Time...: 13:44  
 Dilution Factor: 5

Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	23	5.0	ug/L	0.80
Ethylbenzene	29	5.0	ug/L	0.80
Toluene	6.6	5.0	ug/L	0.85
Xylenes (total)	120	10	ug/L	0.95

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	99	(79 - 119)
1,2-Dichloroethane-d4	84	(65 - 126)
4-Bromofluorobenzene	99	(75 - 115)
Toluene-d8	96	(78 - 118)

ConocoPhillips Company

Client Sample ID: MW-3

GC/MS Volatiles

Lot-Sample #....: D6K160291-003 Work Order #....: JJV4V1AD Matrix.....: WATER  
 Date Sampled....: 11/14/06 15:30 Date Received...: 11/16/06  
 Prep Date.....: 11/20/06 Analysis Date...: 11/20/06  
 Prep Batch #....: 6325194 Analysis Time...: 14:51  
 Dilution Factor: 1  
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.16
Ethylbenzene	ND	1.0	ug/L	0.16
Toluene	ND	1.0	ug/L	0.17
Xylenes (total)	ND	2.0	ug/L	0.19

SURROGATE	PERCENT		RECOVERY	
	RECOVERY		LIMITS	
Dibromofluoromethane	102		(79 - 119)	
1,2-Dichloroethane-d4	81		(65 - 126)	
4-Bromofluorobenzene	91		(75 - 115)	
Toluene-d8	90		(78 - 118)	

Lot Sample #  
 Date Sampled  
 Prep Date  
 Prep Batch #  
 Dilution Factor  
 Method

PARAMETER  
 RESULT  
 LIMIT  
 UNITS  
 MDL

SURROGATE  
 PERCENT RECOVERY  
 LIMITS

Lot Sample #  
 Date Sampled  
 Prep Date  
 Prep Batch #  
 Dilution Factor  
 Method

Lot Sample #  
 Date Sampled



ConocoPhillips Company

Client Sample ID: MW-4

GC/MS Volatiles

Lot-Sample #....: D6K160291-004 Work Order #....: JJV411AD Matrix.....: WATER  
Date Sampled....: 11/14/06 16:45 Date Received...: 11/16/06  
Prep Date.....: 11/20/06 Analysis Date...: 11/20/06  
Prep Batch #....: 6325194 Analysis Time...: 15:14  
Dilution Factor: 1  
Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	1.1	1.0	ug/L	0.16
Ethylbenzene	ND	1.0	ug/L	0.16
Toluene	ND	1.0	ug/L	0.17
Xylenes (total)	ND	2.0	ug/L	0.19

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	97	(79 - 119)
1,2-Dichloroethane-d4	80	(65 - 126)
4-Bromofluorobenzene	95	(75 - 115)
Toluene-d8	94	(78 - 118)

Lab Sample #.....  
Date Sampled.....  
Prep Date.....  
Prep Batch #.....  
Dilution Factor.....

Lab Sample #.....  
Date Sampled.....  
Prep Date.....  
Prep Batch #.....  
Dilution Factor.....

Lab Sample #.....  
Date Sampled.....  
Prep Date.....  
Prep Batch #.....  
Dilution Factor.....

Lab Sample #.....  
Date Sampled.....  
Prep Date.....  
Prep Batch #.....  
Dilution Factor.....

Lab Sample #.....  
Date Sampled.....

ConocoPhillips Company

Client Sample ID: MW-5

GC/MS Volatiles

Lot-Sample #....: D6K160291-005 Work Order #....: JJV441AD Matrix.....: WATER  
 Date Sampled....: 11/14/06 15:15 Date Received...: 11/16/06  
 Prep Date.....: 11/20/06 Analysis Date...: 11/20/06  
 Prep Batch #....: 6325194 Analysis Time...: 15:37  
 Dilution Factor: 1  
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.16
Ethylbenzene	ND	1.0	ug/L	0.16
Toluene	ND	1.0	ug/L	0.17
Xylenes (total)	ND	2.0	ug/L	0.19

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(79 - 119)
1,2-Dichloroethane-d4	80	(65 - 126)
4-Bromofluorobenzene	90	(75 - 115)
Toluene-d8	89	(78 - 118)



ConocoPhillips Company

Client Sample ID: DUPLICATE

GC/MS Volatiles

Lot-Sample #....: D6K160291-006 Work Order #....: JJV451AD Matrix.....: WATER  
 Date Sampled....: 11/14/06 17:30 Date Received...: 11/16/06  
 Prep Date.....: 11/20/06 Analysis Date...: 11/20/06  
 Prep Batch #....: 6325194 Analysis Time...: 14:06  
 Dilution Factor: 10

Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	45	10	ug/L	1.6
Ethylbenzene	57	10	ug/L	1.6
Toluene	12	10	ug/L	1.7
Xylenes (total)	220	20	ug/L	1.9

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	98	(79 - 119)
1,2-Dichloroethane-d4	84	(65 - 126)
4-Bromofluorobenzene	98	(75 - 115)
Toluene-d8	98	(78 - 118)

ConocoPhillips Company

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #....: D6K160291-007 Work Order #....: JJV5M1AA Matrix.....: WATER  
 Date Sampled....: 11/15/06 16:00 Date Received...: 11/16/06  
 Prep Date.....: 11/20/06 Analysis Date...: 11/20/06  
 Prep Batch #....: 6325194 Analysis Time...: 15:59  
 Dilution Factor: 1  
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.16
Ethylbenzene	ND	1.0	ug/L	0.16
Toluene	ND	1.0	ug/L	0.17
Xylenes (total)	ND	2.0	ug/L	0.19

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	97	(79 - 119)
1,2-Dichloroethane-d4	82	(65 - 126)
4-Bromofluorobenzene	95	(75 - 115)
Toluene-d8	93	(78 - 118)

PARAFFINS  
 Octane  
 Ethylbenzene  
 Toluene  
 Xylenes

AROMATICS  
 Naphthalene  
 Anthracene  
 Phenanthrene  
 Fluorene

TERPENOIDS

Monoterpene

Sesquiterpene

Diterpene

Steroids

PHENOLS

Phenol



ConocoPhillips Company

Client Sample ID: MW-1

GC/MS Semivolatiles

Lot-Sample #....: D6K160291-001 Work Order #....: JJV301AA Matrix.....: WATER  
 Date Sampled....: 11/15/06 08:30 Date Received...: 11/16/06  
 Prep Date.....: 11/17/06 Analysis Date...: 11/22/06  
 Prep Batch #....: 6321200 Analysis Time...: 21:38  
 Dilution Factor: 1

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	10	ug/L	1.7
Acenaphthylene	ND	10	ug/L	1.8
Anthracene	ND	10	ug/L	1.9
Benzo(a)anthracene	ND	10	ug/L	1.7
Benzo(b)fluoranthene	ND	10	ug/L	0.39
Benzo(k)fluoranthene	ND	10	ug/L	0.46
Benzo(ghi)perylene	ND	10	ug/L	1.0
Benzo(a)pyrene	ND	10	ug/L	1.3
Chrysene	ND	10	ug/L	1.0
Dibenz(a,h)anthracene	ND	10	ug/L	1.4
Fluoranthene	ND	10	ug/L	5.0
Fluorene	ND	10	ug/L	1.0
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	1.5
2-Methylnaphthalene	ND	10	ug/L	1.6
1-Methylnaphthalene	ND	10	ug/L	1.7
Naphthalene	ND	10	ug/L	1.5
Phenanthrene	ND	10	ug/L	1.0
Pyrene	ND	10	ug/L	0.37

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	92	(40 - 120)
Phenol-d5	91	(51 - 120)
Nitrobenzene-d5	93	(47 - 120)
2-Fluorobiphenyl	87	(42 - 120)
2,4,6-Tribromophenol	87	(47 - 120)
Terphenyl-d14	100	(30 - 127)

ConocoPhillips Company

Client Sample ID: MW-2

GC/MS Semivolatiles

Lot-Sample #....: D6K160291-002 Work Order #....: JJV4Q1AA Matrix.....: WATER  
 Date Sampled....: 11/14/06 17:00 Date Received...: 11/16/06  
 Prep Date.....: 11/17/06 Analysis Date...: 11/22/06  
 Prep Batch #....: 6321200 Analysis Time...: 21:58  
 Dilution Factor: 1  
 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	10	ug/L	1.7
Acenaphthylene	ND	10	ug/L	1.8
Anthracene	ND	10	ug/L	1.9
Benzo (a) anthracene	ND	10	ug/L	1.7
Benzo (b) fluoranthene	ND	10	ug/L	0.39
Benzo (k) fluoranthene	ND	10	ug/L	0.46
Benzo (ghi) perylene	ND	10	ug/L	1.0
Benzo (a) pyrene	ND	10	ug/L	1.3
Chrysene	ND	10	ug/L	1.0
Dibenz (a,h) anthracene	ND	10	ug/L	1.4
Fluoranthene	ND	10	ug/L	5.0
Fluorene	ND	10	ug/L	1.0
Indeno (1,2,3-cd) pyrene	ND	10	ug/L	1.5
2-Methylnaphthalene	ND	10	ug/L	1.6
1-Methylnaphthalene	ND	10	ug/L	1.7
Naphthalene	ND	10	ug/L	1.5
Phenanthrene	ND	10	ug/L	1.0
Pyrene	ND	10	ug/L	0.37

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	94	(40 - 120)
Phenol-d5	94	(51 - 120)
Nitrobenzene-d5	92	(47 - 120)
2-Fluorobiphenyl	91	(42 - 120)
2,4,6-Tribromophenol	101	(47 - 120)
Terphenyl-d14	97	(30 - 127)



ConocoPhillips Company

Client Sample ID: MW-3

GC/MS Semivolatiles

Lot-Sample #....: D6K160291-003 Work Order #....: JJV4V1AA Matrix.....: WATER  
 Date Sampled....: 11/14/06 15:30 Date Received...: 11/16/06  
 Prep Date.....: 11/17/06 Analysis Date...: 11/22/06  
 Prep Batch #....: 6321200 Analysis Time...: 22:19  
 Dilution Factor: 1

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	10	ug/L	1.7
Acenaphthylene	ND	10	ug/L	1.8
Anthracene	ND	10	ug/L	1.9
Benzo(a)anthracene	ND	10	ug/L	1.7
Benzo(b)fluoranthene	ND	10	ug/L	0.39
Benzo(k)fluoranthene	ND	10	ug/L	0.46
Benzo(ghi)perylene	ND	10	ug/L	1.0
Benzo(a)pyrene	ND	10	ug/L	1.3
Chrysene	ND	10	ug/L	1.0
Dibenz(a,h)anthracene	ND	10	ug/L	1.4
Fluoranthene	ND	10	ug/L	5.0
Fluorene	ND	10	ug/L	1.0
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	1.5
2-Methylnaphthalene	ND	10	ug/L	1.6
1-Methylnaphthalene	ND	10	ug/L	1.7
Naphthalene	ND	10	ug/L	1.5
Phenanthrene	ND	10	ug/L	1.0
Pyrene	ND	10	ug/L	0.37

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	87	(40 - 120)
Phenol-d5	92	(51 - 120)
Nitrobenzene-d5	94	(47 - 120)
2-Fluorobiphenyl	86	(42 - 120)
2,4,6-Tribromophenol	80	(47 - 120)
Terphenyl-d14	99	(30 - 127)

ConocoPhillips Company

Client Sample ID: MW-4

GC/MS Semivolatiles

Lot-Sample #....: D6K160291-004 Work Order #....: JJV411AA Matrix.....: WATER  
 Date Sampled....: 11/14/06 16:45 Date Received...: 11/16/06  
 Prep Date.....: 11/17/06 Analysis Date...: 11/22/06  
 Prep Batch #....: 6321200 Analysis Time...: 22:39  
 Dilution Factor: 1  
 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acenaphthene	ND	10	ug/L	1.7
Acenaphthylene	ND	10	ug/L	1.8
Anthracene	ND	10	ug/L	1.9
Benzo (a) anthracene	ND	10	ug/L	1.7
Benzo (b) fluoranthene	ND	10	ug/L	0.39
Benzo (k) fluoranthene	ND	10	ug/L	0.46
Benzo (ghi) perylene	ND	10	ug/L	1.0
Benzo (a) pyrene	ND	10	ug/L	1.3
Chrysene	ND	10	ug/L	1.0
Dibenz (a, h) anthracene	ND	10	ug/L	1.4
Fluoranthene	ND	10	ug/L	5.0
Fluorene	ND	10	ug/L	1.0
Indeno (1, 2, 3-cd) pyrene	ND	10	ug/L	1.5
2-Methylnaphthalene	ND	10	ug/L	1.6
1-Methylnaphthalene	ND	10	ug/L	1.7
Naphthalene	ND	10	ug/L	1.5
Phenanthrene	ND	10	ug/L	1.0
Pyrene	ND	10	ug/L	0.37

SURROGATE	PERCENT RECOVERY	RECOVERY	
		LIMITS	
2-Fluorophenol	85	(40 - 120)	
Phenol-d5	87	(51 - 120)	
Nitrobenzene-d5	86	(47 - 120)	
2-Fluorobiphenyl	72	(42 - 120)	
2,4,6-Tribromophenol	74	(47 - 120)	
Terphenyl-d14	97	(30 - 127)	



ConocoPhillips Company

Client Sample ID: MW-5

GC/MS Semivolatiles

Lot-Sample #....: D6K160291-005 Work Order #....: JJV441AA Matrix.....: WATER  
 Date Sampled....: 11/14/06 15:15 Date Received...: 11/16/06  
 Prep Date.....: 11/17/06 Analysis Date...: 11/22/06  
 Prep Batch #....: 6321200 Analysis Time...: 22:59  
 Dilution Factor: 1

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acenaphthene	ND	10	ug/L	1.7
Acenaphthylene	ND	10	ug/L	1.8
Anthracene	ND	10	ug/L	1.9
Benzo(a)anthracene	ND	10	ug/L	1.7
Benzo(b)fluoranthene	ND	10	ug/L	0.39
Benzo(k)fluoranthene	ND	10	ug/L	0.46
Benzo(ghi)perylene	ND	10	ug/L	1.0
Benzo(a)pyrene	ND	10	ug/L	1.3
Chrysene	ND	10	ug/L	1.0
Dibenz(a,h)anthracene	ND	10	ug/L	1.4
Fluoranthene	ND	10	ug/L	5.0
Fluorene	ND	10	ug/L	1.0
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	1.5
2-Methylnaphthalene	ND	10	ug/L	1.6
1-Methylnaphthalene	ND	10	ug/L	1.7
Naphthalene	ND	10	ug/L	1.5
Phenanthrene	ND	10	ug/L	1.0
Pyrene	ND	10	ug/L	0.37

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
2-Fluorophenol	87	(40 - 120)
Phenol-d5	90	(51 - 120)
Nitrobenzene-d5	88	(47 - 120)
2-Fluorobiphenyl	70	(42 - 120)
2,4,6-Tribromophenol	77	(47 - 120)
Terphenyl-d14	97	(30 - 127)

ConocoPhillips Company

Client Sample ID: MW-1

General Chemistry

Lot-Sample #....: D6K160291-001 Work Order #....: JJV30  
Date Sampled...: 11/15/06 08:30 Date Received...: 11/16/06

Matrix.....: WATER

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride	36	3.0	mg/L	MCAWW 300.0A	11/17/06	6322112

Dilution Factor: 1 Analysis Time..: 21:22 MDL.....: 0.25



ConocoPhillips Company

Client Sample ID: MW-2

General Chemistry

Lot-Sample #...: D6K160291-002

Work Order #...: JJV4Q

Date Sampled...: 11/14/06 17:00

Date Received...: 11/16/06

Matrix.....: WATER

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride	50	3.0	mg/L	MCAWW 300.0A	11/17/06	6322112
Dilution Factor: 1				Analysis Time...: 21:53	MDL.....: 0.25	

ConocoPhillips Company

Client Sample ID: MW-3

General Chemistry

Lot-Sample #....: D6K160291-003 Work Order #....: JJV4V  
Date Sampled....: 11/14/06 15:30 Date Received...: 11/16/06

Matrix.....: WATER

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride	39	3.0	mg/L	MCAWW 300.0A	11/17/06	6322112
		Dilution Factor: 1		Analysis Time...: 22:25		MDL.....: 0.25



ConocoPhillips Company

Client Sample ID: MW-4

General Chemistry

Lot-Sample #...: D6K160291-004

Work Order #...: JJV41

Matrix.....: WATER

Date Sampled...: 11/14/06 16:45

Date Received...: 11/16/06

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride	44	3.0	mg/L	MCAWW 300.0A	11/17/06	6322112

Dilution Factor: 1      Analysis Time.: 22:56      MDL.....: 0.25

ConocoPhillips Company

Client Sample ID: MW-5

General Chemistry

Lot-Sample #...: D6K160291-005 Work Order #...: JJV44  
Date Sampled...: 11/14/06 15:15 Date Received...: 11/16/06

Matrix.....: WATER

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride	79 Q	15	mg/L	MCAWW 300.0A	11/17-11/18/06	6322112
Dilution Factor: 5				Analysis Time...: 00:15	MDL.....: 1.3	

NOTE(S):

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.



# QC DATA ASSOCIATION SUMMARY

D6K160291

## Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	WATER	MCAWW 300.0A		6322112	6322092
	WATER	SW846 8260B		6325194	6325153
	WATER	SW846 8270C		6321200	6321123
002	WATER	MCAWW 300.0A		6322112	6322092
	WATER	SW846 8260B		6325194	6325153
	WATER	SW846 8270C		6321200	6321123
003	WATER	MCAWW 300.0A		6322112	6322092
	WATER	SW846 8260B		6325194	6325153
	WATER	SW846 8270C		6321200	6321123
004	WATER	MCAWW 300.0A		6322112	6322092
	WATER	SW846 8260B		6325194	6325153
	WATER	SW846 8270C		6321200	6321123
005	WATER	MCAWW 300.0A		6322112	6322092
	WATER	SW846 8260B		6325194	6325153
	WATER	SW846 8270C		6321200	6321123
006	WATER	SW846 8260B		6325194	6325153
007	WATER	SW846 8260B		6325194	6325153

# METHOD BLANK REPORT

## GC/MS Volatiles

Client Lot #...: D6K160291  
MB Lot-Sample #: D6K210000-194

Work Order #...: JJ5VX1AA

Matrix.....: WATER

Analysis Date...: 11/20/06  
Dilution Factor: 1

Prep Date.....: 11/20/06  
Prep Batch #...: 6325194

Analysis Time...: 08:23

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	2.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	106	(79 - 119)
1,2-Dichloroethane-d4	89	(65 - 126)
4-Bromofluorobenzene	100	(75 - 115)
Toluene-d8	99	(78 - 118)

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.



# LABORATORY CONTROL SAMPLE EVALUATION REPORT

## GC/MS Volatiles

Client Lot #....: D6K160291      Work Order #....: JJ5VX1AC      Matrix.....: WATER  
 LCS Lot-Sample#: D6K210000-194  
 Prep Date.....: 11/20/06      Analysis Date...: 11/20/06  
 Prep Batch #....: 6325194      Analysis Time...: 08:00  
 Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,1-Dichloroethene	127	(68 - 133)	SW846 8260B
Chlorobenzene	96	(78 - 118)	SW846 8260B
Benzene	116	(77 - 118)	SW846 8260B
Trichloroethene	119	(78 - 122)	SW846 8260B
Toluene	94	(73 - 120)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	101	(79 - 119)
1,2-Dichloroethane-d4	85	(65 - 126)
4-Bromofluorobenzene	92	(75 - 115)
Toluene-d8	93	(78 - 118)

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Method: SW846 8260B

Prep Date: 11/20/06

Prep Batch: 6325194

Dilution Factor: 1

Client Lot: D6K160291

LCS Lot-Sample#: D6K210000-194

Analysis Date: 11/20/06

Analysis Time: 08:00

Matrix: WATER

Method: SW846 8260B

Prep Date: 11/20/06

Prep Batch: 6325194

Dilution Factor: 1

Client Lot: D6K160291

LCS Lot-Sample#: D6K210000-194

Analysis Date: 11/20/06

Analysis Time: 08:00

Matrix: WATER

Method: SW846 8260B

Prep Date: 11/20/06

Prep Batch: 6325194

Dilution Factor: 1

Client Lot: D6K160291

LCS Lot-Sample#: D6K210000-194

Analysis Date: 11/20/06

Analysis Time: 08:00

Matrix: WATER

Method: SW846 8260B

Prep Date: 11/20/06

Prep Batch: 6325194

Dilution Factor: 1

# LABORATORY CONTROL SAMPLE DATA REPORT

## GC/MS Volatiles

Client Lot #....: D6K160291      Work Order #....: JJ5VX1AC      Matrix.....: WATER  
 LCS Lot-Sample#: D6K210000-194  
 Prep Date.....: 11/20/06      Analysis Date...: 11/20/06  
 Prep Batch #....: 6325194      Analysis Time...: 08:00  
 Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
1,1-Dichloroethene	10.0	12.7	ug/L	127	SW846 8260B
Chlorobenzene	10.0	9.60	ug/L	96	SW846 8260B
Benzene	10.0	11.6	ug/L	116	SW846 8260B
Trichloroethene	10.0	11.9	ug/L	119	SW846 8260B
Toluene	10.0	9.40	ug/L	94	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	101	(79 - 119)
1,2-Dichloroethane-d4	85	(65 - 126)
4-Bromofluorobenzene	92	(75 - 115)
Toluene-d8	93	(78 - 118)

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LCS Lot-Sample#: D6K210000-194

Prep Date: 11/20/06

Prep Batch #: 6325194

Dilution Factor: 1

Matrix: WATER

Analysis Date: 11/20/06

Analysis Time: 08:00

Client Lot #: D6K160291

Work Order #: JJ5VX1AC

Matrix: WATER

Prep Date: 11/20/06

Prep Batch #: 6325194

Dilution Factor: 1

Matrix: WATER

Analysis Date: 11/20/06

Analysis Time: 08:00

Client Lot #: D6K160291

Work Order #: JJ5VX1AC

Matrix: WATER

Prep Date: 11/20/06

Prep Batch #: 6325194

Dilution Factor: 1

Matrix: WATER

Analysis Date: 11/20/06

Analysis Time: 08:00

Client Lot #: D6K160291

Work Order #: JJ5VX1AC

Matrix: WATER

Prep Date: 11/20/06

Prep Batch #: 6325194

Dilution Factor: 1

Matrix: WATER

Analysis Date: 11/20/06

Analysis Time: 08:00



# MATRIX SPIKE SAMPLE EVALUATION REPORT

## GC/MS Volatiles

Client Lot #...: D6K160291      Work Order #...: JJRVP1A6-MS      Matrix.....: WATER  
 MS Lot-Sample #: D6K150362-001      JJRVP1A7-MSD  
 Date Sampled...: 11/14/06 16:00      Date Received...: 11/15/06  
 Prep Date.....: 11/20/06      Analysis Date...: 11/20/06  
 Prep Batch #...: 6325194      Analysis Time...: 12:59  
 Dilution Factor: 4

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	115	(68 - 133)			SW846 8260B
	123	(68 - 133)	6.5	(0-20)	SW846 8260B
Chlorobenzene	0.0 a	(78 - 118)			SW846 8260B
	35 a	(78 - 118)	0.0	(0-20)	SW846 8260B
Benzene	97	(77 - 118)			SW846 8260B
	107	(77 - 118)	7.7	(0-20)	SW846 8260B
Trichloroethene	102	(78 - 122)			SW846 8260B
	107	(78 - 122)	5.4	(0-20)	SW846 8260B
Toluene	80	(73 - 120)			SW846 8260B
	87	(73 - 120)	8.1	(0-20)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	80	(79 - 119)
	93	(79 - 119)
1,2-Dichloroethane-d4	64 *	(65 - 126)
	75	(65 - 126)
4-Bromofluorobenzene	76	(75 - 115)
	89	(75 - 115)
Toluene-d8	79	(78 - 118)
	92	(78 - 118)

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked-analyte recovery is outside stated control limits.

\* Surrogate recovery is outside stated control limits.



# MATRIX SPIKE SAMPLE DATA REPORT

## GC/MS Volatiles

Client Lot #....: D6K160291      Work Order #....: JJRVP1A6-MS      Matrix.....: WATER  
 MS Lot-Sample #: D6K150362-001      JJRVP1A7-MSD  
 Date Sampled...: 11/14/06 16:00      Date Received...: 11/15/06  
 Prep Date.....: 11/20/06      Analysis Date...: 11/20/06  
 Prep Batch #....: 6325194      Analysis Time...: 12:59  
 Dilution Factor: 4

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
1,1-Dichloroethene	ND	40.0	46.1	ug/L	115		SW846 8260B
	ND	40.0	49.2	ug/L	123	6.5	SW846 8260B
Chlorobenzene	470	40.0	409	ug/L	0.0 a		SW846 8260B
	470	40.0	480	ug/L	35 a	0.0	SW846 8260B
Benzene	8.5	40.0	47.4	ug/L	97		SW846 8260B
	8.5	40.0	51.2	ug/L	107	7.7	SW846 8260B
Trichloroethene	ND	40.0	40.7	ug/L	102		SW846 8260B
	ND	40.0	43.0	ug/L	107	5.4	SW846 8260B
Toluene	ND	40.0	32.8	ug/L	80		SW846 8260B
	ND	40.0	35.6	ug/L	87	8.1	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	80	(79 - 119)
	93	(79 - 119)
1,2-Dichloroethane-d4	64 *	(65 - 126)
	75	(65 - 126)
4-Bromofluorobenzene	76	(75 - 115)
	89	(75 - 115)
Toluene-d8	79	(78 - 118)
	92	(78 - 118)

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a \* Spiked analyte recovery is outside stated control limits.

\* Surrogate recovery is outside stated control limits.



# METHOD BLANK REPORT

## GC/MS Semivolatiles

Client Lot #....: D6K160291  
 MB Lot-Sample #: D6K170000-200  
 Analysis Date...: 11/22/06  
 Dilution Factor: 1

Work Order #....: JJXGV1AA  
 Prep Date.....: 11/17/06  
 Prep Batch #....: 6321200

Matrix.....: WATER  
 Analysis Time...: 20:57

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Acenaphthene	ND	10	ug/L	SW846 8270C
Acenaphthylene	ND	10	ug/L	SW846 8270C
Anthracene	ND	10	ug/L	SW846 8270C
Benzo (a) anthracene	ND	10	ug/L	SW846 8270C
Benzo (b) fluoranthene	ND	10	ug/L	SW846 8270C
Benzo (k) fluoranthene	ND	10	ug/L	SW846 8270C
Benzo (ghi) perylene	ND	10	ug/L	SW846 8270C
Benzo (a) pyrene	ND	10	ug/L	SW846 8270C
Chrysene	ND	10	ug/L	SW846 8270C
Dibenz (a,h) anthracene	ND	10	ug/L	SW846 8270C
Fluoranthene	ND	10	ug/L	SW846 8270C
Fluorene	ND	10	ug/L	SW846 8270C
Indeno (1,2,3-cd) pyrene	ND	10	ug/L	SW846 8270C
2-Methylnaphthalene	ND	10	ug/L	SW846 8270C
1-Methylnaphthalene	ND	10	ug/L	SW846 8270C
Naphthalene	ND	10	ug/L	SW846 8270C
Phenanthrene	ND	10	ug/L	SW846 8270C
Pyrene	ND	10	ug/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
2-Fluorophenol	90	(40 - 120)
Phenol-d5	95	(51 - 120)
Nitrobenzene-d5	95	(47 - 120)
2-Fluorobiphenyl	83	(42 - 120)
2,4,6-Tribromophenol	83	(47 - 120)
Terphenyl-d14	108	(30 - 127)

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.



# LABORATORY CONTROL SAMPLE EVALUATION REPORT

## GC/MS Semivolatiles

Client Lot #....: D6K160291      Work Order #....: JJXGV1AC      Matrix.....: WATER  
 LCS Lot-Sample#: D6K170000-200  
 Prep Date.....: 11/17/06      Analysis Date...: 11/22/06  
 Prep Batch #....: 6321200      Analysis Time...: 21:17  
 Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
4-Chloro-3-methylphenol	97	(57 - 120)	SW846 8270C
2-Chlorophenol	94	(55 - 120)	SW846 8270C
Acenaphthene	98	(52 - 120)	SW846 8270C
1,4-Dichlorobenzene	77	(36 - 120)	SW846 8270C
2,4-Dinitrotoluene	101	(54 - 120)	SW846 8270C
4-Nitrophenol	83	(48 - 120)	SW846 8270C
N-Nitrosodi-n-propyl- amine	96	(52 - 120)	SW846 8270C
Pentachlorophenol	84	(50 - 120)	SW846 8270C
Phenol	94	(54 - 120)	SW846 8270C
1,2,4-Trichloro- benzene	82	(39 - 120)	SW846 8270C
Pyrene	109	(52 - 120)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	94	(54 - 120)
Phenol-d5	100	(56 - 120)
Nitrobenzene-d5	101	(55 - 120)
2-Fluorobiphenyl	94	(43 - 120)
2,4,6-Tribromophenol	97	(53 - 120)
Terphenyl-d14	115	(54 - 122)

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000



# LABORATORY CONTROL SAMPLE DATA REPORT

## GC/MS Semivolatiles

Client Lot #....: D6K160291      Work Order #....: JJXGV1AC      Matrix.....: WATER  
 LCS Lot-Sample#: D6K170000-200  
 Prep Date.....: 11/17/06      Analysis Date...: 11/22/06  
 Prep Batch #....: 6321200      Analysis Time...: 21:17  
 Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
4-Chloro-3-methylphenol	150	146	ug/L	97	SW846 8270C
2-Chlorophenol	150	142	ug/L	94	SW846 8270C
Acenaphthene	100	98.4	ug/L	98	SW846 8270C
1,4-Dichlorobenzene	100	77.0	ug/L	77	SW846 8270C
2,4-Dinitrotoluene	100	101	ug/L	101	SW846 8270C
4-Nitrophenol	150	124	ug/L	83	SW846 8270C
N-Nitrosodi-n-propyl- amine	100	96.0	ug/L	96	SW846 8270C
Pentachlorophenol	150	126	ug/L	84	SW846 8270C
Phenol	150	141	ug/L	94	SW846 8270C
1,2,4-Trichloro- benzene	100	82.4	ug/L	82	SW846 8270C
Pyrene	100	109	ug/L	109	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	94	(54 - 120)
Phenol-d5	100	(56 - 120)
Nitrobenzene-d5	101	(55 - 120)
2-Fluorobiphenyl	94	(43 - 120)
2,4,6-Tribromophenol	97	(53 - 120)
Terphenyl-d14	115	(54 - 122)

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters



# MATRIX SPIKE SAMPLE EVALUATION REPORT

## GC/MS Semivolatiles

Client Lot #...: D6K160291      Work Order #...: JJWGR1DL-MS      Matrix.....: WATER  
 MS Lot-Sample #: D6K160337-002      JJWGR1DM-MSD  
 Date Sampled...: 11/15/06 11:55      Date Received...: 11/16/06  
 Prep Date.....: 11/17/06      Analysis Date...: 11/23/06  
 Prep Batch #...: 6321200      Analysis Time...: 00:00  
 Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
4-Chloro-3-methylphenol	92	(54 - 120)			SW846 8270C
	85	(54 - 120)	10	(0-59)	SW846 8270C
2-Chlorophenol	96	(50 - 120)			SW846 8270C
	95	(50 - 120)	4.4	(0-47)	SW846 8270C
Acenaphthene	102	(49 - 120)			SW846 8270C
	93	(49 - 120)	13	(0-42)	SW846 8270C
1,4-Dichlorobenzene	85	(40 - 120)			SW846 8270C
	78	(40 - 120)	11	(0-52)	SW846 8270C
2,4-Dinitrotoluene	110	(52 - 120)			SW846 8270C
	97	(52 - 120)	16	(0-47)	SW846 8270C
4-Nitrophenol	92	(40 - 122)			SW846 8270C
	86	(40 - 122)	9.3	(0-61)	SW846 8270C
N-Nitrosodi-n-propyl- amine	96	(44 - 120)			SW846 8270C
	95	(44 - 120)	4.4	(0-45)	SW846 8270C
Pentachlorophenol	90	(48 - 120)			SW846 8270C
	81	(48 - 120)	13	(0-50)	SW846 8270C
Phenol	94	(46 - 120)			SW846 8270C
	92	(46 - 120)	5.8	(0-47)	SW846 8270C
1,2,4-Trichloro- benzene	92	(46 - 120)			SW846 8270C
	81	(46 - 120)	16	(0-50)	SW846 8270C
Pyrene	112	(35 - 122)			SW846 8270C
	104	(35 - 122)	10	(0-58)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	95	(40 - 120)
	93	(40 - 120)
Phenol-d5	100	(51 - 120)
	99	(51 - 120)
Nitrobenzene-d5	102	(47 - 120)
	100	(47 - 120)
2-Fluorobiphenyl	97	(42 - 120)
	92	(42 - 120)
2,4,6-Tribromophenol	98	(47 - 120)
	87	(47 - 120)

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# MATRIX SPIKE SAMPLE EVALUATION REPORT

## GC/MS Semivolatiles

Client Lot #...: D6K160291      Work Order #...: JJWGR1DL-MS      Matrix.....: WATER  
MS Lot-Sample #: D6K160337-002      JJWGR1DM-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Terphenyl-d14	118	(30 - 127)
	109	(30 - 127)

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

# MATRIX SPIKE SAMPLE DATA REPORT

## GC/MS Semivolatiles

Client Lot #....: D6K160291      Work Order #....: JJWGR1DL-MS      Matrix.....: WATER  
 MS Lot-Sample #: D6K160337-002      JJWGR1DM-MSD  
 Date Sampled....: 11/15/06 11:55      Date Received...: 11/16/06  
 Prep Date.....: 11/17/06      Analysis Date...: 11/23/06  
 Prep Batch #....: 6321200      Analysis Time...: 00:00  
 Dilution Factor: 1

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
4-Chloro-3-methylphenol	ND	153	140	ug/L	92		SW846 8270C
	ND	148	127	ug/L	85	10	SW846 8270C
2-Chlorophenol	ND	153	148	ug/L	96		SW846 8270C
	ND	148	141	ug/L	95	4.4	SW846 8270C
Acenaphthene	ND	102	104	ug/L	102		SW846 8270C
	ND	98.9	91.7	ug/L	93	13	SW846 8270C
1,4-Dichlorobenzene	ND	102	86.4	ug/L	85		SW846 8270C
	ND	98.9	77.3	ug/L	78	11	SW846 8270C
2,4-Dinitrotoluene	ND	102	112	ug/L	110		SW846 8270C
	ND	98.9	95.5	ug/L	97	16	SW846 8270C
4-Nitrophenol	ND	153	141	ug/L	92		SW846 8270C
	ND	148	128	ug/L	86	9.3	SW846 8270C
N-Nitrosodi-n-propyl-amine	ND	102	98.3	ug/L	96		SW846 8270C
	ND	98.9	94.1	ug/L	95	4.4	SW846 8270C
Pentachlorophenol	ND	153	138	ug/L	90		SW846 8270C
	ND	148	121	ug/L	81	13	SW846 8270C
Phenol	ND	153	144	ug/L	94		SW846 8270C
	ND	148	136	ug/L	92	5.8	SW846 8270C
1,2,4-Trichloro-benzene	ND	102	94.0	ug/L	92		SW846 8270C
	ND	98.9	80.0	ug/L	81	16	SW846 8270C
Pyrene	ND	102	114	ug/L	112		SW846 8270C
	ND	98.9	103	ug/L	104	10	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	95	(40 - 120)
	93	(40 - 120)
Phenol-d5	100	(51 - 120)
	99	(51 - 120)
Nitrobenzene-d5	102	(47 - 120)
	100	(47 - 120)
2-Fluorobiphenyl	97	(42 - 120)
	92	(42 - 120)
2,4,6-Tribromophenol	98	(47 - 120)
	87	(47 - 120)

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# MATRIX SPIKE SAMPLE DATA REPORT

## GC/MS Semivolatiles

Client Lot #....: D6K160291      Work Order #....: JJWGR1DL-MS      Matrix.....: WATER  
 MS Lot-Sample #: D6K160337-002      JJWGR1DM-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Terphenyl-d14	118	(30 - 127)
	109	(30 - 127)

### NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

# LABORATORY CONTROL SAMPLE EVALUATION REPORT

## General Chemistry

Lot-Sample #....: D6K160291

Matrix.....: WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride		WO#:JJ2WC1AC-LCS/JJ2WC1AD-LCSD			LCS Lot-Sample#: D6K180000-112		
	100	(90 - 110)			MCAWW 300.0A	11/17/06	6322112
	100	(90 - 110)	0.34	(0-10)	MCAWW 300.0A	11/17/06	6322112
		Dilution Factor: 1		Analysis Time..: 20:34			

### NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.



# LABORATORY CONTROL SAMPLE DATA REPORT

## General Chemistry

Lot-Sample #...: D6K160291

Matrix.....: WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride						WO#:JJ2WC1AC-LCS/JJ2WC1AD-LCSD LCS Lot-Sample#: D6K180000-112		
	25.0	25.1	mg/L	100		MCAWW 300.0A	11/17/06	6322112
	25.0	25.0	mg/L	100	0.34	MCAWW 300.0A	11/17/06	6322112
						Dilution Factor: 1		
						Analysis Time...: 20:34		

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

# MATRIX SPIKE SAMPLE EVALUATION REPORT

## General Chemistry

Client Lot #...: D6K160291

Matrix.....: WATER

Date Sampled...: 11/08/06 11:00 Date Received...: 11/11/06

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride			WO#:	JJH0W1C3-MS/JJH0W1C4-MSD	MS	Lot-Sample #:	D6K110138-001
	104	(80 - 120)			MCAWW 300.0A	11/17-11/18/06	6322112
	106	(80 - 120)	1.6	(0-20)	MCAWW 300.0A	11/17-11/18/06	6322112
			Dilution Factor: 1				
			Analysis Time...: 00:47				

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.



# MATRIX SPIKE SAMPLE DATA REPORT

## General Chemistry

Client Lot #....: D6K160291

Matrix.....: WATER

Date Sampled....: 11/08/06 11:00 Date Received...: 11/11/06

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Chloride	3.8	25.0	29.8	mg/L	104		MCAWW 300.0A	11/17-11/18/06	6322112
	3.8	25.0	30.3	mg/L	106	1.6	MCAWW 300.0A	11/17-11/18/06	6322112

WO#: JJH0W1C3-MS/JJH0W1C4-MSD MS Lot-Sample #: D6K110138-001

Dilution Factor: 1

Analysis Time...: 00:47

### NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.







