

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

September 11, 2013

Project: Mayflower, AR Pipeline Incident

Submittal Date: 09/04/2013

Group Number: 1416143

SDG: PEL23

PO Number: B0086003.1301

State of Sample Origin: AR

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
WS-014(1.5-2.0)090313 Grab Surface Water	7184564
WS-014(5.5-6.0)090313 Grab Surface Water	7184565
WS-012(1.5-2.0)090313 Grab Surface Water	7184566
WS-012(5.0-5.5)090313 Grab Surface Water	7184567
WS-010(1.5-2.0)090313 Grab Surface Water	7184568
WS-010(3.5-4.0)090313 Grab Surface Water	7184569
WS-006(0.5-1.0)090313 Grab Surface Water	7184570
WS-006(0.5-1.0)090313MS Grab Surface Water	7184571
WS-006(0.5-1.0)090313MSD Grab Surface Water	7184572
WS-006(0.5-1.0)090313DUP Grab Surface Water	7184573
WS-005(Surface)090313 Grab Surface Water	7184574
WS-002(Surface)090313 Grab Surface Water	7184575
WS-011(1.5-2.0)090313 Grab Surface Water	7184576
WS-011(5.0-5.5)090313 Grab Surface Water	7184577
WS-018(Surface)090313 Grab Surface Water	7184578
WS-003(Surface)090313 Grab Surface Water	7184579
WS-007(0.5-1.0)090313 Grab Surface Water	7184580
WS-001(0.5-1.0)090313 Grab Surface Water	7184581
WS-EB-050-090313 Grab Water	7184582
WS-TB-139-090313 Water	7184583

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO
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ARCADIS
ARCADIS

Attn: Stephen Barrick

Attn: Lyndi Mott

ELECTRONIC COPY TO	ExxonMobil	Attn: Michael J. Firth
ELECTRONIC COPY TO	ARCADIS	Attn: Emily Leamer
ELECTRONIC COPY TO	ARCADIS	Attn: Rhiannon Parmalee
ELECTRONIC COPY TO	ARCADIS	Attn: Jamie Pritchard
ELECTRONIC COPY TO	ExxonMobil	Attn: Michael L Sixsmith
ELECTRONIC COPY TO	ExxonMobil	Attn: Julie Foster

Respectfully Submitted,



Katherine A. Klinefelter
Principal Specialist

(717) 556-7256

Project Name: Mayflower, AR Pipeline Incident
LLI Group #: 1416143

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set

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.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:**SW-846 8270C SIM, GC/MS Semivolatiles**

Batch #: 13247WAH026 (Sample number(s): 7184564-7184572, 7184574-7184582 UNSPK: 7184570)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Anthracene, Benzo(a)pyrene

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 7184564, 7184565, 7184566, 7184567, 7184568, 7184569, 7184570, 7184571, 7184572, 7184574, 7184575, 7184576, 7184577, 7184578, 7184581, MS, MSD

Sample #s: 7184564, 7184565, 7184566, 7184567, 7184568, 7184569, 7184574, 7184575, 7184576, 7184577, 7184578, 7184581

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

SW-846 6010B, Metals

Batch #: 132471848003 (Sample number(s): 7184564-7184582 UNSPK: 7184570 BKG: 7184570)

The recovery(ies) for the following analyte(s) in the LCS exceeded the acceptance window indicating a positive bias: Lead

EPA 1664A, Wet Chemistry

Batch #: 13254807901A (Sample number(s): 7184564-7184581 UNSPK: 7184570 BKG: 7184570)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: HEM (oil & grease)

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: HEM (oil & grease)

Sample Description: **WS-014(1.5-2.0)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184564**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 08:25 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03141 SDG#: PEL23-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	Acetone	67-64-1	N.D.	3.0	5.0	1
02898	Allyl Chloride	107-05-1	N.D.	0.1	0.5	1
02898	Benzene	71-43-2	N.D.	0.1	0.5	1
02898	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
02898	Bromoform	75-25-2	N.D.	0.1	0.5	1
02898	Bromomethane	74-83-9	N.D.	0.1	0.5	1
02898	2-Butanone	78-93-3	N.D.	1.0	5.0	1
02898	n-Butylbenzene	104-51-8	N.D.	0.1	0.5	1
02898	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
02898	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
02898	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
02898	Chloroethane	75-00-3	N.D.	0.1	0.5	1
02898	Chloroform	67-66-3	N.D.	0.1	0.5	1
02898	Chloromethane	74-87-3	N.D.	0.2	0.5	1
02898	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
02898	4-Chlorotoluene	106-43-4	N.D.	0.1	0.5	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	0.5	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
02898	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	0.5	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	0.5	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	0.5	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	0.5	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
02898	Dichlorofluoromethane	75-43-4	N.D.	0.2	0.5	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
02898	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
02898	2,2-Dichloropropane	594-20-7	N.D.	0.1	0.5	1
02898	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
02898	Ethyl ether	60-29-7	N.D.	0.1	0.5	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
02898	Freon 113	76-13-1	N.D.	0.2	0.5	1
02898	Hexachlorobutadiene	87-68-3	N.D.	0.1	0.5	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
02898	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	0.5	1
02898	4-Methyl-2-Pentanone	108-10-1	N.D.	1.0	5.0	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	0.5	1

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

Sample Description: **WS-014(1.5-2.0)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184564**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 08:25 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03141 SDG#: PEL23-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
02898	Styrene	100-42-5	N.D.	0.1	0.5	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	0.5	1
02898	Tetrahydrofuran	109-99-9	N.D.	2.0	5.0	1
02898	Toluene	108-88-3	N.D.	0.1	0.5	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	0.5	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
02898	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	0.5	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	0.5	1
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.052	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.052	1
08357	Anthracene	120-12-7	N.D.	0.010	0.052	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.052	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.052	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.052	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.052	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.052	1
08357	Chrysene	218-01-9	N.D.	0.010	0.052	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.052	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.052	1
08357	Fluorene	86-73-7	N.D.	0.010	0.052	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.052	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.052	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.052	1
08357	Naphthalene	91-20-3	N.D.	0.031	0.052	1
08357	Phenanthrene	85-01-8	N.D.	0.031	0.052	1
08357	Pyrene	129-00-0	N.D.	0.010	0.052	1

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

Metals	SM 2340 B-1997	mg/l	mg/l	mg/l		
06256	Total Hardness as CaCO3	471-34-1	29.8	0.033	0.20	1
	SW-846 6010B		mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0477	0.00033	0.0050	1

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

Sample Description: **WS-014(1.5-2.0)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184564**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 08:25 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03141 SDG#: PEL23-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	6.88	0.0334	0.200	1
07051	Chromium	7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0047	0.0150	1
01757	Magnesium	7439-95-4	3.06	0.0167	0.100	1
07061	Nickel	7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium	7440-62-2	N.D.	0.0020	0.0050	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1
Wet Chemistry						
		EPA 1664A	mg/l	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	N.D.	1.4	5.0	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	Silvertip & Mayflower VOCs8260	SW-846 8260B 25mL purge	1	C132472AA	09/05/2013 01:26	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132472AA	09/05/2013 01:26	Brett W Kenyon	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	132471848003	09/06/2013 04:51	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	132471848003	09/05/2013 12:00	Anna E Stager	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132486256001	09/05/2013 12:24	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132471848003	09/05/2013 10:25	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848003	09/05/2013 10:25	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848003	09/05/2013 10:25	Eric L Eby	1
01750	Calcium	SW-846 6010B	1	132471848003	09/05/2013 10:25	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848003	09/05/2013 10:25	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848003	09/05/2013 10:25	Eric L Eby	1
01757	Magnesium	SW-846 6010B	1	132471848003	09/05/2013 10:25	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848003	09/05/2013 10:25	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848003	09/05/2013 10:25	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848003	09/05/2013 10:25	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848003	09/05/2013 10:25	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713005	09/06/2013 10:19	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848003	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713005	09/05/2013 14:45	Nelli S Markaryan	1

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

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: WS-014(1.5-2.0)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184564
LL Group # 1416143
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Project Name: Mayflower, AR Pipeline Incident

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Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03141 SDG#: PEL23-01

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08079	HEM (oil & grease)	EPA 1664A	1	13254807901A	09/11/2013 07:27	Yolunder Y Bunch	1

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

Sample Description: WS-014(5.5-6.0)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184565
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 08:35 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03142 SDG#: PEL23-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
		purge				
02898	Acetone	67-64-1	N.D.	3.0	5.0	1
02898	Allyl Chloride	107-05-1	N.D.	0.1	0.5	1
02898	Benzene	71-43-2	N.D.	0.1	0.5	1
02898	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
02898	Bromoform	75-25-2	N.D.	0.1	0.5	1
02898	Bromomethane	74-83-9	N.D.	0.1	0.5	1
02898	2-Butanone	78-93-3	N.D.	1.0	5.0	1
02898	n-Butylbenzene	104-51-8	N.D.	0.1	0.5	1
02898	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
02898	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
02898	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
02898	Chloroethane	75-00-3	N.D.	0.1	0.5	1
02898	Chloroform	67-66-3	N.D.	0.1	0.5	1
02898	Chloromethane	74-87-3	N.D.	0.2	0.5	1
02898	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
02898	4-Chlorotoluene	106-43-4	N.D.	0.1	0.5	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	0.5	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
02898	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	0.5	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	0.5	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	0.5	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	0.5	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
02898	Dichlorofluoromethane	75-43-4	N.D.	0.2	0.5	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
02898	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
02898	2,2-Dichloropropane	594-20-7	N.D.	0.1	0.5	1
02898	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
02898	Ethyl ether	60-29-7	N.D.	0.1	0.5	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
02898	Freon 113	76-13-1	N.D.	0.2	0.5	1
02898	Hexachlorobutadiene	87-68-3	N.D.	0.1	0.5	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
02898	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	0.5	1
02898	4-Methyl-2-Pentanone	108-10-1	N.D.	1.0	5.0	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	0.5	1

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

Sample Description: **WS-014(5.5-6.0)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184565**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 08:35 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03142 SDG#: PEL23-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
02898	Styrene	100-42-5	N.D.	0.1	0.5	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	0.5	1
02898	Tetrahydrofuran	109-99-9	N.D.	2.0	5.0	1
02898	Toluene	108-88-3	N.D.	0.1	0.5	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	0.5	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
02898	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	0.5	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	0.5	1
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.011	0.056	1
08357	Acenaphthylene	208-96-8	N.D.	0.011	0.056	1
08357	Anthracene	120-12-7	N.D.	0.011	0.056	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.011	0.056	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.011	0.056	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.011	0.056	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.011	0.056	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.011	0.056	1
08357	Chrysene	218-01-9	N.D.	0.011	0.056	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.011	0.056	1
08357	Fluoranthene	206-44-0	N.D.	0.011	0.056	1
08357	Fluorene	86-73-7	N.D.	0.011	0.056	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.011	0.056	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.011	0.056	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.011	0.056	1
08357	Naphthalene	91-20-3	N.D.	0.034	0.056	1
08357	Phenanthrene	85-01-8	N.D.	0.034	0.056	1
08357	Pyrene	129-00-0	N.D.	0.011	0.056	1

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

Metals	SM 2340 B-1997	mg/l	mg/l	mg/l		
06256	Total Hardness as CaCO3	471-34-1	29.9	0.033	0.20	1
	SW-846 6010B		mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0496	0.00033	0.0050	1

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

Sample Description: **WS-014(5.5-6.0)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184565**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 08:35 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03142 SDG#: PEL23-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	6.91	0.0334	0.200	1
07051	Chromium	7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0047	0.0150	1
01757	Magnesium	7439-95-4	3.08	0.0167	0.100	1
07061	Nickel	7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium	7440-62-2	N.D.	0.0020	0.0050	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	0.000067 J	0.000060	0.00020	1
Wet Chemistry						
		EPA 1664A	mg/l	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	2.2 J	1.4	5.0	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	Silvertip & Mayflower VOCs8260	SW-846 8260B 25mL purge	1	C132472AA	09/05/2013 01:48	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132472AA	09/05/2013 01:48	Brett W Kenyon	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13247WAH026	09/06/2013 05:20	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13247WAH026	09/05/2013 12:00	Anna E Stager	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132486256001	09/05/2013 12:24	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132471848003	09/05/2013 10:28	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848003	09/05/2013 10:28	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848003	09/05/2013 10:28	Eric L Eby	1
01750	Calcium	SW-846 6010B	1	132471848003	09/05/2013 10:28	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848003	09/05/2013 10:28	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848003	09/05/2013 10:28	Eric L Eby	1
01757	Magnesium	SW-846 6010B	1	132471848003	09/05/2013 10:28	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848003	09/05/2013 10:28	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848003	09/05/2013 10:28	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848003	09/05/2013 10:28	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848003	09/05/2013 10:28	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713005	09/06/2013 10:21	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848003	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713005	09/05/2013 14:45	Nelli S Markaryan	1

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

Sample Description: WS-014(5.5-6.0)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184565
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 08:35 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03142 SDG#: PEL23-02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08079	HEM (oil & grease)	EPA 1664A	1	13254807901A	09/11/2013 07:27	Yolunder Y Bunch	1

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

Sample Description: **WS-012(1.5-2.0)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184566**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 08:50 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03121 SDG#: PEL23-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	Acetone	67-64-1	N.D.	3.0	5.0	1
02898	Allyl Chloride	107-05-1	N.D.	0.1	0.5	1
02898	Benzene	71-43-2	N.D.	0.1	0.5	1
02898	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
02898	Bromoform	75-25-2	N.D.	0.1	0.5	1
02898	Bromomethane	74-83-9	N.D.	0.1	0.5	1
02898	2-Butanone	78-93-3	N.D.	1.0	5.0	1
02898	n-Butylbenzene	104-51-8	N.D.	0.1	0.5	1
02898	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
02898	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
02898	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
02898	Chloroethane	75-00-3	N.D.	0.1	0.5	1
02898	Chloroform	67-66-3	N.D.	0.1	0.5	1
02898	Chloromethane	74-87-3	N.D.	0.2	0.5	1
02898	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
02898	4-Chlorotoluene	106-43-4	N.D.	0.1	0.5	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	0.5	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
02898	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	0.5	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	0.5	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	0.5	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	0.5	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
02898	Dichlorofluoromethane	75-43-4	N.D.	0.2	0.5	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
02898	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
02898	2,2-Dichloropropane	594-20-7	N.D.	0.1	0.5	1
02898	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
02898	Ethyl ether	60-29-7	N.D.	0.1	0.5	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
02898	Freon 113	76-13-1	N.D.	0.2	0.5	1
02898	Hexachlorobutadiene	87-68-3	N.D.	0.1	0.5	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
02898	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	0.5	1
02898	4-Methyl-2-Pentanone	108-10-1	N.D.	1.0	5.0	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	0.5	1

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

Sample Description: **WS-012(1.5-2.0)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184566**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 08:50 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03121 SDG#: PEL23-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
02898	Styrene	100-42-5	N.D.	0.1	0.5	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	0.5	1
02898	Tetrahydrofuran	109-99-9	N.D.	2.0	5.0	1
02898	Toluene	108-88-3	N.D.	0.1	0.5	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	0.5	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
02898	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	0.5	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	0.5	1
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.011	0.053	1
08357	Acenaphthylene	208-96-8	N.D.	0.011	0.053	1
08357	Anthracene	120-12-7	N.D.	0.011	0.053	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.011	0.053	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.011	0.053	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.011	0.053	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.011	0.053	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.011	0.053	1
08357	Chrysene	218-01-9	N.D.	0.011	0.053	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.011	0.053	1
08357	Fluoranthene	206-44-0	N.D.	0.011	0.053	1
08357	Fluorene	86-73-7	N.D.	0.011	0.053	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.011	0.053	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.011	0.053	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.011	0.053	1
08357	Naphthalene	91-20-3	N.D.	0.032	0.053	1
08357	Phenanthrene	85-01-8	N.D.	0.032	0.053	1
08357	Pyrene	129-00-0	N.D.	0.011	0.053	1
The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.						
Metals	SM 2340 B-1997		mg/l	mg/l	mg/l	
06256	Total Hardness as CaCO ₃	471-34-1	30.0	0.033	0.20	1
	SW-846 6010B		mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0688	0.00033	0.0050	1

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

Sample Description: WS-012(1.5-2.0)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184566
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 08:50 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03121 SDG#: PEL23-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
	SW-846 6010B		mg/l	mg/l	mg/l	
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	6.94	0.0334	0.200	1
07051	Chromium	7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0047	0.0150	1
01757	Magnesium	7439-95-4	3.08	0.0167	0.100	1
07061	Nickel	7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium	7440-62-2	N.D.	0.0020	0.0050	1
	SW-846 7470A		mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	0.000064 J	0.000060	0.00020	1
Wet Chemistry						
	EPA 1664A		mg/l	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	1.7 J	1.4	5.0	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	Silvertip & Mayflower VOCs8260	SW-846 8260B 25mL purge	1	C132472AA	09/05/2013 02:10	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132472AA	09/05/2013 02:10	Brett W Kenyon	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13247WAH026	09/06/2013 05:49	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13247WAH026	09/05/2013 12:00	Anna E Stager	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132486256001	09/05/2013 12:24	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132471848003	09/05/2013 10:40	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848003	09/05/2013 10:40	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848003	09/05/2013 10:40	Eric L Eby	1
01750	Calcium	SW-846 6010B	1	132471848003	09/05/2013 10:40	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848003	09/05/2013 10:40	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848003	09/05/2013 10:40	Eric L Eby	1
01757	Magnesium	SW-846 6010B	1	132471848003	09/05/2013 10:40	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848003	09/05/2013 10:40	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848003	09/05/2013 10:40	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848003	09/05/2013 10:40	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848003	09/05/2013 10:40	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713005	09/06/2013 10:23	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848003	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713005	09/05/2013 14:45	Nelli S Markaryan	1

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

Sample Description: WS-012(1.5-2.0)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184566
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 08:50 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03121 SDG#: PEL23-03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08079	HEM (oil & grease)	EPA 1664A	1	13254807901A	09/11/2013 07:27	Yolunder Y Bunch	1

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

Sample Description: WS-012(5.0-5.5)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184567
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 09:00 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03122 SDG#: PEL23-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
		purge				
02898	Acetone	67-64-1	N.D.	3.0	5.0	1
02898	Allyl Chloride	107-05-1	N.D.	0.1	0.5	1
02898	Benzene	71-43-2	N.D.	0.1	0.5	1
02898	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
02898	Bromoform	75-25-2	N.D.	0.1	0.5	1
02898	Bromomethane	74-83-9	N.D.	0.1	0.5	1
02898	2-Butanone	78-93-3	N.D.	1.0	5.0	1
02898	n-Butylbenzene	104-51-8	N.D.	0.1	0.5	1
02898	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
02898	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
02898	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
02898	Chloroethane	75-00-3	N.D.	0.1	0.5	1
02898	Chloroform	67-66-3	N.D.	0.1	0.5	1
02898	Chloromethane	74-87-3	N.D.	0.2	0.5	1
02898	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
02898	4-Chlorotoluene	106-43-4	N.D.	0.1	0.5	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	0.5	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
02898	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	0.5	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	0.5	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	0.5	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	0.5	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
02898	Dichlorofluoromethane	75-43-4	N.D.	0.2	0.5	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
02898	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
02898	2,2-Dichloropropane	594-20-7	N.D.	0.1	0.5	1
02898	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
02898	Ethyl ether	60-29-7	N.D.	0.1	0.5	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
02898	Freon 113	76-13-1	N.D.	0.2	0.5	1
02898	Hexachlorobutadiene	87-68-3	N.D.	0.1	0.5	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
02898	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	0.5	1
02898	4-Methyl-2-Pentanone	108-10-1	N.D.	1.0	5.0	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	0.5	1

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

Sample Description: **WS-012(5.0-5.5)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184567**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 09:00 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03122 SDG#: PEL23-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
		purge				
02898	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
02898	Styrene	100-42-5	N.D.	0.1	0.5	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	0.5	1
02898	Tetrahydrofuran	109-99-9	N.D.	2.0	5.0	1
02898	Toluene	108-88-3	N.D.	0.1	0.5	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	0.5	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
02898	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	0.5	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	0.5	1
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.011	0.053	1
08357	Acenaphthylene	208-96-8	N.D.	0.011	0.053	1
08357	Anthracene	120-12-7	N.D.	0.011	0.053	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.011	0.053	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.011	0.053	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.011	0.053	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.011	0.053	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.011	0.053	1
08357	Chrysene	218-01-9	N.D.	0.011	0.053	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.011	0.053	1
08357	Fluoranthene	206-44-0	N.D.	0.011	0.053	1
08357	Fluorene	86-73-7	N.D.	0.011	0.053	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.011	0.053	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.011	0.053	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.011	0.053	1
08357	Naphthalene	91-20-3	N.D.	0.032	0.053	1
08357	Phenanthrene	85-01-8	N.D.	0.032	0.053	1
08357	Pyrene	129-00-0	N.D.	0.011	0.053	1

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

Metals	SM 2340 B-1997	mg/l	mg/l	mg/l		
06256	Total Hardness as CaCO3	471-34-1	30.7	0.033	0.20	1
	SW-846 6010B		mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0882	0.00033	0.0050	1

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

Sample Description: **WS-012(5.0-5.5)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184567**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 09:00 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03122 SDG#: PEL23-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	7.09	0.0334	0.200	1
07051	Chromium	7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0047	0.0150	1
01757	Magnesium	7439-95-4	3.16	0.0167	0.100	1
07061	Nickel	7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium	7440-62-2	N.D.	0.0020	0.0050	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1
Wet Chemistry						
		EPA 1664A	mg/l	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	2.3 J	1.4	5.0	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	Silvertip & Mayflower VOCs8260	SW-846 8260B 25mL purge	1	C132472AA	09/05/2013 02:32	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132472AA	09/05/2013 02:32	Brett W Kenyon	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13247WAH026	09/06/2013 06:19	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13247WAH026	09/05/2013 12:00	Anna E Stager	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132486256001	09/05/2013 12:24	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132471848003	09/05/2013 10:44	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848003	09/05/2013 10:44	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848003	09/05/2013 10:44	Eric L Eby	1
01750	Calcium	SW-846 6010B	1	132471848003	09/05/2013 10:44	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848003	09/05/2013 10:44	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848003	09/05/2013 10:44	Eric L Eby	1
01757	Magnesium	SW-846 6010B	1	132471848003	09/05/2013 10:44	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848003	09/05/2013 10:44	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848003	09/05/2013 10:44	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848003	09/05/2013 10:44	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848003	09/05/2013 10:44	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713005	09/06/2013 10:29	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848003	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713005	09/05/2013 14:45	Nelli S Markaryan	1

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

Sample Description: WS-012(5.0-5.5)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184567
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 09:00 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03122 SDG#: PEL23-04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08079	HEM (oil & grease)	EPA 1664A	1	13254807901A	09/11/2013 07:27	Yolunder Y Bunch	1

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

Sample Description: **WS-010(1.5-2.0)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184568**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 09:15 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03101 SDG#: PEL23-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	Acetone	67-64-1	N.D.	3.0	5.0	1
02898	Allyl Chloride	107-05-1	N.D.	0.1	0.5	1
02898	Benzene	71-43-2	N.D.	0.1	0.5	1
02898	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
02898	Bromoform	75-25-2	N.D.	0.1	0.5	1
02898	Bromomethane	74-83-9	N.D.	0.1	0.5	1
02898	2-Butanone	78-93-3	N.D.	1.0	5.0	1
02898	n-Butylbenzene	104-51-8	N.D.	0.1	0.5	1
02898	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
02898	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
02898	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
02898	Chloroethane	75-00-3	N.D.	0.1	0.5	1
02898	Chloroform	67-66-3	N.D.	0.1	0.5	1
02898	Chloromethane	74-87-3	N.D.	0.2	0.5	1
02898	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
02898	4-Chlorotoluene	106-43-4	N.D.	0.1	0.5	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	0.5	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
02898	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	0.5	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	0.5	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	0.5	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	0.5	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
02898	Dichlorofluoromethane	75-43-4	N.D.	0.2	0.5	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
02898	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
02898	2,2-Dichloropropane	594-20-7	N.D.	0.1	0.5	1
02898	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
02898	Ethyl ether	60-29-7	N.D.	0.1	0.5	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
02898	Freon 113	76-13-1	N.D.	0.2	0.5	1
02898	Hexachlorobutadiene	87-68-3	N.D.	0.1	0.5	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
02898	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	0.5	1
02898	4-Methyl-2-Pentanone	108-10-1	N.D.	1.0	5.0	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	0.5	1

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

Sample Description: **WS-010(1.5-2.0)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184568**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 09:15 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03101 SDG#: PEL23-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
02898	Styrene	100-42-5	N.D.	0.1	0.5	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	0.5	1
02898	Tetrahydrofuran	109-99-9	N.D.	2.0	5.0	1
02898	Toluene	108-88-3	N.D.	0.1	0.5	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	0.5	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
02898	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	0.5	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	0.5	1
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.052	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.052	1
08357	Anthracene	120-12-7	N.D.	0.010	0.052	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.052	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.052	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.052	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.052	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.052	1
08357	Chrysene	218-01-9	N.D.	0.010	0.052	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.052	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.052	1
08357	Fluorene	86-73-7	N.D.	0.010	0.052	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.052	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.052	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.052	1
08357	Naphthalene	91-20-3	N.D.	0.031	0.052	1
08357	Phenanthrene	85-01-8	N.D.	0.031	0.052	1
08357	Pyrene	129-00-0	N.D.	0.010	0.052	1

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

Metals	SM 2340 B-1997	mg/l	mg/l	mg/l		
06256	Total Hardness as CaCO3	471-34-1	29.9	0.033	0.20	1
	SW-846 6010B		mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0830	0.00033	0.0050	1

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

Sample Description: WS-010(1.5-2.0)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184568
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 09:15 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03101 SDG#: PEL23-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	6.91	0.0334	0.200	1
07051	Chromium	7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0047	0.0150	1
01757	Magnesium	7439-95-4	3.08	0.0167	0.100	1
07061	Nickel	7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium	7440-62-2	N.D.	0.0020	0.0050	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1
Wet Chemistry						
		EPA 1664A	mg/l	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	N.D.	1.4	5.0	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	Silvertip & Mayflower VOCs8260	SW-846 8260B 25mL purge	1	C132472AA	09/05/2013 02:55	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132472AA	09/05/2013 02:55	Brett W Kenyon	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	132471848003	09/06/2013 06:48	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	132471848003	09/05/2013 12:00	Anna E Stager	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132486256001	09/05/2013 12:24	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132471848003	09/05/2013 10:47	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848003	09/05/2013 10:47	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848003	09/05/2013 10:47	Eric L Eby	1
01750	Calcium	SW-846 6010B	1	132471848003	09/05/2013 10:47	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848003	09/05/2013 10:47	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848003	09/05/2013 10:47	Eric L Eby	1
01757	Magnesium	SW-846 6010B	1	132471848003	09/05/2013 10:47	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848003	09/05/2013 10:47	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848003	09/05/2013 10:47	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848003	09/05/2013 10:47	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848003	09/05/2013 10:47	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713005	09/06/2013 10:31	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848003	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713005	09/05/2013 14:45	Nelli S Markaryan	1

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

Sample Description: WS-010(1.5-2.0)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184568
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 09:15 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03101 SDG#: PEL23-05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08079	HEM (oil & grease)	EPA 1664A	1	13254807901A	09/11/2013 07:27	Yolunder Y Bunch	1

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

Sample Description: WS-010(3.5-4.0)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184569
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 09:25 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03102 SDG#: PEL23-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
		purge				
02898	Acetone	67-64-1	N.D.	3.0	5.0	1
02898	Allyl Chloride	107-05-1	N.D.	0.1	0.5	1
02898	Benzene	71-43-2	N.D.	0.1	0.5	1
02898	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
02898	Bromoform	75-25-2	N.D.	0.1	0.5	1
02898	Bromomethane	74-83-9	N.D.	0.1	0.5	1
02898	2-Butanone	78-93-3	N.D.	1.0	5.0	1
02898	n-Butylbenzene	104-51-8	N.D.	0.1	0.5	1
02898	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
02898	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
02898	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
02898	Chloroethane	75-00-3	N.D.	0.1	0.5	1
02898	Chloroform	67-66-3	N.D.	0.1	0.5	1
02898	Chloromethane	74-87-3	N.D.	0.2	0.5	1
02898	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
02898	4-Chlorotoluene	106-43-4	N.D.	0.1	0.5	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	0.5	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
02898	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	0.5	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	0.5	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	0.5	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	0.5	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
02898	Dichlorofluoromethane	75-43-4	N.D.	0.2	0.5	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
02898	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
02898	2,2-Dichloropropane	594-20-7	N.D.	0.1	0.5	1
02898	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
02898	Ethyl ether	60-29-7	N.D.	0.1	0.5	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
02898	Freon 113	76-13-1	N.D.	0.2	0.5	1
02898	Hexachlorobutadiene	87-68-3	N.D.	0.1	0.5	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
02898	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	0.5	1
02898	4-Methyl-2-Pentanone	108-10-1	N.D.	1.0	5.0	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	0.5	1

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

Sample Description: **WS-010(3.5-4.0)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184569**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 09:25 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03102 SDG#: PEL23-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
02898	Styrene	100-42-5	N.D.	0.1	0.5	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	0.5	1
02898	Tetrahydrofuran	109-99-9	N.D.	2.0	5.0	1
02898	Toluene	108-88-3	N.D.	0.1	0.5	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	0.5	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
02898	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	0.5	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	0.5	1
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.011	0.054	1
08357	Acenaphthylene	208-96-8	N.D.	0.011	0.054	1
08357	Anthracene	120-12-7	N.D.	0.011	0.054	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.011	0.054	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.011	0.054	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.011	0.054	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.011	0.054	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.011	0.054	1
08357	Chrysene	218-01-9	N.D.	0.011	0.054	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.011	0.054	1
08357	Fluoranthene	206-44-0	N.D.	0.011	0.054	1
08357	Fluorene	86-73-7	N.D.	0.011	0.054	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.011	0.054	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.011	0.054	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.011	0.054	1
08357	Naphthalene	91-20-3	N.D.	0.032	0.054	1
08357	Phenanthrene	85-01-8	N.D.	0.032	0.054	1
08357	Pyrene	129-00-0	N.D.	0.011	0.054	1

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

Metals	SM 2340 B-1997	mg/l	mg/l	mg/l		
06256	Total Hardness as CaCO ₃	471-34-1	30.1	0.033	0.20	1
	SW-846 6010B		mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0794	0.00033	0.0050	1

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

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Sample Description: **WS-010(3.5-4.0)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184569**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 09:25 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03102 SDG#: PEL23-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	6.95	0.0334	0.200	1
07051	Chromium	7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0047	0.0150	1
01757	Magnesium	7439-95-4	3.10	0.0167	0.100	1
07061	Nickel	7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium	7440-62-2	N.D.	0.0020	0.0050	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1
Wet Chemistry						
		EPA 1664A	mg/l	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	N.D.	1.4	5.0	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	Silvertip & Mayflower VOCs8260	SW-846 8260B 25mL purge	1	C132472AA	09/05/2013 03:17	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132472AA	09/05/2013 03:17	Brett W Kenyon	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	132471848003	09/06/2013 07:17	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	132471848003	09/05/2013 12:00	Anna E Stager	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132486256001	09/05/2013 12:24	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132471848003	09/05/2013 10:51	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848003	09/05/2013 10:51	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848003	09/05/2013 10:51	Eric L Eby	1
01750	Calcium	SW-846 6010B	1	132471848003	09/05/2013 10:51	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848003	09/05/2013 10:51	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848003	09/05/2013 10:51	Eric L Eby	1
01757	Magnesium	SW-846 6010B	1	132471848003	09/05/2013 10:51	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848003	09/05/2013 10:51	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848003	09/05/2013 10:51	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848003	09/05/2013 10:51	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848003	09/05/2013 10:51	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713005	09/06/2013 10:33	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848003	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713005	09/05/2013 14:45	Nelli S Markaryan	1

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

Sample Description: WS-010(3.5-4.0)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184569
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 09:25 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03102 SDG#: PEL23-06

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08079	HEM (oil & grease)	EPA 1664A	1	13254807901A	09/11/2013 07:27	Yolunder Y Bunch	1

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

Sample Description: **WS-006(0.5-1.0)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184570**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 09:35 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03006 SDG#: PEL23-07BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	Acetone	67-64-1	N.D.	3.0	5.0	1
02898	Allyl Chloride	107-05-1	N.D.	0.1	0.5	1
02898	Benzene	71-43-2	N.D.	0.1	0.5	1
02898	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
02898	Bromoform	75-25-2	N.D.	0.1	0.5	1
02898	Bromomethane	74-83-9	N.D.	0.1	0.5	1
02898	2-Butanone	78-93-3	N.D.	1.0	5.0	1
02898	n-Butylbenzene	104-51-8	N.D.	0.1	0.5	1
02898	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
02898	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
02898	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
02898	Chloroethane	75-00-3	N.D.	0.1	0.5	1
02898	Chloroform	67-66-3	N.D.	0.1	0.5	1
02898	Chloromethane	74-87-3	N.D.	0.2	0.5	1
02898	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
02898	4-Chlorotoluene	106-43-4	N.D.	0.1	0.5	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	0.5	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
02898	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	0.5	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	0.5	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	0.5	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	0.5	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
02898	Dichlorofluoromethane	75-43-4	N.D.	0.2	0.5	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
02898	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
02898	2,2-Dichloropropane	594-20-7	N.D.	0.1	0.5	1
02898	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
02898	Ethyl ether	60-29-7	N.D.	0.1	0.5	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
02898	Freon 113	76-13-1	N.D.	0.2	0.5	1
02898	Hexachlorobutadiene	87-68-3	N.D.	0.1	0.5	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
02898	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	0.5	1
02898	4-Methyl-2-Pentanone	108-10-1	N.D.	1.0	5.0	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	0.5	1

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

Sample Description: **WS-006(0.5-1.0)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184570**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 09:35 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03006 SDG#: PEL23-07BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260B 25mL						
			ug/l	ug/l	ug/l	
02898	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
02898	Styrene	100-42-5	N.D.	0.1	0.5	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	0.5	1
02898	Tetrahydrofuran	109-99-9	N.D.	2.0	5.0	1
02898	Toluene	108-88-3	N.D.	0.1	0.5	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	0.5	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
02898	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	0.5	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	0.5	1
GC/MS Semivolatiles SW-846 8270C SIM						
			ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.051	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.051	1
08357	Anthracene	120-12-7	N.D.	0.010	0.051	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.051	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.051	1
08357	Chrysene	218-01-9	N.D.	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.051	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.051	1
08357	Fluorene	86-73-7	N.D.	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.051	1
08357	Naphthalene	91-20-3	N.D.	0.031	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.031	0.051	1
08357	Pyrene	129-00-0	N.D.	0.010	0.051	1
Metals SM 2340 B-1997						
			mg/l	mg/l	mg/l	
06256	Total Hardness as CaCO3	471-34-1	30.6	0.033	0.20	1
SW-846 6010B						
			mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0766	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	7.07	0.0334	0.200	1

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

Sample Description: **WS-006(0.5-1.0)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184570**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 09:35 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03006 SDG#: PEL23-07BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
	SW-846 6010B		mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0047	0.0150	1
01757	Magnesium	7439-95-4	3.14	0.0167	0.100	1
07061	Nickel	7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium	7440-62-2	N.D.	0.0020	0.0050	1
	SW-846 7470A		mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1
Wet Chemistry						
	EPA 1664A		mg/l	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	N.D.	1.4	5.0	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	Silvertip & Mayflower VOCs8260	SW-846 8260B 25mL purge	1	C132472AA	09/04/2013 23:57	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132472AA	09/04/2013 23:57	Brett W Kenyon	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13247WAH026	09/06/2013 03:23	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13247WAH026	09/05/2013 12:00	Anna E Stager	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132486256001	09/05/2013 12:24	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132471848003	09/05/2013 10:02	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848003	09/05/2013 10:02	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848003	09/05/2013 10:02	Eric L Eby	1
01750	Calcium	SW-846 6010B	1	132471848003	09/05/2013 10:02	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848003	09/05/2013 10:02	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848003	09/05/2013 10:02	Eric L Eby	1
01757	Magnesium	SW-846 6010B	1	132471848003	09/05/2013 10:02	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848003	09/05/2013 10:02	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848003	09/05/2013 10:02	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848003	09/05/2013 10:02	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848003	09/05/2013 10:02	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713005	09/06/2013 10:35	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848003	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713005	09/05/2013 14:45	Nelli S Markaryan	1
08079	HEM (oil & grease)	EPA 1664A	1	13254807901A	09/11/2013 07:27	Yolunder Y Bunch	1

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

Sample Description: **WS-006 (0.5-1.0) 090313MS Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184571**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 09:35 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03006 SDG#: PEL23-07MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	Acetone	67-64-1	46	3.0	5.0	1
02898	Allyl Chloride	107-05-1	4.1	0.1	0.5	1
02898	Benzene	71-43-2	5.5	0.1	0.5	1
02898	Bromobenzene	108-86-1	5.5	0.1	0.5	1
02898	Bromochloromethane	74-97-5	5.9	0.1	0.5	1
02898	Bromodichloromethane	75-27-4	5.9	0.1	0.5	1
02898	Bromoform	75-25-2	6.5	0.1	0.5	1
02898	Bromomethane	74-83-9	5.1	0.1	0.5	1
02898	2-Butanone	78-93-3	40	1.0	5.0	1
02898	n-Butylbenzene	104-51-8	5.4	0.1	0.5	1
02898	sec-Butylbenzene	135-98-8	5.4	0.1	0.5	1
02898	tert-Butylbenzene	98-06-6	5.5	0.1	0.5	1
02898	Carbon Tetrachloride	56-23-5	6.8	0.1	0.5	1
02898	Chlorobenzene	108-90-7	5.9	0.1	0.5	1
02898	Chloroethane	75-00-3	4.9	0.1	0.5	1
02898	Chloroform	67-66-3	6.0	0.1	0.5	1
02898	Chloromethane	74-87-3	4.3	0.2	0.5	1
02898	2-Chlorotoluene	95-49-8	5.4	0.1	0.5	1
02898	4-Chlorotoluene	106-43-4	5.6	0.1	0.5	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	6.0	0.2	0.5	1
02898	Dibromochloromethane	124-48-1	6.0	0.1	0.5	1
02898	1,2-Dibromoethane	106-93-4	5.5	0.1	0.5	1
02898	Dibromomethane	74-95-3	5.9	0.1	0.5	1
02898	1,2-Dichlorobenzene	95-50-1	5.7	0.1	0.5	1
02898	1,3-Dichlorobenzene	541-73-1	5.7	0.1	0.5	1
02898	1,4-Dichlorobenzene	106-46-7	5.7	0.1	0.5	1
02898	Dichlorodifluoromethane	75-71-8	5.1	0.1	0.5	1
02898	1,1-Dichloroethane	75-34-3	5.3	0.1	0.5	1
02898	1,2-Dichloroethane	107-06-2	6.1	0.1	0.5	1
02898	1,1-Dichloroethene	75-35-4	5.6	0.1	0.5	1
02898	cis-1,2-Dichloroethene	156-59-2	5.6	0.1	0.5	1
02898	trans-1,2-Dichloroethene	156-60-5	5.9	0.1	0.5	1
02898	Dichlorofluoromethane	75-43-4	5.5	0.2	0.5	1
02898	1,2-Dichloropropane	78-87-5	5.4	0.1	0.5	1
02898	1,3-Dichloropropane	142-28-9	5.3	0.1	0.5	1
02898	2,2-Dichloropropane	594-20-7	5.5	0.1	0.5	1
02898	1,1-Dichloropropene	563-58-6	5.9	0.1	0.5	1
02898	cis-1,3-Dichloropropene	10061-01-5	5.0	0.1	0.5	1
02898	trans-1,3-Dichloropropene	10061-02-6	5.1	0.1	0.5	1
02898	Ethyl ether	60-29-7	3.7	0.1	0.5	1
02898	Ethylbenzene	100-41-4	5.6	0.1	0.5	1
02898	Freon 113	76-13-1	6.1	0.2	0.5	1
02898	Hexachlorobutadiene	87-68-3	5.5	0.1	0.5	1
02898	Isopropylbenzene	98-82-8	5.7	0.1	0.5	1
02898	p-Isopropyltoluene	99-87-6	5.4	0.1	0.5	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	4.7	0.1	0.5	1
02898	4-Methyl-2-Pentanone	108-10-1	23	1.0	5.0	1
02898	Methylene Chloride	75-09-2	5.6	0.2	0.5	1

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

Sample Description: **WS-006 (0.5-1.0) 090313MS Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184571**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 09:35 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03006 SDG#: PEL23-07MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260B 25mL						
			ug/l	ug/l	ug/l	
02898	n-Propylbenzene	103-65-1	5.4	0.1	0.5	1
02898	Styrene	100-42-5	5.8	0.1	0.5	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	6.0	0.1	0.5	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	5.0	0.1	0.5	1
02898	Tetrachloroethene	127-18-4	6.2	0.1	0.5	1
02898	Tetrahydrofuran	109-99-9	29	2.0	5.0	1
02898	Toluene	108-88-3	5.6	0.1	0.5	1
02898	1,2,3-Trichlorobenzene	87-61-6	4.5	0.1	0.5	1
02898	1,2,4-Trichlorobenzene	120-82-1	4.7	0.1	0.5	1
02898	1,1,1-Trichloroethane	71-55-6	6.2	0.1	0.5	1
02898	1,1,2-Trichloroethane	79-00-5	5.7	0.1	0.5	1
02898	Trichloroethene	79-01-6	6.0	0.1	0.5	1
02898	Trichlorofluoromethane	75-69-4	6.3	0.1	0.5	1
02898	1,2,3-Trichloropropane	96-18-4	5.6	0.3	1.0	1
02898	1,2,4-Trimethylbenzene	95-63-6	5.4	0.1	0.5	1
02898	1,3,5-Trimethylbenzene	108-67-8	5.4	0.1	0.5	1
02898	Vinyl Chloride	75-01-4	4.9	0.1	0.5	1
02898	Xylene (Total)	1330-20-7	17	0.1	0.5	1
GC/MS Semivolatiles SW-846 8270C SIM						
			ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	0.94	0.010	0.051	1
08357	Acenaphthylene	208-96-8	1.2	0.010	0.051	1
08357	Anthracene	120-12-7	0.18	0.010	0.051	1
08357	Benzo(a)anthracene	56-55-3	0.66	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	0.18	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	0.83	0.010	0.051	1
08357	Benzo(g,h,i)perylene	191-24-2	0.62	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	0.77	0.010	0.051	1
08357	Chrysene	218-01-9	0.88	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	0.82	0.010	0.051	1
08357	Fluoranthene	206-44-0	1.1	0.010	0.051	1
08357	Fluorene	86-73-7	1.1	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	0.77	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	1.2	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	1.2	0.010	0.051	1
08357	Naphthalene	91-20-3	1.1	0.031	0.051	1
08357	Phenanthrene	85-01-8	1.1	0.031	0.051	1
08357	Pyrene	129-00-0	0.80	0.010	0.051	1
Metals SM 2340 B-1997						
			mg/l	mg/l	mg/l	
06256	Total Hardness as CaCO3	471-34-1	49.1	0.033	0.20	1
SW-846 6010B						
			mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	0.166	0.0068	0.0200	1
07046	Barium	7440-39-3	2.21	0.00033	0.0050	1
07049	Cadmium	7440-43-9	0.0540	0.00076	0.0050	1
01750	Calcium	7440-70-2	11.2	0.0334	0.200	1

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

Sample Description: **WS-006 (0.5-1.0) 090313MS Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184571**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 09:35 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03006 SDG#: PEL23-07MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
	SW-846 6010B		mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	0.209	0.0016	0.0150	1
07055	Lead	7439-92-1	0.166	0.0047	0.0150	1
01757	Magnesium	7439-95-4	5.17	0.0167	0.100	1
07061	Nickel	7440-02-0	0.551	0.0015	0.0100	1
07036	Selenium	7782-49-2	0.165	0.0084	0.0200	1
07066	Silver	7440-22-4	0.0524	0.0021	0.0050	1
07071	Vanadium	7440-62-2	0.514	0.0020	0.0050	1
	SW-846 7470A		mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	0.0010	0.000060	0.00020	1
Wet Chemistry						
	EPA 1664A		mg/l	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	12.3	1.4	5.0	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	Silvertip & Mayflower VOCs8260	SW-846 8260B 25mL purge	1	C132472AA	09/05/2013 00:19	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132472AA	09/05/2013 00:19	Brett W Kenyon	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13247WAH026	09/06/2013 03:53	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13247WAH026	09/05/2013 12:00	Anna E Stager	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132486256001	09/05/2013 12:24	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132471848003	09/05/2013 10:13	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848003	09/05/2013 10:13	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848003	09/05/2013 10:13	Eric L Eby	1
01750	Calcium	SW-846 6010B	1	132471848003	09/05/2013 10:13	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848003	09/05/2013 10:13	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848003	09/05/2013 10:13	Eric L Eby	1
01757	Magnesium	SW-846 6010B	1	132471848003	09/05/2013 10:13	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848003	09/06/2013 00:26	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132471848003	09/05/2013 10:13	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848003	09/05/2013 10:13	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848003	09/05/2013 10:13	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713005	09/06/2013 10:39	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848003	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713005	09/05/2013 14:45	Nelli S Markaryan	1
08079	HEM (oil & grease)	EPA 1664A	1	13254807901A	09/11/2013 07:27	Yolunder Y Bunch	1

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

Sample Description: WS-006 (0.5-1.0) 090313MSD Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184572
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 09:35 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03006 SDG#: PEL23-07MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
		purge				
02898	Acetone	67-64-1	44	3.0	5.0	1
02898	Allyl Chloride	107-05-1	4.2	0.1	0.5	1
02898	Benzene	71-43-2	5.5	0.1	0.5	1
02898	Bromobenzene	108-86-1	5.5	0.1	0.5	1
02898	Bromochloromethane	74-97-5	5.8	0.1	0.5	1
02898	Bromodichloromethane	75-27-4	5.7	0.1	0.5	1
02898	Bromoform	75-25-2	6.3	0.1	0.5	1
02898	Bromomethane	74-83-9	5.1	0.1	0.5	1
02898	2-Butanone	78-93-3	39	1.0	5.0	1
02898	n-Butylbenzene	104-51-8	5.4	0.1	0.5	1
02898	sec-Butylbenzene	135-98-8	5.4	0.1	0.5	1
02898	tert-Butylbenzene	98-06-6	5.3	0.1	0.5	1
02898	Carbon Tetrachloride	56-23-5	6.7	0.1	0.5	1
02898	Chlorobenzene	108-90-7	5.8	0.1	0.5	1
02898	Chloroethane	75-00-3	4.9	0.1	0.5	1
02898	Chloroform	67-66-3	5.9	0.1	0.5	1
02898	Chloromethane	74-87-3	4.4	0.2	0.5	1
02898	2-Chlorotoluene	95-49-8	5.4	0.1	0.5	1
02898	4-Chlorotoluene	106-43-4	5.5	0.1	0.5	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	5.5	0.2	0.5	1
02898	Dibromochloromethane	124-48-1	5.9	0.1	0.5	1
02898	1,2-Dibromoethane	106-93-4	5.6	0.1	0.5	1
02898	Dibromomethane	74-95-3	5.7	0.1	0.5	1
02898	1,2-Dichlorobenzene	95-50-1	5.6	0.1	0.5	1
02898	1,3-Dichlorobenzene	541-73-1	5.6	0.1	0.5	1
02898	1,4-Dichlorobenzene	106-46-7	5.6	0.1	0.5	1
02898	Dichlorodifluoromethane	75-71-8	4.9	0.1	0.5	1
02898	1,1-Dichloroethane	75-34-3	5.3	0.1	0.5	1
02898	1,2-Dichloroethane	107-06-2	6.0	0.1	0.5	1
02898	1,1-Dichloroethene	75-35-4	5.6	0.1	0.5	1
02898	cis-1,2-Dichloroethene	156-59-2	5.6	0.1	0.5	1
02898	trans-1,2-Dichloroethene	156-60-5	5.9	0.1	0.5	1
02898	Dichlorofluoromethane	75-43-4	5.4	0.2	0.5	1
02898	1,2-Dichloropropane	78-87-5	5.4	0.1	0.5	1
02898	1,3-Dichloropropane	142-28-9	5.2	0.1	0.5	1
02898	2,2-Dichloropropane	594-20-7	5.5	0.1	0.5	1
02898	1,1-Dichloropropene	563-58-6	5.8	0.1	0.5	1
02898	cis-1,3-Dichloropropene	10061-01-5	5.1	0.1	0.5	1
02898	trans-1,3-Dichloropropene	10061-02-6	5.0	0.1	0.5	1
02898	Ethyl ether	60-29-7	4.1	0.1	0.5	1
02898	Ethylbenzene	100-41-4	5.6	0.1	0.5	1
02898	Freon 113	76-13-1	6.0	0.2	0.5	1
02898	Hexachlorobutadiene	87-68-3	5.4	0.1	0.5	1
02898	Isopropylbenzene	98-82-8	5.6	0.1	0.5	1
02898	p-Isopropyltoluene	99-87-6	5.3	0.1	0.5	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	4.8	0.1	0.5	1
02898	4-Methyl-2-Pentanone	108-10-1	23	1.0	5.0	1
02898	Methylene Chloride	75-09-2	5.6	0.2	0.5	1

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

Sample Description: **WS-006 (0.5-1.0) 090313MSD Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184572**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 09:35 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03006 SDG#: PEL23-07MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260B 25mL purge						
02898	n-Propylbenzene	103-65-1	5.3	0.1	0.5	1
02898	Styrene	100-42-5	5.6	0.1	0.5	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	5.9	0.1	0.5	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	5.0	0.1	0.5	1
02898	Tetrachloroethene	127-18-4	6.0	0.1	0.5	1
02898	Tetrahydrofuran	109-99-9	27	2.0	5.0	1
02898	Toluene	108-88-3	5.6	0.1	0.5	1
02898	1,2,3-Trichlorobenzene	87-61-6	4.6	0.1	0.5	1
02898	1,2,4-Trichlorobenzene	120-82-1	4.7	0.1	0.5	1
02898	1,1,1-Trichloroethane	71-55-6	6.1	0.1	0.5	1
02898	1,1,2-Trichloroethane	79-00-5	5.5	0.1	0.5	1
02898	Trichloroethene	79-01-6	6.0	0.1	0.5	1
02898	Trichlorofluoromethane	75-69-4	6.0	0.1	0.5	1
02898	1,2,3-Trichloropropane	96-18-4	5.5	0.3	1.0	1
02898	1,2,4-Trimethylbenzene	95-63-6	5.4	0.1	0.5	1
02898	1,3,5-Trimethylbenzene	108-67-8	5.4	0.1	0.5	1
02898	Vinyl Chloride	75-01-4	4.9	0.1	0.5	1
02898	Xylene (Total)	1330-20-7	17	0.1	0.5	1
GC/MS Semivolatiles SW-846 8270C SIM						
08357	Acenaphthene	83-32-9	0.96	0.010	0.051	1
08357	Acenaphthylene	208-96-8	1.2	0.010	0.051	1
08357	Anthracene	120-12-7	0.18	0.010	0.051	1
08357	Benzo(a)anthracene	56-55-3	0.67	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	0.20	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	0.81	0.010	0.051	1
08357	Benzo(g,h,i)perylene	191-24-2	0.62	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	0.77	0.010	0.051	1
08357	Chrysene	218-01-9	0.89	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	0.79	0.010	0.051	1
08357	Fluoranthene	206-44-0	1.1	0.010	0.051	1
08357	Fluorene	86-73-7	1.1	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	0.77	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	1.2	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	1.2	0.010	0.051	1
08357	Naphthalene	91-20-3	1.1	0.030	0.051	1
08357	Phenanthrene	85-01-8	1.1	0.030	0.051	1
08357	Pyrene	129-00-0	0.84	0.010	0.051	1
Metals SM 2340 B-1997						
06256	Total Hardness as CaCO3	471-34-1	48.5	0.033	0.20	1
SW-846 6010B						
07035	Arsenic	7440-38-2	0.167	0.0068	0.0200	1
07046	Barium	7440-39-3	2.22	0.00033	0.0050	1
07049	Cadmium	7440-43-9	0.0542	0.00076	0.0050	1
01750	Calcium	7440-70-2	11.0	0.0334	0.200	1

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

Sample Description: **WS-006 (0.5-1.0) 090313MSD Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184572**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 09:35 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03006 SDG#: PEL23-07MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
	SW-846 6010B		mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	0.213	0.0016	0.0150	1
07055	Lead	7439-92-1	0.166	0.0047	0.0150	1
01757	Magnesium	7439-95-4	5.10	0.0167	0.100	1
07061	Nickel	7440-02-0	0.554	0.0015	0.0100	1
07036	Selenium	7782-49-2	0.165	0.0084	0.0200	1
07066	Silver	7440-22-4	0.0533	0.0021	0.0050	1
07071	Vanadium	7440-62-2	0.520	0.0020	0.0050	1
	SW-846 7470A		mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	0.0010	0.000060	0.00020	1
Wet Chemistry						
	EPA 1664A		mg/l	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	29.3	1.4	5.0	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	Silvertip & Mayflower VOCs8260	SW-846 8260B 25mL purge	1	C132472AA	09/05/2013 00:41	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132472AA	09/05/2013 00:41	Brett W Kenyon	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13247WAH026	09/06/2013 04:22	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13247WAH026	09/05/2013 12:00	Anna E Stager	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132486256001	09/05/2013 12:24	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132471848003	09/05/2013 10:17	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848003	09/05/2013 10:17	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848003	09/05/2013 10:17	Eric L Eby	1
01750	Calcium	SW-846 6010B	1	132471848003	09/05/2013 10:17	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848003	09/05/2013 10:17	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848003	09/05/2013 10:17	Eric L Eby	1
01757	Magnesium	SW-846 6010B	1	132471848003	09/05/2013 10:17	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848003	09/06/2013 00:30	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132471848003	09/05/2013 10:17	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848003	09/05/2013 10:17	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848003	09/05/2013 10:17	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713005	09/06/2013 10:42	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848003	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713005	09/05/2013 14:45	Nelli S Markaryan	1
08079	HEM (oil & grease)	EPA 1664A	1	13254807901A	09/11/2013 07:27	Yolunder Y Bunch	1

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

Sample Description: WS-006 (0.5-1.0) 090313DUP Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184573
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 09:35 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03006 SDG#: PEL23-07DUP

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SM 2340 B-1997	mg/l	mg/l	mg/l	
06256	Total Hardness as CaCO3	471-34-1	30.4	0.033	0.20	1
		SW-846 6010B	mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0772	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	7.02	0.0334	0.200	1
07051	Chromium	7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0047	0.0150	1
01757	Magnesium	7439-95-4	3.12	0.0167	0.100	1
07061	Nickel	7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium	7440-62-2	N.D.	0.0020	0.0050	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1
Wet Chemistry						
		EPA 1664A	mg/l	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	N.D.	1.4	5.0	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132486256001	09/05/2013 12:24	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132471848003	09/05/2013 10:09	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848003	09/05/2013 10:09	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848003	09/05/2013 10:09	Eric L Eby	1
01750	Calcium	SW-846 6010B	1	132471848003	09/05/2013 10:09	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848003	09/05/2013 10:09	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848003	09/05/2013 10:09	Eric L Eby	1
01757	Magnesium	SW-846 6010B	1	132471848003	09/05/2013 10:09	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848003	09/05/2013 10:09	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848003	09/05/2013 10:09	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848003	09/05/2013 10:09	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848003	09/05/2013 10:09	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713005	09/06/2013 10:37	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848003	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713005	09/05/2013 14:45	Nelli S Markaryan	1
08079	HEM (oil & grease)	EPA 1664A	1	13254807901A	09/11/2013 07:27	Yolunder Y Bunch	1

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

Sample Description: **WS-005 (Surface) 090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184574**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 10:30 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03005 SDG#: PEL23-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	Acetone	67-64-1	N.D.	3.0	5.0	1
02898	Allyl Chloride	107-05-1	N.D.	0.1	0.5	1
02898	Benzene	71-43-2	N.D.	0.1	0.5	1
02898	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
02898	Bromoform	75-25-2	N.D.	0.1	0.5	1
02898	Bromomethane	74-83-9	N.D.	0.1	0.5	1
02898	2-Butanone	78-93-3	N.D.	1.0	5.0	1
02898	n-Butylbenzene	104-51-8	N.D.	0.1	0.5	1
02898	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
02898	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
02898	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
02898	Chloroethane	75-00-3	N.D.	0.1	0.5	1
02898	Chloroform	67-66-3	N.D.	0.1	0.5	1
02898	Chloromethane	74-87-3	N.D.	0.2	0.5	1
02898	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
02898	4-Chlorotoluene	106-43-4	N.D.	0.1	0.5	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	0.5	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
02898	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	0.5	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	0.5	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	0.5	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	0.5	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
02898	Dichlorofluoromethane	75-43-4	N.D.	0.2	0.5	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
02898	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
02898	2,2-Dichloropropane	594-20-7	N.D.	0.1	0.5	1
02898	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
02898	Ethyl ether	60-29-7	N.D.	0.1	0.5	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
02898	Freon 113	76-13-1	N.D.	0.2	0.5	1
02898	Hexachlorobutadiene	87-68-3	N.D.	0.1	0.5	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
02898	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	0.5	1
02898	4-Methyl-2-Pentanone	108-10-1	N.D.	1.0	5.0	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	0.5	1

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

Sample Description: **WS-005 (Surface) 090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184574**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 10:30 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03005 SDG#: PEL23-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
		purge				
02898	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
02898	Styrene	100-42-5	N.D.	0.1	0.5	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	0.5	1
02898	Tetrahydrofuran	109-99-9	N.D.	2.0	5.0	1
02898	Toluene	108-88-3	N.D.	0.1	0.5	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	0.5	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
02898	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	0.5	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	0.5	1
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.051	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.051	1
08357	Anthracene	120-12-7	N.D.	0.010	0.051	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.051	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.051	1
08357	Chrysene	218-01-9	N.D.	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.051	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.051	1
08357	Fluorene	86-73-7	N.D.	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.051	1
08357	Naphthalene	91-20-3	N.D.	0.031	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.031	0.051	1
08357	Pyrene	129-00-0	N.D.	0.010	0.051	1

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

Metals	SM 2340 B-1997	mg/l	mg/l	mg/l		
06256	Total Hardness as CaCO3	471-34-1	31.2	0.033	0.20	1
	SW-846 6010B		mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0447	0.00033	0.0050	1

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

Sample Description: **WS-005 (Surface) 090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184574**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 10:30 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03005 SDG#: PEL23-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	7.44	0.0334	0.200	1
07051	Chromium	7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0047	0.0150	1
01757	Magnesium	7439-95-4	3.06	0.0167	0.100	1
07061	Nickel	7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium	7440-62-2	N.D.	0.0020	0.0050	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1
Wet Chemistry						
		EPA 1664A	mg/l	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	N.D.	1.4	5.0	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	Silvertip & Mayflower VOCs8260	SW-846 8260B 25mL purge	1	C132472AA	09/05/2013 03:39	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132472AA	09/05/2013 03:39	Brett W Kenyon	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	132471848003	09/06/2013 07:47	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	132471848003	09/05/2013 12:00	Anna E Stager	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132486256001	09/05/2013 12:24	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132471848003	09/05/2013 10:55	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848003	09/05/2013 10:55	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848003	09/05/2013 10:55	Eric L Eby	1
01750	Calcium	SW-846 6010B	1	132471848003	09/05/2013 10:55	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848003	09/05/2013 10:55	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848003	09/05/2013 10:55	Eric L Eby	1
01757	Magnesium	SW-846 6010B	1	132471848003	09/05/2013 10:55	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848003	09/05/2013 10:55	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848003	09/05/2013 10:55	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848003	09/05/2013 10:55	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848003	09/05/2013 10:55	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713005	09/06/2013 10:44	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848003	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713005	09/05/2013 14:45	Nelli S Markaryan	1

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

Sample Description: WS-005(Surface)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184574
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 10:30 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03005 SDG#: PEL23-08

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08079	HEM (oil & grease)	EPA 1664A	1	13254807901A	09/11/2013 07:27	Yolunder Y Bunch	1

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

Sample Description: **WS-002 (Surface) 090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184575**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 11:05 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03002 SDG#: PEL23-09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	Acetone	67-64-1	3.3 J	3.0	5.0	1
02898	Allyl Chloride	107-05-1	N.D.	0.1	0.5	1
02898	Benzene	71-43-2	N.D.	0.1	0.5	1
02898	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
02898	Bromoform	75-25-2	N.D.	0.1	0.5	1
02898	Bromomethane	74-83-9	N.D.	0.1	0.5	1
02898	2-Butanone	78-93-3	N.D.	1.0	5.0	1
02898	n-Butylbenzene	104-51-8	N.D.	0.1	0.5	1
02898	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
02898	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
02898	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
02898	Chloroethane	75-00-3	N.D.	0.1	0.5	1
02898	Chloroform	67-66-3	N.D.	0.1	0.5	1
02898	Chloromethane	74-87-3	N.D.	0.2	0.5	1
02898	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
02898	4-Chlorotoluene	106-43-4	N.D.	0.1	0.5	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	0.5	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
02898	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	0.5	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	0.5	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
02898	1,1-Dichloroethene	75-35-4	0.1 J	0.1	0.5	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	0.5	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
02898	Dichlorofluoromethane	75-43-4	N.D.	0.2	0.5	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
02898	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
02898	2,2-Dichloropropane	594-20-7	N.D.	0.1	0.5	1
02898	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
02898	Ethyl ether	60-29-7	N.D.	0.1	0.5	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
02898	Freon 113	76-13-1	N.D.	0.2	0.5	1
02898	Hexachlorobutadiene	87-68-3	N.D.	0.1	0.5	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
02898	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	0.5	1
02898	4-Methyl-2-Pentanone	108-10-1	N.D.	1.0	5.0	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	0.5	1

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

Sample Description: **WS-002 (Surface) 090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184575**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 11:05 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03002 SDG#: PEL23-09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
02898	Styrene	100-42-5	N.D.	0.1	0.5	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	0.5	1
02898	Tetrahydrofuran	109-99-9	N.D.	2.0	5.0	1
02898	Toluene	108-88-3	N.D.	0.1	0.5	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	0.5	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
02898	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	0.5	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	0.5	1
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.051	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.051	1
08357	Anthracene	120-12-7	N.D.	0.010	0.051	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.051	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.051	1
08357	Chrysene	218-01-9	N.D.	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.051	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.051	1
08357	Fluorene	86-73-7	N.D.	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.051	1
08357	Naphthalene	91-20-3	N.D.	0.030	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.051	1
08357	Pyrene	129-00-0	N.D.	0.010	0.051	1

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

Metals	SM 2340 B-1997	mg/l	mg/l	mg/l		
06256	Total Hardness as CaCO3	471-34-1	29.8	0.033	0.20	1
	SW-846 6010B		mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0351	0.00033	0.0050	1

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

Sample Description: **WS-002 (Surface) 090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184575**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 11:05 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03002 SDG#: PEL23-09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
	SW-846 6010B		mg/l	mg/l	mg/l	
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	6.85	0.0334	0.200	1
07051	Chromium	7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0047	0.0150	1
01757	Magnesium	7439-95-4	3.08	0.0167	0.100	1
07061	Nickel	7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium	7440-62-2	N.D.	0.0020	0.0050	1
	SW-846 7470A		mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	0.000067 J	0.000060	0.00020	1
Wet Chemistry						
	EPA 1664A		mg/l	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	N.D.	1.4	5.0	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	Silvertip & Mayflower VOCs8260	SW-846 8260B 25mL purge	1	C132472AA	09/05/2013 04:01	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132472AA	09/05/2013 04:01	Brett W Kenyon	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	132471848003	09/06/2013 08:16	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	132471848003	09/05/2013 12:00	Anna E Stager	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132486256001	09/05/2013 12:24	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132471848003	09/05/2013 10:59	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848003	09/05/2013 10:59	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848003	09/05/2013 10:59	Eric L Eby	1
01750	Calcium	SW-846 6010B	1	132471848003	09/05/2013 10:59	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848003	09/05/2013 10:59	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848003	09/05/2013 10:59	Eric L Eby	1
01757	Magnesium	SW-846 6010B	1	132471848003	09/05/2013 10:59	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848003	09/05/2013 10:59	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848003	09/05/2013 10:59	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848003	09/05/2013 10:59	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848003	09/05/2013 10:59	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713005	09/06/2013 10:46	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848003	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713005	09/05/2013 14:45	Nelli S Markaryan	1

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

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Sample Description: WS-002 (Surface) 090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184575
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 11:05 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03002 SDG#: PEL23-09

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08079	HEM (oil & grease)	EPA 1664A	1	13254807901A	09/11/2013 07:27	Yolunder Y Bunch	1

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

Sample Description: **WS-011(1.5-2.0)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184576**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 11:30 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03111 SDG#: PEL23-10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
		purge				
02898	Acetone	67-64-1	3.2 J	3.0	5.0	1
02898	Allyl Chloride	107-05-1	N.D.	0.1	0.5	1
02898	Benzene	71-43-2	N.D.	0.1	0.5	1
02898	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
02898	Bromoform	75-25-2	N.D.	0.1	0.5	1
02898	Bromomethane	74-83-9	N.D.	0.1	0.5	1
02898	2-Butanone	78-93-3	N.D.	1.0	5.0	1
02898	n-Butylbenzene	104-51-8	N.D.	0.1	0.5	1
02898	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
02898	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
02898	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
02898	Chloroethane	75-00-3	N.D.	0.1	0.5	1
02898	Chloroform	67-66-3	N.D.	0.1	0.5	1
02898	Chloromethane	74-87-3	N.D.	0.2	0.5	1
02898	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
02898	4-Chlorotoluene	106-43-4	N.D.	0.1	0.5	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	0.5	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
02898	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	0.5	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	0.5	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	0.5	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	0.5	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
02898	Dichlorofluoromethane	75-43-4	N.D.	0.2	0.5	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
02898	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
02898	2,2-Dichloropropane	594-20-7	N.D.	0.1	0.5	1
02898	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
02898	Ethyl ether	60-29-7	N.D.	0.1	0.5	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
02898	Freon 113	76-13-1	N.D.	0.2	0.5	1
02898	Hexachlorobutadiene	87-68-3	N.D.	0.1	0.5	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
02898	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	0.5	1
02898	4-Methyl-2-Pentanone	108-10-1	N.D.	1.0	5.0	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	0.5	1

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

Sample Description: **WS-011(1.5-2.0)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184576**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 11:30 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

031111 SDG#: PEL23-10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
		purge				
02898	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
02898	Styrene	100-42-5	N.D.	0.1	0.5	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	0.5	1
02898	Tetrahydrofuran	109-99-9	N.D.	2.0	5.0	1
02898	Toluene	108-88-3	N.D.	0.1	0.5	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	0.5	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
02898	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	0.5	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	0.5	1
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.052	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.052	1
08357	Anthracene	120-12-7	N.D.	0.010	0.052	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.052	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.052	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.052	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.052	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.052	1
08357	Chrysene	218-01-9	N.D.	0.010	0.052	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.052	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.052	1
08357	Fluorene	86-73-7	N.D.	0.010	0.052	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.052	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.052	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.052	1
08357	Naphthalene	91-20-3	N.D.	0.031	0.052	1
08357	Phenanthrene	85-01-8	N.D.	0.031	0.052	1
08357	Pyrene	129-00-0	N.D.	0.010	0.052	1

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

Metals	SM 2340 B-1997	mg/l	mg/l	mg/l		
06256	Total Hardness as CaCO ₃	471-34-1	31.1	0.033	0.20	1
	SW-846 6010B		mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	0.0073 J	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0419	0.00033	0.0050	1

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

Sample Description: WS-011(1.5-2.0)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184576
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 11:30 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03111 SDG#: PEL23-10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
	SW-846 6010B		mg/l	mg/l	mg/l	
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	7.08	0.0334	0.200	1
07051	Chromium	7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0047	0.0150	1
01757	Magnesium	7439-95-4	3.26	0.0167	0.100	1
07061	Nickel	7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium	7440-62-2	N.D.	0.0020	0.0050	1
	SW-846 7470A		mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	0.000062 J	0.000060	0.00020	1
Wet Chemistry						
	EPA 1664A		mg/l	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	1.6 J	1.4	5.0	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	Silvertip & Mayflower VOCs8260	SW-846 8260B 25mL purge	1	C132472AA	09/05/2013 04:23	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132472AA	09/05/2013 04:23	Brett W Kenyon	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13247WAH026	09/06/2013 08:45	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13247WAH026	09/05/2013 12:00	Anna E Stager	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132486256001	09/05/2013 12:24	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132471848003	09/05/2013 11:03	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848003	09/05/2013 11:03	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848003	09/05/2013 11:03	Eric L Eby	1
01750	Calcium	SW-846 6010B	1	132471848003	09/05/2013 11:03	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848003	09/05/2013 11:03	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848003	09/05/2013 11:03	Eric L Eby	1
01757	Magnesium	SW-846 6010B	1	132471848003	09/05/2013 11:03	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848003	09/05/2013 11:03	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848003	09/05/2013 11:03	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848003	09/05/2013 11:03	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848003	09/05/2013 11:03	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713005	09/06/2013 10:48	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848003	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713005	09/05/2013 14:45	Nelli S Markaryan	1

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

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Sample Description: WS-011(1.5-2.0)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184576
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 11:30 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03111 SDG#: PEL23-10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08079	HEM (oil & grease)	EPA 1664A	1	13254807901A	09/11/2013 07:27	Yolunder Y Bunch	1

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

Sample Description: WS-011(5.0-5.5)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184577
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 11:40 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03112 SDG#: PEL23-11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
		purge				
02898	Acetone	67-64-1	N.D.	3.0	5.0	1
02898	Allyl Chloride	107-05-1	N.D.	0.1	0.5	1
02898	Benzene	71-43-2	N.D.	0.1	0.5	1
02898	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
02898	Bromoform	75-25-2	N.D.	0.1	0.5	1
02898	Bromomethane	74-83-9	N.D.	0.1	0.5	1
02898	2-Butanone	78-93-3	N.D.	1.0	5.0	1
02898	n-Butylbenzene	104-51-8	N.D.	0.1	0.5	1
02898	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
02898	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
02898	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
02898	Chloroethane	75-00-3	N.D.	0.1	0.5	1
02898	Chloroform	67-66-3	N.D.	0.1	0.5	1
02898	Chloromethane	74-87-3	N.D.	0.2	0.5	1
02898	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
02898	4-Chlorotoluene	106-43-4	N.D.	0.1	0.5	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	0.5	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
02898	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	0.5	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	0.5	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	0.5	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	0.5	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
02898	Dichlorofluoromethane	75-43-4	N.D.	0.2	0.5	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
02898	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
02898	2,2-Dichloropropane	594-20-7	N.D.	0.1	0.5	1
02898	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
02898	Ethyl ether	60-29-7	N.D.	0.1	0.5	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
02898	Freon 113	76-13-1	N.D.	0.2	0.5	1
02898	Hexachlorobutadiene	87-68-3	N.D.	0.1	0.5	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
02898	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	0.5	1
02898	4-Methyl-2-Pentanone	108-10-1	N.D.	1.0	5.0	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	0.5	1

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

Sample Description: **WS-011(5.0-5.5)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184577**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 11:40 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03112 SDG#: PEL23-11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
02898	Styrene	100-42-5	N.D.	0.1	0.5	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	0.5	1
02898	Tetrahydrofuran	109-99-9	N.D.	2.0	5.0	1
02898	Toluene	108-88-3	N.D.	0.1	0.5	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	0.5	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
02898	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	0.5	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	0.5	1
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.051	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.051	1
08357	Anthracene	120-12-7	N.D.	0.010	0.051	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.051	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.051	1
08357	Chrysene	218-01-9	N.D.	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.051	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.051	1
08357	Fluorene	86-73-7	N.D.	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.051	1
08357	Naphthalene	91-20-3	N.D.	0.030	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.051	1
08357	Pyrene	129-00-0	N.D.	0.010	0.051	1

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

Metals	SM 2340 B-1997	mg/l	mg/l	mg/l		
06256	Total Hardness as CaCO3	471-34-1	31.4	0.033	0.20	1
	SW-846 6010B		mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0702	0.00033	0.0050	1

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

Sample Description: WS-011(5.0-5.5)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184577
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 11:40 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03112 SDG#: PEL23-11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	7.21	0.0334	0.200	1
07051	Chromium	7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0047	0.0150	1
01757	Magnesium	7439-95-4	3.26	0.0167	0.100	1
07061	Nickel	7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium	7440-62-2	N.D.	0.0020	0.0050	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1
Wet Chemistry						
		EPA 1664A	mg/l	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	1.5 J	1.4	5.0	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	Silvertip & Mayflower VOCs8260	SW-846 8260B 25mL purge	1	C132472AA	09/05/2013 04:45	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132472AA	09/05/2013 04:45	Brett W Kenyon	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13247WAH026	09/06/2013 09:15	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13247WAH026	09/05/2013 12:00	Anna E Stager	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132486256001	09/05/2013 12:24	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132471848003	09/05/2013 11:06	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848003	09/05/2013 11:06	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848003	09/05/2013 11:06	Eric L Eby	1
01750	Calcium	SW-846 6010B	1	132471848003	09/05/2013 11:06	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848003	09/05/2013 11:06	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848003	09/05/2013 11:06	Eric L Eby	1
01757	Magnesium	SW-846 6010B	1	132471848003	09/05/2013 11:06	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848003	09/05/2013 11:06	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848003	09/05/2013 11:06	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848003	09/05/2013 11:06	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848003	09/05/2013 11:06	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713005	09/06/2013 10:54	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848003	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713005	09/05/2013 14:45	Nelli S Markaryan	1

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

Sample Description: WS-011(5.0-5.5)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184577
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 11:40 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03112 SDG#: PEL23-11

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08079	HEM (oil & grease)	EPA 1664A	1	13254807901A	09/11/2013 07:27	Yolunder Y Bunch	1

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

Sample Description: **WS-018 (Surface) 090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184578**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 12:10 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03018 SDG#: PEL23-12

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	Acetone	67-64-1	3.1 J	3.0	5.0	1
02898	Allyl Chloride	107-05-1	N.D.	0.1	0.5	1
02898	Benzene	71-43-2	N.D.	0.1	0.5	1
02898	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
02898	Bromoform	75-25-2	N.D.	0.1	0.5	1
02898	Bromomethane	74-83-9	N.D.	0.1	0.5	1
02898	2-Butanone	78-93-3	N.D.	1.0	5.0	1
02898	n-Butylbenzene	104-51-8	N.D.	0.1	0.5	1
02898	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
02898	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
02898	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
02898	Chloroethane	75-00-3	N.D.	0.1	0.5	1
02898	Chloroform	67-66-3	N.D.	0.1	0.5	1
02898	Chloromethane	74-87-3	N.D.	0.2	0.5	1
02898	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
02898	4-Chlorotoluene	106-43-4	N.D.	0.1	0.5	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	0.5	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
02898	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	0.5	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	0.5	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	0.5	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	0.5	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
02898	Dichlorofluoromethane	75-43-4	N.D.	0.2	0.5	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
02898	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
02898	2,2-Dichloropropane	594-20-7	N.D.	0.1	0.5	1
02898	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
02898	Ethyl ether	60-29-7	N.D.	0.1	0.5	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
02898	Freon 113	76-13-1	N.D.	0.2	0.5	1
02898	Hexachlorobutadiene	87-68-3	N.D.	0.1	0.5	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
02898	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	0.5	1
02898	4-Methyl-2-Pentanone	108-10-1	N.D.	1.0	5.0	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	0.5	1

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

Sample Description: **WS-018 (Surface) 090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184578**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 12:10 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03018 SDG#: PEL23-12

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
02898	Styrene	100-42-5	N.D.	0.1	0.5	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	0.5	1
02898	Tetrahydrofuran	109-99-9	N.D.	2.0	5.0	1
02898	Toluene	108-88-3	N.D.	0.1	0.5	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	0.5	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
02898	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	0.5	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	0.5	1
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.051	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.051	1
08357	Anthracene	120-12-7	N.D.	0.010	0.051	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.051	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.051	1
08357	Chrysene	218-01-9	N.D.	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.051	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.051	1
08357	Fluorene	86-73-7	N.D.	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.051	1
08357	Naphthalene	91-20-3	N.D.	0.030	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.051	1
08357	Pyrene	129-00-0	N.D.	0.010	0.051	1

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

Metals	SM 2340 B-1997	mg/l	mg/l	mg/l		
06256	Total Hardness as CaCO ₃	471-34-1	29.2	0.033	0.20	1
	SW-846 6010B		mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.108	0.00033	0.0050	1

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

Sample Description: WS-018 (Surface) 090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184578
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 12:10 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03018 SDG#: PEL23-12

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	6.63	0.0334	0.200	1
07051	Chromium	7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0047	0.0150	1
01757	Magnesium	7439-95-4	3.08	0.0167	0.100	1
07061	Nickel	7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium	7440-62-2	N.D.	0.0020	0.0050	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1
Wet Chemistry						
		EPA 1664A	mg/l	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	N.D.	1.4	5.0	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	Silvertip & Mayflower VOCs8260	SW-846 8260B 25mL purge	1	C132472AA	09/05/2013 05:07	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132472AA	09/05/2013 05:07	Brett W Kenyon	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13247WAH026	09/06/2013 09:44	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13247WAH026	09/05/2013 12:00	Anna E Stager	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132486256001	09/05/2013 12:24	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132471848003	09/05/2013 11:10	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848003	09/05/2013 11:10	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848003	09/05/2013 11:10	Eric L Eby	1
01750	Calcium	SW-846 6010B	1	132471848003	09/05/2013 11:10	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848003	09/05/2013 11:10	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848003	09/05/2013 11:10	Eric L Eby	1
01757	Magnesium	SW-846 6010B	1	132471848003	09/05/2013 11:10	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848003	09/05/2013 11:10	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848003	09/05/2013 11:10	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848003	09/05/2013 11:10	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848003	09/05/2013 11:10	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713005	09/06/2013 10:56	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848003	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713005	09/05/2013 14:45	Nelli S Markaryan	1

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

Sample Description: WS-018 (Surface) 090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184578
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 12:10 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03018 SDG#: PEL23-12

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08079	HEM (oil & grease)	EPA 1664A	1	13254807901A	09/11/2013 07:27	Yolunder Y Bunch	1

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

Sample Description: **WS-003 (Surface) 090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184579**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 12:20 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03003 SDG#: PEL23-13

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	Acetone	67-64-1	3.6 J	3.0	5.0	1
02898	Allyl Chloride	107-05-1	N.D.	0.1	0.5	1
02898	Benzene	71-43-2	N.D.	0.1	0.5	1
02898	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
02898	Bromoform	75-25-2	N.D.	0.1	0.5	1
02898	Bromomethane	74-83-9	N.D.	0.1	0.5	1
02898	2-Butanone	78-93-3	N.D.	1.0	5.0	1
02898	n-Butylbenzene	104-51-8	N.D.	0.1	0.5	1
02898	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
02898	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
02898	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
02898	Chloroethane	75-00-3	N.D.	0.1	0.5	1
02898	Chloroform	67-66-3	N.D.	0.1	0.5	1
02898	Chloromethane	74-87-3	N.D.	0.2	0.5	1
02898	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
02898	4-Chlorotoluene	106-43-4	N.D.	0.1	0.5	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	0.5	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
02898	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	0.5	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	0.5	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
02898	1,1-Dichloroethene	75-35-4	0.2 J	0.1	0.5	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	0.5	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
02898	Dichlorofluoromethane	75-43-4	N.D.	0.2	0.5	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
02898	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
02898	2,2-Dichloropropane	594-20-7	N.D.	0.1	0.5	1
02898	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
02898	Ethyl ether	60-29-7	N.D.	0.1	0.5	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
02898	Freon 113	76-13-1	N.D.	0.2	0.5	1
02898	Hexachlorobutadiene	87-68-3	N.D.	0.1	0.5	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
02898	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	0.5	1
02898	4-Methyl-2-Pentanone	108-10-1	N.D.	1.0	5.0	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	0.5	1

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

Sample Description: **WS-003 (Surface) 090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184579**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 12:20 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03003 SDG#: PEL23-13

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260B 25mL						
			ug/l	ug/l	ug/l	
02898	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
02898	Styrene	100-42-5	N.D.	0.1	0.5	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	0.5	1
02898	Tetrahydrofuran	109-99-9	N.D.	2.0	5.0	1
02898	Toluene	108-88-3	N.D.	0.1	0.5	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	0.5	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
02898	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	0.5	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	0.5	1
GC/MS Semivolatiles SW-846 8270C SIM						
			ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.052	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.052	1
08357	Anthracene	120-12-7	N.D.	0.010	0.052	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.052	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.052	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.052	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.052	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.052	1
08357	Chrysene	218-01-9	N.D.	0.010	0.052	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.052	1
08357	Fluoranthene	206-44-0	0.011 J	0.010	0.052	1
08357	Fluorene	86-73-7	N.D.	0.010	0.052	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.052	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.052	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.052	1
08357	Naphthalene	91-20-3	N.D.	0.031	0.052	1
08357	Phenanthrene	85-01-8	N.D.	0.031	0.052	1
08357	Pyrene	129-00-0	N.D.	0.010	0.052	1
Metals SM 2340 B-1997						
			mg/l	mg/l	mg/l	
06256	Total Hardness as CaCO3	471-34-1	30.6	0.033	0.20	1
SW-846 6010B						
			mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0457	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	6.96	0.0334	0.200	1

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

Sample Description: **WS-003 (Surface) 090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184579**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 12:20 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03003 SDG#: PEL23-13

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
	SW-846 6010B		mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0047	0.0150	1
01757	Magnesium	7439-95-4	3.20	0.0167	0.100	1
07061	Nickel	7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium	7440-62-2	N.D.	0.0020	0.0050	1
	SW-846 7470A		mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1
Wet Chemistry						
	EPA 1664A		mg/l	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	1.7 J	1.4	5.0	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	Silvertip & Mayflower VOCs8260	SW-846 8260B 25mL purge	1	C132472AA	09/05/2013 05:30	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132472AA	09/05/2013 05:30	Brett W Kenyon	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13247WAH026	09/06/2013 10:13	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13247WAH026	09/05/2013 12:00	Anna E Stager	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132486256001	09/05/2013 12:24	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132471848003	09/05/2013 11:14	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848003	09/05/2013 11:14	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848003	09/05/2013 11:14	Eric L Eby	1
01750	Calcium	SW-846 6010B	1	132471848003	09/05/2013 11:14	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848003	09/05/2013 11:14	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848003	09/05/2013 11:14	Eric L Eby	1
01757	Magnesium	SW-846 6010B	1	132471848003	09/05/2013 11:14	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848003	09/05/2013 11:14	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848003	09/05/2013 11:14	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848003	09/05/2013 11:14	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848003	09/05/2013 11:14	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713005	09/06/2013 10:58	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848003	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713005	09/05/2013 14:45	Nelli S Markaryan	1
08079	HEM (oil & grease)	EPA 1664A	1	13254807901A	09/11/2013 07:27	Yolunder Y Bunch	1

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

Sample Description: **WS-007(0.5-1.0)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184580**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 12:30 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03007 SDG#: PEL23-14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	Acetone	67-64-1	7.2	3.0	5.0	1
02898	Allyl Chloride	107-05-1	N.D.	0.1	0.5	1
02898	Benzene	71-43-2	N.D.	0.1	0.5	1
02898	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
02898	Bromoform	75-25-2	N.D.	0.1	0.5	1
02898	Bromomethane	74-83-9	N.D.	0.1	0.5	1
02898	2-Butanone	78-93-3	N.D.	1.0	5.0	1
02898	n-Butylbenzene	104-51-8	N.D.	0.1	0.5	1
02898	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
02898	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
02898	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
02898	Chloroethane	75-00-3	N.D.	0.1	0.5	1
02898	Chloroform	67-66-3	N.D.	0.1	0.5	1
02898	Chloromethane	74-87-3	N.D.	0.2	0.5	1
02898	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
02898	4-Chlorotoluene	106-43-4	N.D.	0.1	0.5	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	0.5	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
02898	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	0.5	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	0.5	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	0.5	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	0.5	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
02898	Dichlorofluoromethane	75-43-4	N.D.	0.2	0.5	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
02898	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
02898	2,2-Dichloropropane	594-20-7	N.D.	0.1	0.5	1
02898	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
02898	Ethyl ether	60-29-7	N.D.	0.1	0.5	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
02898	Freon 113	76-13-1	N.D.	0.2	0.5	1
02898	Hexachlorobutadiene	87-68-3	N.D.	0.1	0.5	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
02898	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	0.5	1
02898	4-Methyl-2-Pentanone	108-10-1	N.D.	1.0	5.0	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	0.5	1

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

Sample Description: WS-007(0.5-1.0)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184580
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 12:30 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03007 SDG#: PEL23-14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
		purge				
02898	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
02898	Styrene	100-42-5	N.D.	0.1	0.5	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	0.5	1
02898	Tetrahydrofuran	109-99-9	N.D.	2.0	5.0	1
02898	Toluene	108-88-3	0.2 J	0.1	0.5	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	0.5	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
02898	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	0.5	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	0.5	1
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.052	1
08357	Acenaphthylene	208-96-8	0.024 J	0.010	0.052	1
08357	Anthracene	120-12-7	0.026 J	0.010	0.052	1
08357	Benzo(a)anthracene	56-55-3	0.053	0.010	0.052	1
08357	Benzo(a)pyrene	50-32-8	0.058	0.010	0.052	1
08357	Benzo(b)fluoranthene	205-99-2	0.14	0.010	0.052	1
08357	Benzo(g,h,i)perylene	191-24-2	0.058	0.010	0.052	1
08357	Benzo(k)fluoranthene	207-08-9	0.10	0.010	0.052	1
08357	Chrysene	218-01-9	0.13	0.010	0.052	1
08357	Dibenz(a,h)anthracene	53-70-3	0.019 J	0.010	0.052	1
08357	Fluoranthene	206-44-0	0.20	0.010	0.052	1
08357	Fluorene	86-73-7	0.013 J	0.010	0.052	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	0.073	0.010	0.052	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.052	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.052	1
08357	Naphthalene	91-20-3	N.D.	0.031	0.052	1
08357	Phenanthrene	85-01-8	0.052	0.031	0.052	1
08357	Pyrene	129-00-0	0.17	0.010	0.052	1
Metals		SM 2340 B-1997	mg/l	mg/l	mg/l	
06256	Total Hardness as CaCO3	471-34-1	26.5	0.033	0.20	1
		SW-846 6010B	mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	0.0081 J	0.0068	0.0200	1
07046	Barium	7440-39-3	0.127	0.0033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	5.70	0.0334	0.200	1

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

Sample Description: **WS-007(0.5-1.0)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184580**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 12:30 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03007 SDG#: PEL23-14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	0.0087 J	0.0016	0.0150	1
07055	Lead	7439-92-1	0.0404	0.0047	0.0150	1
01757	Magnesium	7439-95-4	2.99	0.0167	0.100	1
07061	Nickel	7440-02-0	0.0101	0.0015	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium	7440-62-2	0.0155	0.0020	0.0050	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	0.000095 J	0.000060	0.00020	1
Wet Chemistry						
		EPA 1664A	mg/l	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	N.D.	1.4	5.0	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	Silvertip & Mayflower VOCs8260	SW-846 8260B 25mL purge	1	C132472AA	09/05/2013 05:52	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132472AA	09/05/2013 05:52	Brett W Kenyon	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13247WAH026	09/06/2013 10:43	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13247WAH026	09/05/2013 12:00	Anna E Stager	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132486256001	09/05/2013 12:24	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132471848003	09/05/2013 11:25	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848003	09/05/2013 11:25	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848003	09/05/2013 11:25	Eric L Eby	1
01750	Calcium	SW-846 6010B	1	132471848003	09/05/2013 11:25	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848003	09/05/2013 11:25	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132501848001	09/09/2013 15:19	Eric L Eby	1
01757	Magnesium	SW-846 6010B	1	132471848003	09/05/2013 11:25	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848003	09/06/2013 00:37	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132471848003	09/05/2013 11:25	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848003	09/05/2013 11:25	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848003	09/05/2013 11:25	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713005	09/06/2013 11:00	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848003	09/04/2013 23:30	Annamaria Stipkovits	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	2	132501848001	09/08/2013 23:45	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713005	09/05/2013 14:45	Nelli S Markaryan	1

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

Sample Description: WS-007(0.5-1.0)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184580
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 12:30 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03007 SDG#: PEL23-14

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08079	HEM (oil & grease)	EPA 1664A	1	13254807901A	09/11/2013 07:27	Yolunder Y Bunch	1

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

Sample Description: **WS-001(0.5-1.0)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184581**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 12:40 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03001 SDG#: PEL23-15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	Acetone	67-64-1	3.9 J	3.0	5.0	1
02898	Allyl Chloride	107-05-1	N.D.	0.1	0.5	1
02898	Benzene	71-43-2	N.D.	0.1	0.5	1
02898	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
02898	Bromoform	75-25-2	N.D.	0.1	0.5	1
02898	Bromomethane	74-83-9	N.D.	0.1	0.5	1
02898	2-Butanone	78-93-3	N.D.	1.0	5.0	1
02898	n-Butylbenzene	104-51-8	N.D.	0.1	0.5	1
02898	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
02898	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
02898	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
02898	Chloroethane	75-00-3	N.D.	0.1	0.5	1
02898	Chloroform	67-66-3	N.D.	0.1	0.5	1
02898	Chloromethane	74-87-3	N.D.	0.2	0.5	1
02898	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
02898	4-Chlorotoluene	106-43-4	N.D.	0.1	0.5	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	0.5	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
02898	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	0.5	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	0.5	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	0.5	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	0.5	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
02898	Dichlorofluoromethane	75-43-4	N.D.	0.2	0.5	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
02898	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
02898	2,2-Dichloropropane	594-20-7	N.D.	0.1	0.5	1
02898	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
02898	Ethyl ether	60-29-7	N.D.	0.1	0.5	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
02898	Freon 113	76-13-1	N.D.	0.2	0.5	1
02898	Hexachlorobutadiene	87-68-3	N.D.	0.1	0.5	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
02898	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	0.5	1
02898	4-Methyl-2-Pentanone	108-10-1	N.D.	1.0	5.0	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	0.5	1

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

Sample Description: **WS-001(0.5-1.0)090313 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184581**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 12:40 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03001 SDG#: PEL23-15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
		purge				
02898	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
02898	Styrene	100-42-5	N.D.	0.1	0.5	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	0.5	1
02898	Tetrahydrofuran	109-99-9	N.D.	2.0	5.0	1
02898	Toluene	108-88-3	N.D.	0.1	0.5	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	0.5	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
02898	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	0.5	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	0.5	1
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.051	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.051	1
08357	Anthracene	120-12-7	N.D.	0.010	0.051	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.051	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.051	1
08357	Chrysene	218-01-9	N.D.	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.051	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.051	1
08357	Fluorene	86-73-7	N.D.	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.051	1
08357	Naphthalene	91-20-3	N.D.	0.031	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.031	0.051	1
08357	Pyrene	129-00-0	N.D.	0.010	0.051	1

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

Metals	SM 2340 B-1997	mg/l	mg/l	mg/l		
06256	Total Hardness as CaCO3	471-34-1	30.2	0.033	0.20	1
	SW-846 6010B		mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0629	0.00033	0.0050	1

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

Sample Description: WS-001(0.5-1.0)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184581
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 12:40 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03001 SDG#: PEL23-15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
	SW-846 6010B		mg/l	mg/l	mg/l	
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	6.98	0.0334	0.200	1
07051	Chromium	7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0047	0.0150	1
01757	Magnesium	7439-95-4	3.11	0.0167	0.100	1
07061	Nickel	7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium	7440-62-2	N.D.	0.0020	0.0050	1
	SW-846 7470A		mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	0.000063 J	0.000060	0.00020	1
Wet Chemistry						
	EPA 1664A		mg/l	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	N.D.	1.4	5.0	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	Silvertip & Mayflower VOCs8260	SW-846 8260B 25mL purge	1	C132472AA	09/05/2013 06:15	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132472AA	09/05/2013 06:15	Brett W Kenyon	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13247WAH026	09/06/2013 11:12	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13247WAH026	09/05/2013 12:00	Anna E Stager	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132486256001	09/05/2013 12:24	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132471848003	09/05/2013 11:29	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848003	09/05/2013 11:29	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848003	09/05/2013 11:29	Eric L Eby	1
01750	Calcium	SW-846 6010B	1	132471848003	09/05/2013 11:29	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848003	09/05/2013 11:29	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848003	09/05/2013 11:29	Eric L Eby	1
01757	Magnesium	SW-846 6010B	1	132471848003	09/05/2013 11:29	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848003	09/05/2013 11:29	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848003	09/05/2013 11:29	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848003	09/05/2013 11:29	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848003	09/05/2013 11:29	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713005	09/06/2013 11:02	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848003	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713005	09/05/2013 14:45	Nelli S Markaryan	1

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

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: WS-001(0.5-1.0)090313 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184581
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013 12:40 by HVA

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03001 SDG#: PEL23-15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08079	HEM (oil & grease)	EPA 1664A	1	13254807901A	09/11/2013 07:27	Yolunder Y Bunch	1

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

Sample Description: **WS-EB-050-090313 Grab Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184582**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 14:00 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03E50 SDG#: PEL23-16EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	Acetone	67-64-1	N.D.	3.0	5.0	1
02898	Allyl Chloride	107-05-1	N.D.	0.1	0.5	1
02898	Benzene	71-43-2	N.D.	0.1	0.5	1
02898	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
02898	Bromoform	75-25-2	N.D.	0.1	0.5	1
02898	Bromomethane	74-83-9	N.D.	0.1	0.5	1
02898	2-Butanone	78-93-3	N.D.	1.0	5.0	1
02898	n-Butylbenzene	104-51-8	N.D.	0.1	0.5	1
02898	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
02898	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
02898	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
02898	Chloroethane	75-00-3	N.D.	0.1	0.5	1
02898	Chloroform	67-66-3	N.D.	0.1	0.5	1
02898	Chloromethane	74-87-3	N.D.	0.2	0.5	1
02898	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
02898	4-Chlorotoluene	106-43-4	N.D.	0.1	0.5	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	0.5	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
02898	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	0.5	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	0.5	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	0.5	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	0.5	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
02898	Dichlorofluoromethane	75-43-4	N.D.	0.2	0.5	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
02898	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
02898	2,2-Dichloropropane	594-20-7	N.D.	0.1	0.5	1
02898	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
02898	Ethyl ether	60-29-7	N.D.	0.1	0.5	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
02898	Freon 113	76-13-1	N.D.	0.2	0.5	1
02898	Hexachlorobutadiene	87-68-3	N.D.	0.1	0.5	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
02898	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	0.5	1
02898	4-Methyl-2-Pentanone	108-10-1	N.D.	1.0	5.0	1
02898	Methylene Chloride	75-09-2	N.D.	0.2	0.5	1

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

Sample Description: **WS-EB-050-090313 Grab Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184582**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 14:00 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03E50 SDG#: PEL23-16EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles SW-846 8260B 25mL						
			ug/l	ug/l	ug/l	
02898	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
02898	Styrene	100-42-5	N.D.	0.1	0.5	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	0.5	1
02898	Tetrahydrofuran	109-99-9	N.D.	2.0	5.0	1
02898	Toluene	108-88-3	0.1 J	0.1	0.5	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	0.5	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
02898	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	0.5	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	0.5	1
GC/MS Semivolatiles SW-846 8270C SIM						
			ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.011	0.056	1
08357	Acenaphthylene	208-96-8	N.D.	0.011	0.056	1
08357	Anthracene	120-12-7	N.D.	0.011	0.056	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.011	0.056	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.011	0.056	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.011	0.056	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.011	0.056	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.011	0.056	1
08357	Chrysene	218-01-9	N.D.	0.011	0.056	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.011	0.056	1
08357	Fluoranthene	206-44-0	N.D.	0.011	0.056	1
08357	Fluorene	86-73-7	N.D.	0.011	0.056	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.011	0.056	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.011	0.056	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.011	0.056	1
08357	Naphthalene	91-20-3	0.19	0.033	0.056	1
08357	Phenanthrene	85-01-8	N.D.	0.033	0.056	1
08357	Pyrene	129-00-0	N.D.	0.011	0.056	1
Metals SM 2340 B-1997						
			mg/l	mg/l	mg/l	
06256	Total Hardness as CaCO3	471-34-1	0.59	0.033	0.20	1
SW-846 6010B						
			mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0012 J	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	0.177 J	0.0334	0.200	1

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

Sample Description: **WS-EB-050-090313 Grab Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184582**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013 14:00 by HVA

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03E50 SDG#: PEL23-16EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals						
		SW-846 6010B	mg/l	mg/l	mg/l	
07051	Chromium	7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead	7439-92-1	N.D.	0.0047	0.0150	1
01757	Magnesium	7439-95-4	0.0348 J	0.0167	0.100	1
07061	Nickel	7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium	7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver	7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium	7440-62-2	N.D.	0.0020	0.0050	1
		SW-846 7470A	mg/l	mg/l	mg/l	
00259	Mercury	7439-97-6	0.000063 J	0.000060	0.00020	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	Silvertip & Mayflower VOCs8260	SW-846 8260B 25mL purge	1	C132472AA	09/04/2013 23:12	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132472AA	09/04/2013 23:12	Brett W Kenyon	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13247WAH026	09/06/2013 11:42	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13247WAH026	09/05/2013 12:00	Anna E Stager	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132486256001	09/05/2013 12:24	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132471848003	09/05/2013 11:33	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848003	09/05/2013 11:33	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848003	09/05/2013 11:33	Eric L Eby	1
01750	Calcium	SW-846 6010B	1	132471848003	09/05/2013 11:33	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848003	09/05/2013 11:33	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848003	09/05/2013 11:33	Eric L Eby	1
01757	Magnesium	SW-846 6010B	1	132471848003	09/05/2013 11:33	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848003	09/05/2013 11:33	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848003	09/05/2013 11:33	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848003	09/05/2013 11:33	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848003	09/05/2013 11:33	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713005	09/06/2013 11:04	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848003	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713005	09/05/2013 14:45	Nelli S Markaryan	1

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

Sample Description: **WS-TB-139-090313 Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7184583**
 LL Group # **1416143**
 Account # **14739**

Project Name: **Mayflower, AR Pipeline Incident**

Collected: 09/03/2013

ExxonMobil c/o Arcadis
 630 Plaza Drive, Suite 600
 Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03139 SDG#: PEL23-17TB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
	purge					
02898	Acetone	67-64-1	N.D.	3.0	5.0	1
02898	Allyl Chloride	107-05-1	N.D.	0.1	0.5	1
02898	Benzene	71-43-2	N.D.	0.1	0.5	1
02898	Bromobenzene	108-86-1	N.D.	0.1	0.5	1
02898	Bromochloromethane	74-97-5	N.D.	0.1	0.5	1
02898	Bromodichloromethane	75-27-4	N.D.	0.1	0.5	1
02898	Bromoform	75-25-2	N.D.	0.1	0.5	1
02898	Bromomethane	74-83-9	N.D.	0.1	0.5	1
02898	2-Butanone	78-93-3	N.D.	1.0	5.0	1
02898	n-Butylbenzene	104-51-8	N.D.	0.1	0.5	1
02898	sec-Butylbenzene	135-98-8	N.D.	0.1	0.5	1
02898	tert-Butylbenzene	98-06-6	N.D.	0.1	0.5	1
02898	Carbon Tetrachloride	56-23-5	N.D.	0.1	0.5	1
02898	Chlorobenzene	108-90-7	N.D.	0.1	0.5	1
02898	Chloroethane	75-00-3	N.D.	0.1	0.5	1
02898	Chloroform	67-66-3	N.D.	0.1	0.5	1
02898	Chloromethane	74-87-3	N.D.	0.2	0.5	1
02898	2-Chlorotoluene	95-49-8	N.D.	0.1	0.5	1
02898	4-Chlorotoluene	106-43-4	N.D.	0.1	0.5	1
02898	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	0.5	1
02898	Dibromochloromethane	124-48-1	N.D.	0.1	0.5	1
02898	1,2-Dibromoethane	106-93-4	N.D.	0.1	0.5	1
02898	Dibromomethane	74-95-3	N.D.	0.1	0.5	1
02898	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	0.5	1
02898	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	0.5	1
02898	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	0.5	1
02898	Dichlorodifluoromethane	75-71-8	N.D.	0.1	0.5	1
02898	1,1-Dichloroethane	75-34-3	N.D.	0.1	0.5	1
02898	1,2-Dichloroethane	107-06-2	N.D.	0.1	0.5	1
02898	1,1-Dichloroethene	75-35-4	N.D.	0.1	0.5	1
02898	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	0.5	1
02898	trans-1,2-Dichloroethene	156-60-5	N.D.	0.1	0.5	1
02898	Dichlorofluoromethane	75-43-4	N.D.	0.2	0.5	1
02898	1,2-Dichloropropane	78-87-5	N.D.	0.1	0.5	1
02898	1,3-Dichloropropane	142-28-9	N.D.	0.1	0.5	1
02898	2,2-Dichloropropane	594-20-7	N.D.	0.1	0.5	1
02898	1,1-Dichloropropene	563-58-6	N.D.	0.1	0.5	1
02898	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.1	0.5	1
02898	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	0.5	1
02898	Ethyl ether	60-29-7	N.D.	0.1	0.5	1
02898	Ethylbenzene	100-41-4	N.D.	0.1	0.5	1
02898	Freon 113	76-13-1	N.D.	0.2	0.5	1
02898	Hexachlorobutadiene	87-68-3	N.D.	0.1	0.5	1
02898	Isopropylbenzene	98-82-8	N.D.	0.1	0.5	1
02898	p-Isopropyltoluene	99-87-6	N.D.	0.1	0.5	1
02898	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.1	0.5	1
02898	4-Methyl-2-Pentanone	108-10-1	N.D.	1.0	5.0	1
02898	Methylene Chloride	75-09-2	0.2 J	0.2	0.5	1

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

Sample Description: WS-TB-139-090313 Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7184583
LL Group # 1416143
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/03/2013

ExxonMobil c/o Arcadis
630 Plaza Drive, Suite 600
Highlands Ranch CO 80129

Submitted: 09/04/2013 09:15

Reported: 09/11/2013 14:03

03139 SDG#: PEL23-17TB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Volatiles	SW-846 8260B 25mL	ug/l	ug/l	ug/l	
		purge				
02898	n-Propylbenzene	103-65-1	N.D.	0.1	0.5	1
02898	Styrene	100-42-5	N.D.	0.1	0.5	1
02898	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	0.5	1
02898	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.1	0.5	1
02898	Tetrachloroethene	127-18-4	N.D.	0.1	0.5	1
02898	Tetrahydrofuran	109-99-9	N.D.	2.0	5.0	1
02898	Toluene	108-88-3	N.D.	0.1	0.5	1
02898	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.1	0.5	1
02898	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	0.5	1
02898	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	0.5	1
02898	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	0.5	1
02898	Trichloroethene	79-01-6	N.D.	0.1	0.5	1
02898	Trichlorofluoromethane	75-69-4	N.D.	0.1	0.5	1
02898	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
02898	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.1	0.5	1
02898	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.1	0.5	1
02898	Vinyl Chloride	75-01-4	N.D.	0.1	0.5	1
02898	Xylene (Total)	1330-20-7	N.D.	0.1	0.5	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02898	Silvertip & Mayflower VOCs8260	SW-846 8260B 25mL purge	1	C132472AA	09/04/2013 23:35	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132472AA	09/04/2013 23:35	Brett W Kenyon	1

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

Quality Control Summary

Client Name: ExxonMobil c/o Arcadis
Reported: 09/11/13 at 02:03 PM

Group Number: 1416143

Matrix QC may not be reported if insufficient sample or 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.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL**</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: C132472AA	Sample number(s): 7184564-7184572, 7184574-7184583								
Acetone	N.D.	3.0	5.0	ug/l	121		60-139		
Allyl Chloride	N.D.	0.1	0.5	ug/l	74		61-130		
Benzene	N.D.	0.1	0.5	ug/l	99		80-120		
Bromobenzene	N.D.	0.1	0.5	ug/l	101		80-120		
Bromochloromethane	N.D.	0.1	0.5	ug/l	111		80-125		
Bromodichloromethane	N.D.	0.1	0.5	ug/l	106		80-120		
Bromoform	N.D.	0.1	0.5	ug/l	119		73-128		
Bromomethane	N.D.	0.1	0.5	ug/l	95		62-126		
2-Butanone	N.D.	1.0	5.0	ug/l	119		70-130		
n-Butylbenzene	N.D.	0.1	0.5	ug/l	93		80-120		
sec-Butylbenzene	N.D.	0.1	0.5	ug/l	94		80-120		
tert-Butylbenzene	N.D.	0.1	0.5	ug/l	93		80-120		
Carbon Tetrachloride	N.D.	0.1	0.5	ug/l	116		80-129		
Chlorobenzene	N.D.	0.1	0.5	ug/l	107		80-120		
Chloroethane	N.D.	0.1	0.5	ug/l	90		68-120		
Chloroform	N.D.	0.1	0.5	ug/l	108		80-120		
Chloromethane	N.D.	0.2	0.5	ug/l	81		55-120		
2-Chlorotoluene	N.D.	0.1	0.5	ug/l	97		80-120		
4-Chlorotoluene	N.D.	0.1	0.5	ug/l	99		80-120		
1,2-Dibromo-3-chloropropane	N.D.	0.2	0.5	ug/l	127		64-141		
Dibromochloromethane	N.D.	0.1	0.5	ug/l	112		80-126		
1,2-Dibromoethane	N.D.	0.1	0.5	ug/l	105		80-120		
Dibromomethane	N.D.	0.1	0.5	ug/l	109		80-120		
1,2-Dichlorobenzene	N.D.	0.1	0.5	ug/l	104		80-120		
1,3-Dichlorobenzene	N.D.	0.1	0.5	ug/l	103		80-120		
1,4-Dichlorobenzene	N.D.	0.1	0.5	ug/l	104		80-120		
Dichlorodifluoromethane	N.D.	0.1	0.5	ug/l	90		39-120		
1,1-Dichloroethane	N.D.	0.1	0.5	ug/l	94		80-120		
1,2-Dichloroethane	N.D.	0.1	0.5	ug/l	113		80-127		
1,1-Dichloroethene	N.D.	0.1	0.5	ug/l	96		80-123		
cis-1,2-Dichloroethene	N.D.	0.1	0.5	ug/l	100		80-120		
trans-1,2-Dichloroethene	N.D.	0.1	0.5	ug/l	103		80-120		
Dichlorofluoromethane	N.D.	0.2	0.5	ug/l	100		75-145		
1,2-Dichloropropane	N.D.	0.1	0.5	ug/l	100		80-120		
1,3-Dichloropropane	N.D.	0.1	0.5	ug/l	98		80-120		
2,2-Dichloropropane	N.D.	0.1	0.5	ug/l	94		75-122		
1,1-Dichloropropene	N.D.	0.1	0.5	ug/l	99		80-121		
cis-1,3-Dichloropropene	N.D.	0.1	0.5	ug/l	91		80-123		
trans-1,3-Dichloropropene	N.D.	0.1	0.5	ug/l	94		80-120		
Ethyl ether	N.D.	0.1	0.5	ug/l	79		59-130		
Ethylbenzene	N.D.	0.1	0.5	ug/l	99		80-120		
Freon 113	N.D.	0.2	0.5	ug/l	101		78-132		
Hexachlorobutadiene	N.D.	0.1	0.5	ug/l	94		73-120		

*- 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.

Quality Control Summary

Client Name: ExxonMobil c/o Arcadis
Reported: 09/11/13 at 02:03 PM

Group Number: 1416143

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL**</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCS %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Isopropylbenzene	N.D.	0.1	0.5	ug/l	100		80-120		
p-Isopropyltoluene	N.D.	0.1	0.5	ug/l	94		80-120		
Methyl Tertiary Butyl Ether	N.D.	0.1	0.5	ug/l	88		80-120		
4-Methyl-2-Pentanone	N.D.	1.0	5.0	ug/l	84		69-135		
Methylene Chloride	N.D.	0.2	0.5	ug/l	101		80-120		
n-Propylbenzene	N.D.	0.1	0.5	ug/l	94		80-120		
Styrene	N.D.	0.1	0.5	ug/l	104		80-120		
1,1,1,2-Tetrachloroethane	N.D.	0.1	0.5	ug/l	109		80-120		
1,1,2,2-Tetrachloroethane	N.D.	0.1	0.5	ug/l	94		80-125		
Tetrachloroethene	N.D.	0.1	0.5	ug/l	107		80-120		
Tetrahydrofuran	N.D.	2.0	5.0	ug/l	127		65-131		
Toluene	N.D.	0.1	0.5	ug/l	100		80-120		
1,2,3-Trichlorobenzene	N.D.	0.1	0.5	ug/l	80		63-120		
1,2,4-Trichlorobenzene	N.D.	0.1	0.5	ug/l	82		70-120		
1,1,1-Trichloroethane	N.D.	0.1	0.5	ug/l	107		80-120		
1,1,2-Trichloroethane	N.D.	0.1	0.5	ug/l	106		80-120		
Trichloroethene	N.D.	0.1	0.5	ug/l	107		80-120		
Trichlorofluoromethane	N.D.	0.1	0.5	ug/l	109		77-132		
1,2,3-Trichloropropane	N.D.	0.3	1.0	ug/l	103		80-120		
1,2,4-Trimethylbenzene	N.D.	0.1	0.5	ug/l	97		80-120		
1,3,5-Trimethylbenzene	N.D.	0.1	0.5	ug/l	96		80-120		
Vinyl Chloride	N.D.	0.1	0.5	ug/l	87		65-127		
Xylene (Total)	N.D.	0.1	0.5	ug/l	101		80-120		

Batch number: 13247WAH026

Sample number(s): 7184564-7184572, 7184574-7184582

Acenaphthene	N.D.	0.010	0.050	ug/l	103		77-118		
Acenaphthylene	N.D.	0.010	0.050	ug/l	110		80-123		
Anthracene	N.D.	0.010	0.050	ug/l	107		78-123		
Benzo(a)anthracene	N.D.	0.010	0.050	ug/l	92		73-127		
Benzo(a)pyrene	N.D.	0.010	0.050	ug/l	94		72-120		
Benzo(b)fluoranthene	N.D.	0.010	0.050	ug/l	104		79-136		
Benzo(g,h,i)perylene	N.D.	0.010	0.050	ug/l	104		64-130		
Benzo(k)fluoranthene	N.D.	0.010	0.050	ug/l	108		73-131		
Chrysene	N.D.	0.010	0.050	ug/l	105		76-125		
Dibenz(a,h)anthracene	N.D.	0.010	0.050	ug/l	98		58-131		
Fluoranthene	N.D.	0.010	0.050	ug/l	107		79-124		
Fluorene	N.D.	0.010	0.050	ug/l	100		74-115		
Indeno(1,2,3-cd)pyrene	N.D.	0.010	0.050	ug/l	106		62-130		
1-Methylnaphthalene	N.D.	0.010	0.050	ug/l	109		80-126		
2-Methylnaphthalene	N.D.	0.010	0.050	ug/l	109		81-124		
Naphthalene	N.D.	0.030	0.050	ug/l	104		75-120		
Phenanthrene	N.D.	0.030	0.050	ug/l	105		75-120		
Pyrene	N.D.	0.010	0.050	ug/l	100		71-130		

Batch number: 132471848003

Sample number(s): 7184564-7184582

Arsenic	N.D.	0.0068	0.0200	mg/l	108		90-113		
Barium	N.D.	0.00033	0.0050	mg/l	108		90-110		
Cadmium	N.D.	0.00076	0.0050	mg/l	109		90-112		
Calcium	N.D.	0.0334	0.200	mg/l	105		90-110		
Chromium	N.D.	0.0016	0.0150	mg/l	107		90-110		
Lead	N.D.	0.0047	0.0150	mg/l	112*		88-110		
Magnesium	N.D.	0.0167	0.100	mg/l	103		90-110		
Nickel	N.D.	0.0015	0.0100	mg/l	111		90-111		
Selenium	N.D.	0.0084	0.0200	mg/l	111		80-120		
Silver	N.D.	0.0021	0.0050	mg/l	108		80-120		
Vanadium	N.D.	0.0020	0.0050	mg/l	104		90-110		

*- 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.

Quality Control Summary

Client Name: ExxonMobil c/o Arcadis
Reported: 09/11/13 at 02:03 PM

Group Number: 1416143

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL**</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 132475713005 Mercury	Sample number(s): 7184564-7184582 N.D.	0.00006	0.00020	mg/l	106		80-120		
Batch number: 132501848001 Lead	Sample number(s): 7184580 N.D.	0.0047	0.0150	mg/l	101		88-110		
Batch number: 13254807901A HEM (oil & grease)	Sample number(s): 7184564-7184581 N.D.	1.4	5.0	mg/l	87	93	78-114	7	16

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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: C132472AA	Sample number(s): 7184564-7184572, 7184574-7184583 UNSPK: 7184570								
Acetone	122	117	57-163	4	30				
Allyl Chloride	82	84	56-160	3	30				
Benzene	110	109	87-126	1	30				
Bromobenzene	110	109	80-123	1	30				
Bromochloromethane	118	115	82-125	2	30				
Bromodichloromethane	117	114	82-133	3	30				
Bromoform	130	126	60-138	3	30				
Bromomethane	103	103	66-130	0	30				
2-Butanone	108	104	56-160	3	30				
n-Butylbenzene	108	108	83-131	0	30				
sec-Butylbenzene	109	107	84-128	1	30				
tert-Butylbenzene	110	106	84-135	4	30				
Carbon Tetrachloride	137	134	81-148	2	30				
Chlorobenzene	118	116	78-133	1	30				
Chloroethane	98	98	70-139	0	30				
Chloroform	121	119	86-136	2	30				
Chloromethane	87	89	49-135	3	30				
2-Chlorotoluene	108	108	75-134	0	30				
4-Chlorotoluene	111	110	76-134	1	30				
1,2-Dibromo-3-chloropropane	120	109	43-143	10	30				
Dibromochloromethane	120	118	79-125	2	30				
1,2-Dibromoethane	111	112	84-127	1	30				
Dibromomethane	118	114	83-126	3	30				
1,2-Dichlorobenzene	115	111	83-117	3	30				
1,3-Dichlorobenzene	113	112	79-132	1	30				
1,4-Dichlorobenzene	114	111	79-120	2	30				
Dichlorodifluoromethane	102	99	28-136	3	30				
1,1-Dichloroethane	106	105	88-136	0	30				
1,2-Dichloroethane	122	120	82-135	2	30				
1,1-Dichloroethene	112	112	83-150	0	30				
cis-1,2-Dichloroethene	111	112	82-129	1	30				
trans-1,2-Dichloroethene	117	117	88-127	0	30				
Dichlorofluoromethane	110	107	81-161	3	30				
1,2-Dichloropropane	108	107	91-126	1	30				

*- 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.

Quality Control Summary

Client Name: ExxonMobil c/o Arcadis
Reported: 09/11/13 at 02:03 PM

Group Number: 1416143

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

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
1,3-Dichloropropane	105	103	80-127	2	30				
2,2-Dichloropropane	111	110	80-134	0	30				
1,1-Dichloropropene	118	117	86-139	1	30				
cis-1,3-Dichloropropene	99	101	74-132	2	30				
trans-1,3-Dichloropropene	102	100	71-128	1	30				
Ethyl ether	75	81	57-139	8	30				
Ethylbenzene	113	111	80-140	1	30				
Freon 113	123	120	77-147	3	30				
Hexachlorobutadiene	111	108	65-128	2	30				
Isopropylbenzene	114	113	81-133	1	30				
p-Isopropyltoluene	107	106	84-124	1	30				
Methyl Tertiary Butyl Ether	94	96	82-132	2	30				
4-Methyl-2-Pentanone	91	91	69-149	0	30				
Methylene Chloride	111	111	77-135	0	30				
n-Propylbenzene	107	107	79-131	1	30				
Styrene	116	112	63-151	3	30				
1,1,1,2-Tetrachloroethane	120	118	87-126	2	30				
1,1,2,2-Tetrachloroethane	101	99	75-131	2	30				
Tetrachloroethene	123	120	75-129	2	30				
Tetrahydrofuran	115	110	56-154	4	30				
Toluene	112	111	83-127	0	30				
1,2,3-Trichlorobenzene	90	92	73-125	2	30				
1,2,4-Trichlorobenzene	94	95	77-120	1	30				
1,1,1-Trichloroethane	124	123	85-140	1	30				
1,1,2-Trichloroethane	114	110	85-129	4	30				
Trichloroethene	120	120	85-131	0	30				
Trichlorofluoromethane	125	120	73-139	4	30				
1,2,3-Trichloropropane	112	110	76-120	2	30				
1,2,4-Trimethylbenzene	109	108	87-126	1	30				
1,3,5-Trimethylbenzene	108	108	89-129	0	30				
Vinyl Chloride	98	98	62-135	0	30				
Xylene (Total)	114	112	81-137	2	30				

Batch number: 13247WAH026	Sample number(s): 7184564-7184572,7184574-7184582 UNSPK: 7184570								
Acenaphthene	92	94	47-136	2	30				
Acenaphthylene	118	119	33-146	1	30				
Anthracene	18*	18*	69-119	2	30				
Benzo(a)anthracene	65	66	37-150	1	30				
Benzo(a)pyrene	17*	20*	64-123	13	30				
Benzo(b)fluoranthene	81	80	33-152	2	30				
Benzo(g,h,i)perylene	61	61	36-138	0	30				
Benzo(k)fluoranthene	76	76	31-142	0	30				
Chrysene	87	88	34-135	1	30				
Dibenz(a,h)anthracene	80	77	17-134	4	30				
Fluoranthene	108	105	39-147	3	30				
Fluorene	109	109	38-149	0	30				
Indeno(1,2,3-cd)pyrene	76	75	29-143	1	30				
1-Methylnaphthalene	116	117	49-152	0	30				
2-Methylnaphthalene	115	115	51-146	0	30				
Naphthalene	112	112	58-131	0	30				
Phenanthrene	111	110	48-140	2	30				
Pyrene	78	82	59-125	4	30				

*- 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.

Quality Control Summary

Client Name: ExxonMobil c/o Arcadis
Reported: 09/11/13 at 02:03 PM

Group Number: 1416143

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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 132471848003	Sample number(s): 7184564-7184582 UNSPK: 7184570 BKG: 7184570								
Arsenic	110	112	81-123	1	20	N.D.	N.D.	0 (1)	20
Barium	106	107	78-118	0	20	0.0766	0.0772	1	20
Cadmium	108	108	83-116	0	20	N.D.	N.D.	0 (1)	20
Calcium	102	98	81-118	1	20	7.07	7.02	1	20
Chromium	105	107	81-120	2	20	N.D.	N.D.	0 (1)	20
Lead	111	111	75-125	0	20	N.D.	N.D.	0 (1)	20
Magnesium	101	98	75-125	1	20	3.14	3.12	1	20
Nickel	110	111	86-115	1	20	N.D.	N.D.	0 (1)	20
Selenium	110	110	75-125	1	20	N.D.	N.D.	0 (1)	20
Silver	105	107	75-125	2	20	N.D.	N.D.	0 (1)	20
Vanadium	103	104	90-111	1	20	N.D.	N.D.	0 (1)	20
Batch number: 132475713005	Sample number(s): 7184564-7184582 UNSPK: 7184570 BKG: 7184570								
Mercury	104	104	80-120	0	20	N.D.	N.D.	0 (1)	20
Batch number: 132501848001	Sample number(s): 7184580 UNSPK: P187925 BKG: P187925								
Lead	102	103	75-125	1	20	N.D.	N.D.	0 (1)	20
Batch number: 13254807901A HEM (oil & grease)	Sample number(s): 7184564-7184581 UNSPK: 7184570 BKG: 7184570								
	29*	71*	78-114	82*	29	N.D.	N.D.	0 (1)	18

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: BTEX 25-ml purge
Batch number: C132472AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7184564	108	106	96	95
7184565	109	105	96	95
7184566	109	106	96	95
7184567	110	108	96	95
7184568	110	105	96	95
7184569	110	105	96	95
7184570	109	106	96	94
7184571	107	104	98	100
7184572	106	105	98	100
7184574	109	106	95	94
7184575	110	106	96	93
7184576	111	107	96	95
7184577	110	105	96	95
7184578	110	106	96	94
7184579	110	106	96	95
7184580	111	106	93	93
7184581	111	106	95	94

*- 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.

Quality Control Summary

Client Name: ExxonMobil c/o Arcadis
Reported: 09/11/13 at 02:03 PM

Group Number: 1416143

Surrogate Quality Control

7184582	109	108	96	95
7184583	110	107	96	95
Blank	109	105	97	95
LCS	106	104	99	102
MS	107	104	98	100
MSD	106	105	98	100

Limits: 77-114 74-113 77-110 78-110

Analysis Name: PAHs in waters by SIM

Batch number: 13247WAH026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7184564	94	58*	108
7184565	91	55*	106
7184566	98	56*	110
7184567	92	48*	106
7184568	84	34*	104
7184569	93	49*	107
7184570	91	51*	106
7184571	89	48*	108
7184572	91	46*	110
7184574	91	53*	105
7184575	91	50*	103
7184576	83	45*	93
7184577	86	41*	103
7184578	91	52*	106
7184579	92	66	107
7184580	63	74	96
7184581	86	53*	97
7184582	93	90	104
Blank	90	93	103
LCS	87	86	101
MS	89	48*	108
MSD	91	46*	110

Limits: 44-137 62-141 51-136

*- 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.

ExxonMobil Analysis Request/Chain of Custody



Lancaster Laboratories
Environmental

Acct. # 14739

For Eurofins Lancaster Laboratories Environmental use only

Group # 1416143

Sample # 7184564-83

Instructions on reverse side correspond with circled numbers.

2 of 3

1 Client Information				4 Matrix			5 Analyses Requested							SCR#: _____		
Facility #/SID <u>MAYFLOWER PIPELINE INCIDENT</u>				Sediment <input type="checkbox"/>	Ground <input type="checkbox"/>	Surface <input checked="" type="checkbox"/>	Preservation Code							Preservation Codes H = HCl T = Thiosulfate N = HNO ₃ B = NaOH S = H ₂ SO ₄ O = Other		
Site Address <u>MAYFLOWER, AR</u>							Potable <input type="checkbox"/>	NPDES <input type="checkbox"/>	Air <input type="checkbox"/>	H	N	N				
ExxonMobil PM <u>SCOTT BUSHNICE</u>		Cost Center/AFE		Soil <input type="checkbox"/>	Water	Oil <input type="checkbox"/>	Total # of Containers	VOCs 8260B	PAH 8270 SIM	RCEA Metals+NI, V, Cr, Mg <i>Induct</i>	Dis. Metals	HEM O:1 & Fuel	6 Remarks			
Consultant/Office <u>ARCADIS</u>				Composite <input type="checkbox"/>	Oil <input type="checkbox"/>											
Consultant PM <u>STEVE BAERCK</u>		Consultant Phone # <u>919-302-6799</u>														
Sampler <u>HANS VAN ALBE / DATE 9/20/11</u>				3												
2		Collected		Grab	Composite											
Sample Identification		Date	Time													
<u>WS-003 (Surface) 090213</u>		<u>9.2.13</u>	<u>1210</u>	X		X	9	X	X	X	X	X				
<u>WS-007 (0.5-1.0) 090213</u>			<u>1220</u>	X		X	9	X	X	X	X	X				
<u>WS-001 (0.5-1.0) 090213</u>			<u>1230</u>	X		X	9	X	X	X	X	X				
<u>WS-EB-049-090213</u>			<u>1300</u>	X		X	7	X	X	X	X					
<u>DUP-WS-81-090213</u>			<u>—</u>	X		X	9	X	X	X	X	X				
<u>WS-014 (1.5-2.0) 090313</u>		<u>9.3.13</u>	<u>0825</u>	X		X	9	X	X	X	X	X				
<u>WS-014 (5.5-6.0) 090313</u>			<u>0835</u>	X		X	9	X	X	X	X	X				
<u>WS-012 (1.5-2.0) 090313</u>			<u>0850</u>	X		X	9	X	X	X	X	X				
<u>WS-012 (5.0-5.5) 090313</u>			<u>0900</u>	X		X	9	X	X	X	X	X				
<u>WS-010 (1.5-2.0) 090313</u>			<u>0915</u>	X		X	9	X	X	X	X	X				
<u>WS-010 (3.5-4.0) 090313</u>			<u>0925</u>	X		X	9	X	X	X	X	X				
<u>WS-006 (0.5-1.0) 090313</u>			<u>0935</u>	X		X	9	X	X	X	X	X				
7 Turnaround Time Requested (TAT) (please circle)				Relinquished by <u>H. Van Albe</u>		Date <u>9.3.13</u>	Time <u>1600</u>	Received by		Date	Time	9				
Standard <u>5 day</u> 4 day				Relinquished by		Date	Time	Received by		Date	Time					
72 hour 48 hour 24 hour				Relinquished by		Date	Time	Received by		Date	Time					
8 Data Package (circle if required)				Relinquished by Commercial Carrier		Received by		Date	Time							
Type I - Full		EDD (circle if required)		UPS <input checked="" type="checkbox"/> FedEx _____ Other _____		<u>C. Esler</u>		<u>9/4/13</u>	<u>0915</u>							
Type VI (Raw Data)		Locus EIM (default)		Temperature Upon Receipt <u>0.6-1.7 °C</u>		Custody Seals Intact?		<u>Yes</u>								
NJ Reduced		Other _____														
Other _____																

ExxonMobil Analysis Request/Chain of Custody



Lancaster Laboratories
Environmental

Acct. # 14739

For Eurofins Lancaster Laboratories Environmental use only

Group # 1416143 Sample # 7184564-83

Instructions on reverse side correspond with circled numbers.

3 of 3

1 Client Information				4 Matrix				5 Analyses Requested										6 Remarks					
Facility #/SID <u>Mayflower Pipeline Incident</u>				Sediment <input type="checkbox"/>	Ground <input type="checkbox"/>	Surface <input checked="" type="checkbox"/>	Total # of Containers	Preservation Code										Preservation Codes H = HCl T = Thiosulfate N = HNO ₃ B = NaOH S = H ₂ SO ₄ O = Other					
Site Address <u>Mayflower, AR</u>								Potable <input type="checkbox"/>	NPDES <input type="checkbox"/>	Air <input type="checkbox"/>	H		N		H								
ExxonMobil PM <u>Scott Bushroe</u>		Cost Center/AFE		Soil <input type="checkbox"/>	Water	Oil <input type="checkbox"/>	<u>VOCs B260 B</u>				<u>PAHs B270 SIM</u>	<u>PCB metals + Ni, V, Cr, Pb</u>	<u>Diss Metals</u>	<u>HEM Oil & Grease</u>									
Consultant/Office <u>Arcadis</u>																							
Consultant PM <u>Steve Barrick</u>		Consultant Phone # <u>919-302-6799</u>																					
Sampler <u>Hans Van Aller / Dave Drost</u>				3 Composite																			
2 Sample Identification			Collected		Grab	Composite	Soil	Water	Oil	Total # of Containers											Remarks		
Date	Time																						
<u>WS-006(0.5-1.0)090313 ms/msr</u>	<u>9/3/13</u>	<u>0935</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<u>10</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>ms/msd</u>
<u>WS-005(surface)090313</u>		<u>1030</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<u>9</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>WS-002(surface)090313</u>		<u>1105</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<u>9</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>WS-011(1.5-2.0)090313</u>		<u>1130</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<u>9</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>WS-011(5.0-5.5)090313</u>		<u>1140</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<u>9</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>WS-01B(surface)090313</u>		<u>1210</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<u>9</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>WS-003(surface)090313</u>		<u>1220</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<u>9</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>WS-007(0.5-1.0)090313</u>		<u>1230</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<u>9</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>WS-001(0.5-1.0)090313</u>		<u>1240</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<u>9</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>WS-EB-050-090313</u>		<u>1400</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<u>7</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>WS-TB-139-090313</u>		<u>—</u>	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<u>2</u>	<input checked="" type="checkbox"/>												

7 Turnaround Time Requested (TAT) (please circle)			Relinquished by <u>Wan Allen</u>		Date <u>9/3/13</u>	Time <u>1600</u>	Received by	Date	Time	9
Standard	<u>5 day</u>	4 day	Relinquished by		Date	Time	Received by	Date	Time	
72 hour	48 hour	24 hour	Relinquished by		Date	Time	Received by	Date	Time	
8 Data Package (circle if required)			Relinquished by Commercial Carrier		Received by		Date	Time		
Type I - Full	EDD (circle if required)		UPS <input checked="" type="checkbox"/>		FedEx	Other	<u>C. Asher</u>	<u>9/4/13</u>	<u>0915</u>	
Type VI (Raw Data)	Locus EIM (default)									
NJ Reduced	Other				Temperature Upon Receipt <u>0.6 - 1.7 °C</u>		Custody Seals Intact?		<u>Yes</u>	No
Other										

Environmental Sample Administration 1416143
Receipt Documentation Log

Client/Project: Mayflower Waters
Date of Receipt: 9/4/13
Time of Receipt: 0915
Source Code: 60-1

Shipping Container Sealed: YES NO
Custody Seal Present * : YES NO
* Custody seal was intact unless otherwise noted in the discrepancy section
Package: Chilled Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	DT146	1.4	TB	WI	Y	B	
2	↓	0.9	↓	↓	↓	↓	
3	↓	0.7	↓	↓	↓	↓	
4	↓	0.6	↓	↓	↓	↓	
5	↓	0.7	↓	↓	↓	↓	
6	↓	0.9	↓	↓	↓	↓	

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:
9/2 0925 WS-010 (1.5-2.0) 1 broken O+G jar

Unpacker Signature/Emp#: CEM 3647 Date/Time: 9/4/13 1050

Environmental Sample Administration
Receipt Documentation Log

1416143 2/2

Client/Project: Mayflower Waters
 Date of Receipt: 9/4/13
 Time of Receipt: 0915
 Source Code: 60-1

Shipping Container Sealed: YES NO

Custody Seal Present * : YES NO

* Custody seal was intact unless otherwise noted in the discrepancy section

Package: Chilled Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	DT146	1.3	TB	WI	Y	B	
2		1.3					
3		0.9					
4		1.0					
5		0.8					
6		1.7					

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#: C. E. 3647 Date/Time: 9/4/13 1050

Explanation of Symbols and Abbreviations

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

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm 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 per liter of gas.

ppb parts per billion

Dry weight basis 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. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is \geq the Method Detection Limit (MDL) and $<$ the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

- A** TIC is a possible aldol-condensation product
- B** Analyte was also detected in the blank
- C** Pesticide result confirmed by GC/MS
- D** Compound quantitated on a diluted sample
- E** Concentration exceeds the calibration range of the instrument
- N** Presumptive evidence of a compound (TICs only)
- P** Concentration difference between primary and confirmation columns $>25\%$
- U** Compound was not detected
- X,Y,Z** Defined in case narrative

Inorganic Qualifiers

- B** Value is $<$ CRDL, but \geq IDL
- E** Estimated due to interference
- M** Duplicate injection precision not met
- N** Spike sample not within control limits
- S** Method of standard additions (MSA) used for calculation
- U** Compound was not detected
- W** Post digestion spike out of control limits
- *** Duplicate analysis not within control limits
- +** Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

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.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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