

ANALYTICAL RESULTS

Prepared by:

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2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

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

September 20, 2013

Project: Mayflower, AR Pipeline Incident

Submittal Date: 09/13/2013

Group Number: 1418628

SDG: PEL45

PO Number: B0086003.1301

State of Sample Origin: AR

Client Sample Description

Lancaster Labs (LL) #

WS-014(1.5-2.0)091213 Grab Surface Water	7196373
WS-014(5.5-6.0)091213 Grab Surface Water	7196374
WS-012(1.5-2.0)091213 Grab Surface Water	7196375
WS-012(5.0-5.5)091213 Grab Surface Water	7196376
WS-010(1.5-2.0)091213 Grab Surface Water	7196377
WS-010(3.5-4.0)091213 Grab Surface Water	7196378
WS-006(0.5-1.0)091213 Grab Surface Water	7196379
WS-005(Surface)091213 Grab Surface Water	7196380
WS-002(Surface)091213 Grab Surface Water	7196381
WS-011(1.5-2.0)091213 Grab Surface Water	7196382
WS-011(5.0-5.5)091213 Grab Surface Water	7196383
WS-018(Surface)091213 Grab Surface Water	7196384
WS-003(Surface)091213 Grab Surface Water	7196385
WS-007(0.5-1.0)091213 Grab Surface Water	7196386
WS-001(0.5-1.0)091213 Grab Surface Water	7196387
WS-EB-58-091213 Grab Water	7196388
DUP-WS-86-091213 Grab Surface Water	7196389
WS-TB-148-091213 Water	7196390

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

ELECTRONIC ARCADIS

Attn: Stephen Barrick

COPY TO

ELECTRONIC ARCADIS

Attn: Lyndi Mott

COPY TO

ELECTRONIC ExxonMobil

Attn: Michael J. Firth

COPY TO

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 #: 1418628

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 not 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 8260B 25mL purge, GC/MS Volatiles**

Batch #: C132562AA (Sample number(s): 7196373-7196380, 7196382 UNSPK: P194923)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: cis-1,2-Dichloroethene, Styrene, 1,2,3-Trichloropropane, 1,2-Dichlorobenzene

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

SW-846 8270C SIM, GC/MS Semivolatiles

Batch #: 13257WAC026 (Sample number(s): 7196373-7196389)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 7196377, 7196379, 7196382, 7196383, 7196385, 7196387, 7196389

Sample #s: 7196373, 7196374, 7196375, 7196376, 7196378, 7196380, 7196381, 7196384, 7196386, 7196388

The laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.

Sample #s: 7196377, 7196379, 7196382, 7196383, 7196385, 7196387, 7196389

The laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.

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 #: 132561848004 (Sample number(s): 7196373-7196389 UNSPK: 7196379 BKG: 7196379)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Arsenic

EPA 1664A, Wet Chemistry

Batch #: 13262807902A (Sample number(s): 7196373-7196387, 7196389 UNSPK: 7196373)

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

Sample Description: **WS-014(1.5-2.0)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196373**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013 08:50 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12141 SDG#: PEL45-01

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)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196373**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013 08:50 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12141 SDG#: PEL45-01

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.	0.011	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 laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.

Metals	SM 2340 B-1997	mg/l	mg/l	mg/l		
06256	Total Hardness as CaCO3	471-34-1	31.0	0.033	0.20	1
	SW-846 6010B	mg/l	mg/l	mg/l		
07035	Arsenic	7440-38-2	0.0088 J	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0389	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1

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

Sample Description: WS-014(1.5-2.0)091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196373
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/12/2013 08:50 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12141 SDG#: PEL45-01

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	
01750	Calcium	7440-70-2	7.19	0.0334	0.200	1
07051	Chromium	7440-47-3	0.0018 J	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						
	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	C132562AA	09/13/2013 20:23	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132562AA	09/13/2013 20:23	Kerri E Legerlotz	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13257WAC026	09/19/2013 15:58	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13257WAC026	09/15/2013 18:45	Elaine F Stoltzfus	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132606256001	09/17/2013 05:19	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132561848004	09/16/2013 21:24	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132561848004	09/16/2013 21:24	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132561848004	09/16/2013 21:24	John W Yanzuk II	1
01750	Calcium	SW-846 6010B	1	132561848004	09/16/2013 21:24	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132561848004	09/16/2013 21:24	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132561848004	09/16/2013 21:24	John W Yanzuk II	1
01757	Magnesium	SW-846 6010B	1	132561848004	09/16/2013 21:24	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132561848004	09/16/2013 21:24	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132561848004	09/16/2013 21:24	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132561848004	09/16/2013 21:24	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132561848004	09/16/2013 21:24	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132565713009	09/16/2013 05:13	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132561848004	09/15/2013 09:40	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132565713009	09/14/2013 06:25	Damary Valentin	1
08079	HEM (oil & grease)	EPA 1664A	1	13262807902A	09/19/2013 07:01	Yolunder Y Bunch	1

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

Sample Description: **WS-014(5.5-6.0)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196374**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013 09:00 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12142 SDG#: PEL45-02

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)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196374**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013 09:00 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12142 SDG#: PEL45-02

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	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	0.055	1
08357	Acenaphthylene	208-96-8	N.D.	0.011	0.055	1
08357	Anthracene	120-12-7	N.D.	0.011	0.055	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.011	0.055	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.011	0.055	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.011	0.055	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.011	0.055	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.011	0.055	1
08357	Chrysene	218-01-9	N.D.	0.011	0.055	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.011	0.055	1
08357	Fluoranthene	206-44-0	N.D.	0.011	0.055	1
08357	Fluorene	86-73-7	N.D.	0.011	0.055	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.011	0.055	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.011	0.055	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.011	0.055	1
08357	Naphthalene	91-20-3	N.D.	0.033	0.055	1
08357	Phenanthrene	85-01-8	N.D.	0.033	0.055	1
08357	Pyrene	129-00-0	N.D.	0.011	0.055	1

The laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.

Metals	SM 2340 B-1997	mg/l	mg/l	mg/l		
06256	Total Hardness as CaCO3	471-34-1	30.3	0.033	0.20	1
	SW-846 6010B	mg/l	mg/l	mg/l		
07035	Arsenic	7440-38-2	0.0071 J	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0400	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1

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

Sample Description: WS-014(5.5-6.0)091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196374
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/12/2013 09:00 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12142 SDG#: PEL45-02

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	
01750	Calcium	7440-70-2	7.03	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.	2.0 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	C132562AA	09/13/2013 20:46	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132562AA	09/13/2013 20:46	Kerri E Legerlotz	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13257WAC026	09/19/2013 16:25	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13257WAC026	09/15/2013 18:45	Elaine F Stoltzfus	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132606256001	09/17/2013 05:19	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132561848004	09/16/2013 21:28	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132561848004	09/16/2013 21:28	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132561848004	09/16/2013 21:28	John W Yanzuk II	1
01750	Calcium	SW-846 6010B	1	132561848004	09/16/2013 21:28	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132561848004	09/16/2013 21:28	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132561848004	09/16/2013 21:28	John W Yanzuk II	1
01757	Magnesium	SW-846 6010B	1	132561848004	09/16/2013 21:28	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132561848004	09/16/2013 21:28	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132561848004	09/16/2013 21:28	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132561848004	09/16/2013 21:28	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132561848004	09/16/2013 21:28	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132565713009	09/16/2013 05:21	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132561848004	09/15/2013 09:40	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132565713009	09/14/2013 06:25	Damary Valentin	1
08079	HEM (oil & grease)	EPA 1664A	1	13262807902A	09/19/2013 07:01	Yolunder Y Bunch	1

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

Sample Description: **WS-012(1.5-2.0)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196375**
 LL Group # **1418628**
 Account # **14739**

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

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

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12121 SDG#: PEL45-03

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)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196375**
 LL Group # **1418628**
 Account # **14739**

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

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

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12121 SDG#: PEL45-03

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.	0.010	0.050	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.050	1
08357	Anthracene	120-12-7	N.D.	0.010	0.050	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.050	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.050	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.050	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.050	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.050	1
08357	Chrysene	218-01-9	N.D.	0.010	0.050	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.050	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.050	1
08357	Fluorene	86-73-7	N.D.	0.010	0.050	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.050	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.050	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.050	1
08357	Naphthalene	91-20-3	N.D.	0.030	0.050	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.050	1
08357	Pyrene	129-00-0	N.D.	0.010	0.050	1

The laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.

Metals	SM 2340 B-1997	mg/l	mg/l	mg/l		
06256	Total Hardness as CaCO3	471-34-1	31.6	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	0.0813	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1

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

Sample Description: **WS-012(1.5-2.0)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196375**
 LL Group # **1418628**
 Account # **14739**

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

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

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12121 SDG#: PEL45-03

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	
01750	Calcium	7440-70-2	7.37	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	3.21	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	C132562AA	09/13/2013 21:08	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132562AA	09/13/2013 21:08	Kerri E Legerlotz	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13257WAC026	09/19/2013 16:52	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13257WAC026	09/15/2013 18:45	Elaine F Stoltzfus	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132606256001	09/17/2013 05:19	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132561848004	09/16/2013 21:40	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132561848004	09/16/2013 21:40	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132561848004	09/16/2013 21:40	John W Yanzuk II	1
01750	Calcium	SW-846 6010B	1	132561848004	09/16/2013 21:40	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132561848004	09/16/2013 21:40	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132561848004	09/16/2013 21:40	John W Yanzuk II	1
01757	Magnesium	SW-846 6010B	1	132561848004	09/16/2013 21:40	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132561848004	09/16/2013 21:40	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132561848004	09/16/2013 21:40	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132561848004	09/16/2013 21:40	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132561848004	09/16/2013 21:40	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132565713009	09/16/2013 05:23	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132561848004	09/15/2013 09:40	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132565713009	09/14/2013 06:25	Damary Valentin	1
08079	HEM (oil & grease)	EPA 1664A	1	13262807902A	09/19/2013 07:01	Yolunder Y Bunch	1

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

Sample Description: **WS-012(5.0-5.5)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196376**
 LL Group # **1418628**
 Account # **14739**

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

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

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12122 SDG#: PEL45-04

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)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196376**
 LL Group # **1418628**
 Account # **14739**

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

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

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12122 SDG#: PEL45-04

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	0.055	1
08357	Acenaphthylene	208-96-8	N.D.	0.011	0.055	1
08357	Anthracene	120-12-7	N.D.	0.011	0.055	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.011	0.055	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.011	0.055	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.011	0.055	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.011	0.055	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.011	0.055	1
08357	Chrysene	218-01-9	N.D.	0.011	0.055	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.011	0.055	1
08357	Fluoranthene	206-44-0	N.D.	0.011	0.055	1
08357	Fluorene	86-73-7	N.D.	0.011	0.055	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.011	0.055	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.011	0.055	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.011	0.055	1
08357	Naphthalene	91-20-3	N.D.	0.033	0.055	1
08357	Phenanthrene	85-01-8	N.D.	0.033	0.055	1
08357	Pyrene	129-00-0	N.D.	0.011	0.055	1

The laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.

Metals	SM 2340 B-1997	mg/l	mg/l	mg/l		
06256	Total Hardness as CaCO3	471-34-1	31.1	0.033	0.20	1
	SW-846 6010B	mg/l	mg/l	mg/l		
07035	Arsenic	7440-38-2	0.0086 J	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0813	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1

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

Sample Description: WS-012(5.0-5.5)091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196376
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

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

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12122 SDG#: PEL45-04

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	
01750	Calcium	7440-70-2	7.26	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	3.15	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.	2.1 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	C132562AA	09/13/2013 21:31	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132562AA	09/13/2013 21:31	Kerri E Legerlotz	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13257WAC026	09/19/2013 17:19	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13257WAC026	09/15/2013 18:45	Elaine F Stoltzfus	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132606256001	09/17/2013 05:19	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132561848004	09/16/2013 21:44	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132561848004	09/16/2013 21:44	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132561848004	09/16/2013 21:44	John W Yanzuk II	1
01750	Calcium	SW-846 6010B	1	132561848004	09/16/2013 21:44	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132561848004	09/16/2013 21:44	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132561848004	09/16/2013 21:44	John W Yanzuk II	1
01757	Magnesium	SW-846 6010B	1	132561848004	09/16/2013 21:44	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132561848004	09/16/2013 21:44	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132561848004	09/16/2013 21:44	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132561848004	09/16/2013 21:44	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132561848004	09/16/2013 21:44	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132565713009	09/16/2013 05:25	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132561848004	09/15/2013 09:40	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132565713009	09/14/2013 06:25	Damary Valentin	1
08079	HEM (oil & grease)	EPA 1664A	1	13262807902A	09/19/2013 07:01	Yolunder Y Bunch	1

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

Sample Description: **WS-010(1.5-2.0)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196377**
 LL Group # **1418628**
 Account # **14739**

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

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

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12101 SDG#: PEL45-05

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)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196377**
 LL Group # **1418628**
 Account # **14739**

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

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

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12101 SDG#: PEL45-05

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.	0.011	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 laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.

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	30.5	0.033	0.20	1

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

Sample Description: WS-010(1.5-2.0)091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196377
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

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

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12101 SDG#: PEL45-05

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	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0636	0.00033	0.0050	1
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	0.0016 J	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	0.0015 J	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	C132562AA	09/13/2013 21:54	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132562AA	09/13/2013 21:54	Kerri E Legerlotz	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13257WAC026	09/19/2013 17:46	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13257WAC026	09/15/2013 18:45	Elaine F Stoltzfus	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132606256001	09/17/2013 05:19	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132561848004	09/16/2013 21:48	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132561848004	09/16/2013 21:48	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132561848004	09/16/2013 21:48	John W Yanzuk II	1
01750	Calcium	SW-846 6010B	1	132561848004	09/16/2013 21:48	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132561848004	09/16/2013 21:48	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132561848004	09/16/2013 21:48	John W Yanzuk II	1
01757	Magnesium	SW-846 6010B	1	132561848004	09/16/2013 21:48	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132561848004	09/16/2013 21:48	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132561848004	09/16/2013 21:48	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132561848004	09/16/2013 21:48	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132561848004	09/16/2013 21:48	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132565713009	09/16/2013 05:31	Damary Valentin	1

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

Sample Description: WS-010(1.5-2.0)091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196377
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

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

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12101 SDG#: PEL45-05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132561848004	09/15/2013 09:40	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132565713009	09/14/2013 06:25	Damary Valentin	1
08079	HEM (oil & grease)	EPA 1664A	1	13262807902A	09/19/2013 07:01	Yolunder Y Bunch	1

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

Sample Description: **WS-010(3.5-4.0)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196378**
 LL Group # **1418628**
 Account # **14739**

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

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

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12102 SDG#: PEL45-06

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)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196378**
 LL Group # **1418628**
 Account # **14739**

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

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

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12102 SDG#: PEL45-06

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	0.055	1
08357	Acenaphthylene	208-96-8	N.D.	0.011	0.055	1
08357	Anthracene	120-12-7	N.D.	0.011	0.055	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.011	0.055	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.011	0.055	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.011	0.055	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.011	0.055	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.011	0.055	1
08357	Chrysene	218-01-9	N.D.	0.011	0.055	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.011	0.055	1
08357	Fluoranthene	206-44-0	N.D.	0.011	0.055	1
08357	Fluorene	86-73-7	N.D.	0.011	0.055	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.011	0.055	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.011	0.055	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.011	0.055	1
08357	Naphthalene	91-20-3	N.D.	0.033	0.055	1
08357	Phenanthrene	85-01-8	N.D.	0.033	0.055	1
08357	Pyrene	129-00-0	N.D.	0.011	0.055	1

The laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.

Metals	SM 2340 B-1997	mg/l	mg/l	mg/l		
06256	Total Hardness as CaCO3	471-34-1	30.9	0.033	0.20	1
	SW-846 6010B	mg/l	mg/l	mg/l		
07035	Arsenic	7440-38-2	0.0091 J	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0913	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1

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

Sample Description: WS-010(3.5-4.0)091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196378
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

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

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12102 SDG#: PEL45-06

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	
01750	Calcium	7440-70-2	7.19	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	3.14	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						
	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	C132562AA	09/13/2013 22:16	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132562AA	09/13/2013 22:16	Kerri E Legerlotz	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13257WAC026	09/19/2013 18:14	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13257WAC026	09/15/2013 18:45	Elaine F Stoltzfus	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132606256001	09/17/2013 05:19	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132561848004	09/16/2013 21:52	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132561848004	09/16/2013 21:52	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132561848004	09/16/2013 21:52	John W Yanzuk II	1
01750	Calcium	SW-846 6010B	1	132561848004	09/16/2013 21:52	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132561848004	09/16/2013 21:52	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132561848004	09/16/2013 21:52	John W Yanzuk II	1
01757	Magnesium	SW-846 6010B	1	132561848004	09/16/2013 21:52	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132561848004	09/16/2013 21:52	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132561848004	09/16/2013 21:52	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132561848004	09/16/2013 21:52	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132561848004	09/16/2013 21:52	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132565713009	09/16/2013 05:33	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132561848004	09/15/2013 09:40	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132565713009	09/14/2013 06:25	Damary Valentin	1
08079	HEM (oil & grease)	EPA 1664A	1	13262807902A	09/19/2013 07:01	Yolunder Y Bunch	1

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

Sample Description: **WS-006(0.5-1.0)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196379**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013 09:50 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12006 SDG#: PEL45-07

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)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196379**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013 09:50 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12006 SDG#: PEL45-07

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 laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.

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

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

Sample Description: **WS-006(0.5-1.0)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196379**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013 09:50 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12006 SDG#: PEL45-07

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	
07035	Arsenic	7440-38-2	0.0072 J	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0534	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
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	N.D.	0.000060	0.00020	1
Wet Chemistry						
		EPA 1664A	mg/l	mg/l	mg/l	
08079	HEM (oil & grease)	n.a.	2.6 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	C132562AA	09/13/2013 22:39	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132562AA	09/13/2013 22:39	Kerri E Legerlotz	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13257WAC026	09/19/2013 18:41	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13257WAC026	09/15/2013 18:45	Elaine F Stoltzfus	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132606256001	09/17/2013 05:19	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132561848004	09/16/2013 21:00	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132561848004	09/16/2013 21:00	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132561848004	09/16/2013 21:00	John W Yanzuk II	1
01750	Calcium	SW-846 6010B	1	132561848004	09/16/2013 21:00	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132561848004	09/16/2013 21:00	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132561848004	09/16/2013 21:00	John W Yanzuk II	1
01757	Magnesium	SW-846 6010B	1	132561848004	09/16/2013 21:00	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132561848004	09/16/2013 21:00	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132561848004	09/16/2013 21:00	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132561848004	09/16/2013 21:00	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132561848004	09/16/2013 21:00	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132565713009	09/16/2013 05:36	Damary Valentin	1

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

Sample Description: WS-006(0.5-1.0)091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196379
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/12/2013 09:50 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12006 SDG#: PEL45-07

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132561848004	09/15/2013 09:40	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132565713009	09/14/2013 06:25	Damary Valentin	1
08079	HEM (oil & grease)	EPA 1664A	1	13262807902A	09/19/2013 07:01	Yolunder Y Bunch	1

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

Sample Description: **WS-005 (Surface) 091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196380**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013 10:20 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12005 SDG#: PEL45-08

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) 091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196380**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013 10:20 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12005 SDG#: PEL45-08

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.	0.030	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 laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.

Metals	SM 2340 B-1997	mg/l	mg/l	mg/l		
06256	Total Hardness as CaCO3	471-34-1	30.8	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	0.0454	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1

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

Sample Description: WS-005 (Surface) 091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196380
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/12/2013 10:20 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12005 SDG#: PEL45-08

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	
01750	Calcium	7440-70-2	7.29	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	0.0030 J	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	C132562AA	09/13/2013 23:01	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132562AA	09/13/2013 23:01	Kerri E Legerlotz	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13257WAC026	09/19/2013 19:08	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13257WAC026	09/15/2013 18:45	Elaine F Stoltzfus	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132606256001	09/17/2013 05:19	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132561848004	09/16/2013 21:56	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132561848004	09/16/2013 21:56	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132561848004	09/16/2013 21:56	John W Yanzuk II	1
01750	Calcium	SW-846 6010B	1	132561848004	09/16/2013 21:56	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132561848004	09/16/2013 21:56	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132561848004	09/16/2013 21:56	John W Yanzuk II	1
01757	Magnesium	SW-846 6010B	1	132561848004	09/16/2013 21:56	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132561848004	09/16/2013 21:56	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132561848004	09/16/2013 21:56	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132561848004	09/16/2013 21:56	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132561848004	09/16/2013 21:56	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132565713009	09/16/2013 05:38	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132561848004	09/15/2013 09:40	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132565713009	09/14/2013 06:25	Damary Valentin	1
08079	HEM (oil & grease)	EPA 1664A	1	13262807902A	09/19/2013 07:01	Yolunder Y Bunch	1

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

Sample Description: **WS-002 (Surface) 091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196381**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013 10:40 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12002 SDG#: PEL45-09

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	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-002 (Surface) 091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196381**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013 10:40 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12002 SDG#: PEL45-09

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	0.031 J	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 laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.

Metals	SM 2340 B-1997	mg/l	mg/l	mg/l		
06256	Total Hardness as CaCO3	471-34-1	33.1	0.033	0.20	1
	SW-846 6010B	mg/l	mg/l	mg/l		
07035	Arsenic	7440-38-2	0.0080 J	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0456	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1

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

Sample Description: WS-002 (Surface) 091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196381
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/12/2013 10:40 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12002 SDG#: PEL45-09

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	
01750	Calcium	7440-70-2	7.78	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	3.31	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.	2.0 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	C132571AA	09/14/2013 04:45	Stephanie A Selis	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132571AA	09/14/2013 04:45	Stephanie A Selis	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13257WAC026	09/19/2013 19:35	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13257WAC026	09/15/2013 18:45	Elaine F Stoltzfus	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132606256001	09/17/2013 05:19	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132561848004	09/16/2013 22:00	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132561848004	09/16/2013 22:00	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132561848004	09/16/2013 22:00	John W Yanzuk II	1
01750	Calcium	SW-846 6010B	1	132561848004	09/16/2013 22:00	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132561848004	09/16/2013 22:00	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132561848004	09/16/2013 22:00	John W Yanzuk II	1
01757	Magnesium	SW-846 6010B	1	132561848004	09/16/2013 22:00	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132561848004	09/16/2013 22:00	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132561848004	09/16/2013 22:00	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132561848004	09/16/2013 22:00	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132561848004	09/16/2013 22:00	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132565713009	09/16/2013 05:40	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132561848004	09/15/2013 09:40	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132565713009	09/14/2013 06:25	Damary Valentin	1
08079	HEM (oil & grease)	EPA 1664A	1	13262807902A	09/19/2013 07:01	Yolunder Y Bunch	1

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

Sample Description: **WS-011(1.5-2.0)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196382**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013 11:00 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12111 SDG#: PEL45-10

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	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(1.5-2.0)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196382**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013 11:00 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12111 SDG#: PEL45-10

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	0.051	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 laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.

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	32.6	0.033	0.20	1

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

Sample Description: WS-011(1.5-2.0)091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196382
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/12/2013 11:00 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12111 SDG#: PEL45-10

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	
07035	Arsenic	7440-38-2	0.0103 J	0.0068	0.0200	1
07046	Barium	7440-39-3	0.107	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	7.54	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	3.35	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	C132562AA	09/13/2013 15:52	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132562AA	09/13/2013 15:52	Kerri E Legerlotz	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	132561848006	09/19/2013 20:02	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13257WAC026	09/15/2013 18:45	Elaine F Stoltzfus	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132606256001	09/17/2013 05:19	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132561848004	09/16/2013 22:04	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132561848004	09/16/2013 22:04	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132561848004	09/16/2013 22:04	John W Yanzuk II	1
01750	Calcium	SW-846 6010B	1	132561848004	09/16/2013 22:04	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132561848004	09/16/2013 22:04	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132561848004	09/16/2013 22:04	John W Yanzuk II	1
01757	Magnesium	SW-846 6010B	1	132561848004	09/16/2013 22:04	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132561848004	09/16/2013 22:04	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132561848004	09/16/2013 22:04	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132561848004	09/16/2013 22:04	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132561848004	09/16/2013 22:04	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132565713009	09/16/2013 05:42	Damary Valentin	1

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

Sample Description: WS-011(1.5-2.0)091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196382
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/12/2013 11:00 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12111 SDG#: PEL45-10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132561848004	09/15/2013 09:40	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132565713009	09/14/2013 06:25	Damary Valentin	1
08079	HEM (oil & grease)	EPA 1664A	1	13262807902A	09/19/2013 07:01	Yolunder Y Bunch	1

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

Sample Description: WS-011(5.0-5.5)091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196383
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/12/2013 11:10 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12112 SDG#: PEL45-11

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)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196383**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013 11:10 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12112 SDG#: PEL45-11

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.	0.011	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	0.034 J	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 laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.

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	32.7	0.033	0.20	1

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

Sample Description: WS-011(5.0-5.5)091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196383
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/12/2013 11:10 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12112 SDG#: PEL45-11

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	
07035	Arsenic	7440-38-2	0.0122 J	0.0068	0.0200	1
07046	Barium	7440-39-3	0.115	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	7.55	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	3.37	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	C132571AA	09/14/2013 07:14	Stephanie A Selis	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132571AA	09/14/2013 07:14	Stephanie A Selis	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	132561848006	09/19/2013 20:29	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13257WAC026	09/15/2013 18:45	Elaine F Stoltzfus	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132606256001	09/17/2013 05:19	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132561848004	09/16/2013 22:08	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132561848004	09/16/2013 22:08	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132561848004	09/16/2013 22:08	John W Yanzuk II	1
01750	Calcium	SW-846 6010B	1	132561848004	09/16/2013 22:08	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132561848004	09/16/2013 22:08	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132561848004	09/16/2013 22:08	John W Yanzuk II	1
01757	Magnesium	SW-846 6010B	1	132561848004	09/16/2013 22:08	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132561848004	09/16/2013 22:08	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132561848004	09/16/2013 22:08	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132561848004	09/16/2013 22:08	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132561848004	09/16/2013 22:08	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132565713009	09/16/2013 05:44	Damary Valentin	1

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

Sample Description: WS-011(5.0-5.5)091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196383
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/12/2013 11:10 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12112 SDG#: PEL45-11

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132561848004	09/15/2013 09:40	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132565713009	09/14/2013 06:25	Damary Valentin	1
08079	HEM (oil & grease)	EPA 1664A	1	13262807902A	09/19/2013 07:01	Yolunder Y Bunch	1

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

Sample Description: WS-018 (Surface) 091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196384
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/12/2013 11:40 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12018 SDG#: PEL45-12

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	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-018 (Surface) 091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196384**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013 11:40 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12018 SDG#: PEL45-12

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.	0.011	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	0.036 J	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 laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.

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	0.0617	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1

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

Sample Description: WS-018 (Surface) 091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196384
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/12/2013 11:40 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12018 SDG#: PEL45-12

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	
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	3.17	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	C132571AA	09/14/2013 07:36	Stephanie A Selis	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132571AA	09/14/2013 07:36	Stephanie A Selis	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13257WAC026	09/19/2013 20:56	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13257WAC026	09/15/2013 18:45	Elaine F Stoltzfus	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132606256001	09/17/2013 05:19	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132561848004	09/16/2013 22:12	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132561848004	09/16/2013 22:12	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132561848004	09/16/2013 22:12	John W Yanzuk II	1
01750	Calcium	SW-846 6010B	1	132561848004	09/16/2013 22:12	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132561848004	09/16/2013 22:12	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132561848004	09/16/2013 22:12	John W Yanzuk II	1
01757	Magnesium	SW-846 6010B	1	132561848004	09/16/2013 22:12	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132561848004	09/16/2013 22:12	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132561848004	09/16/2013 22:12	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132561848004	09/16/2013 22:12	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132561848004	09/16/2013 22:12	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132565713009	09/16/2013 05:46	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132561848004	09/15/2013 09:40	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132565713009	09/14/2013 06:25	Damary Valentin	1
08079	HEM (oil & grease)	EPA 1664A	1	13262807902A	09/19/2013 07:01	Yolunder Y Bunch	1

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

Sample Description: WS-003 (Surface) 091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196385
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/12/2013 12:00 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12003 SDG#: PEL45-13

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	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-003 (Surface) 091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196385**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013 12:00 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12003 SDG#: PEL45-13

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	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.	0.010	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 laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.

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	32.3	0.033	0.20	1

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

Sample Description: **WS-003 (Surface) 091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196385**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013 12:00 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12003 SDG#: PEL45-13

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	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0276	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	7.50	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	3.30	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	C132571AA	09/14/2013 07:59	Stephanie A Selis	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132571AA	09/14/2013 07:59	Stephanie A Selis	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	132561848006	09/19/2013 21:23	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13257WAC026	09/15/2013 18:45	Elaine F Stoltzfus	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132606256001	09/17/2013 05:19	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132561848004	09/16/2013 22:16	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132561848004	09/16/2013 22:16	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132561848004	09/16/2013 22:16	John W Yanzuk II	1
01750	Calcium	SW-846 6010B	1	132561848004	09/16/2013 22:16	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132561848004	09/16/2013 22:16	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132561848004	09/16/2013 22:16	John W Yanzuk II	1
01757	Magnesium	SW-846 6010B	1	132561848004	09/16/2013 22:16	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132561848004	09/16/2013 22:16	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132561848004	09/16/2013 22:16	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132561848004	09/16/2013 22:16	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132561848004	09/16/2013 22:16	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132565713009	09/16/2013 05:48	Damary Valentin	1

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

Sample Description: WS-003 (Surface) 091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196385
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/12/2013 12:00 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12003 SDG#: PEL45-13

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132561848004	09/15/2013 09:40	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132565713009	09/14/2013 06:25	Damary Valentin	1
08079	HEM (oil & grease)	EPA 1664A	1	13262807902A	09/19/2013 07:01	Yolunder Y Bunch	1

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

Sample Description: **WS-007(0.5-1.0)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196386**
 LL Group # **1418628**
 Account # **14739**

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

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

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12007 SDG#: PEL45-14

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	6.0	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)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196386**
 LL Group # **1418628**
 Account # **14739**

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

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

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12007 SDG#: PEL45-14

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	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	0.042 J	0.010	0.051	1
08357	Acenaphthylene	208-96-8	0.028 J	0.010	0.051	1
08357	Anthracene	120-12-7	0.026 J	0.010	0.051	1
08357	Benzo(a)anthracene	56-55-3	0.051	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	0.054	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	0.17	0.010	0.051	1
08357	Benzo(g,h,i)perylene	191-24-2	0.053	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	0.059	0.010	0.051	1
08357	Chrysene	218-01-9	0.077	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	0.014 J	0.010	0.051	1
08357	Fluoranthene	206-44-0	0.14	0.010	0.051	1
08357	Fluorene	86-73-7	0.029 J	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	0.067	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	0.011 J	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.051	1
08357	Naphthalene	91-20-3	0.11	0.030	0.051	1
08357	Phenanthrene	85-01-8	0.063	0.030	0.051	1
08357	Pyrene	129-00-0	0.17	0.010	0.051	1

The laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.

Metals	SM 2340 B-1997	mg/l	mg/l	mg/l		
06256	Total Hardness as CaCO3	471-34-1	20.8	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	0.0682	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1

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

Sample Description: WS-007(0.5-1.0)091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196386
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

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

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12007 SDG#: PEL45-14

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	
01750	Calcium	7440-70-2	4.82	0.0334	0.200	1
07051	Chromium	7440-47-3	0.0029 J	0.0016	0.0150	1
07055	Lead	7439-92-1	0.0066 J	0.0047	0.0150	1
01757	Magnesium	7439-95-4	2.14	0.0167	0.100	1
07061	Nickel	7440-02-0	0.0043 J	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	0.0042 J	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	C132571AA	09/14/2013 08:20	Stephanie A Selis	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132571AA	09/14/2013 08:20	Stephanie A Selis	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13257WAC026	09/19/2013 21:50	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13257WAC026	09/15/2013 18:45	Elaine F Stoltzfus	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132606256001	09/17/2013 05:19	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132561848004	09/16/2013 22:28	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132561848004	09/16/2013 22:28	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132561848004	09/16/2013 22:28	John W Yanzuk II	1
01750	Calcium	SW-846 6010B	1	132561848004	09/16/2013 22:28	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132561848004	09/16/2013 22:28	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132561848004	09/16/2013 22:28	John W Yanzuk II	1
01757	Magnesium	SW-846 6010B	1	132561848004	09/16/2013 22:28	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132561848004	09/16/2013 22:28	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132561848004	09/16/2013 22:28	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132561848004	09/16/2013 22:28	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132561848004	09/16/2013 22:28	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132565713009	09/16/2013 05:50	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132561848004	09/15/2013 09:40	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132565713009	09/14/2013 06:25	Damary Valentin	1
08079	HEM (oil & grease)	EPA 1664A	1	13262807902A	09/19/2013 07:01	Yolunder Y Bunch	1

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

Sample Description: **WS-001(0.5-1.0)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196387**
 LL Group # **1418628**
 Account # **14739**

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

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

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12001 SDG#: PEL45-15

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	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-001(0.5-1.0)091213 Grab Surface Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196387**
 LL Group # **1418628**
 Account # **14739**

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

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

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12001 SDG#: PEL45-15

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	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	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 laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.

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	30.9	0.033	0.20	1

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

Sample Description: WS-001(0.5-1.0)091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196387
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

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

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12001 SDG#: PEL45-15

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	
07035	Arsenic	7440-38-2	0.0079 J	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0364	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	7.15	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.	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	C132571AA	09/14/2013 08:43	Stephanie A Selis	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132571AA	09/14/2013 08:43	Stephanie A Selis	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	132561848006	09/20/2013 01:05	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13257WAC026	09/15/2013 18:45	Elaine F Stoltzfus	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132606256001	09/17/2013 05:19	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132561848004	09/16/2013 22:32	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132561848004	09/16/2013 22:32	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132561848004	09/16/2013 22:32	John W Yanzuk II	1
01750	Calcium	SW-846 6010B	1	132561848004	09/16/2013 22:32	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132561848004	09/16/2013 22:32	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132561848004	09/16/2013 22:32	John W Yanzuk II	1
01757	Magnesium	SW-846 6010B	1	132561848004	09/16/2013 22:32	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132561848004	09/16/2013 22:32	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132561848004	09/16/2013 22:32	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132561848004	09/16/2013 22:32	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132561848004	09/16/2013 22:32	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132565713009	09/16/2013 05:56	Damary Valentin	1

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

Sample Description: WS-001(0.5-1.0)091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196387
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

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

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12001 SDG#: PEL45-15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132561848004	09/15/2013 09:40	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132565713009	09/14/2013 06:25	Damary Valentin	1
08079	HEM (oil & grease)	EPA 1664A	1	13262807902A	09/19/2013 07:01	Yolunder Y Bunch	1

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

Sample Description: **WS-EB-58-091213 Grab Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196388**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013 13:00 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12E58 SDG#: PEL45-16EB

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-58-091213 Grab Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196388**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013 13:00 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12E58 SDG#: PEL45-16EB

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	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	0.17	0.033	0.054	1
08357	Phenanthrene	85-01-8	N.D.	0.033	0.054	1
08357	Pyrene	129-00-0	N.D.	0.011	0.054	1

The laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.

Metals	SM 2340 B-1997	mg/l	mg/l	mg/l		
06256	Total Hardness as CaCO3	471-34-1	0.97	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	0.0021 J	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1

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

Sample Description: **WS-EB-58-091213 Grab Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196388**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013 13:00 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12E58 SDG#: PEL45-16EB

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	
01750	Calcium	7440-70-2	0.289	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	0.0608 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	N.D.	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	C132571AA	09/14/2013 09:05	Stephanie A Selis	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132571AA	09/14/2013 09:05	Stephanie A Selis	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13257WAC026	09/20/2013 01:33	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13257WAC026	09/15/2013 18:45	Elaine F Stoltzfus	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132606256001	09/17/2013 05:19	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132561848004	09/16/2013 22:36	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132561848004	09/16/2013 22:36	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132561848004	09/16/2013 22:36	John W Yanzuk II	1
01750	Calcium	SW-846 6010B	1	132561848004	09/16/2013 22:36	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132561848004	09/16/2013 22:36	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132561848004	09/16/2013 22:36	John W Yanzuk II	1
01757	Magnesium	SW-846 6010B	1	132561848004	09/16/2013 22:36	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132561848004	09/16/2013 22:36	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132561848004	09/16/2013 22:36	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132561848004	09/16/2013 22:36	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132561848004	09/16/2013 22:36	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132565713009	09/16/2013 05:58	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132561848004	09/15/2013 09:40	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132565713009	09/14/2013 06:25	Damary Valentin	1

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

Sample Description: DUP-WS-86-091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196389
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/12/2013 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12D86 SDG#: PEL45-17FD

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: DUP-WS-86-091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196389
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/12/2013 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12D86 SDG#: PEL45-17FD

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	0.050	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.050	1
08357	Anthracene	120-12-7	N.D.	0.010	0.050	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.050	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.050	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.050	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.050	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.050	1
08357	Chrysene	218-01-9	N.D.	0.010	0.050	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.050	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.050	1
08357	Fluorene	86-73-7	N.D.	0.010	0.050	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.050	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.050	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.050	1
08357	Naphthalene	91-20-3	N.D.	0.030	0.050	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.050	1
08357	Pyrene	129-00-0	N.D.	0.010	0.050	1

The laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.

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	31.6	0.033	0.20	1

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

Sample Description: DUP-WS-86-091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196389
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/12/2013 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12D86 SDG#: PEL45-17FD

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	
07035	Arsenic	7440-38-2	0.0083 J	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0544	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	1
01750	Calcium	7440-70-2	7.34	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	3.22	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.	1.6 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	C132571AA	09/14/2013 09:27	Stephanie A Selis	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132571AA	09/14/2013 09:27	Stephanie A Selis	1
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	132561848006	09/20/2013 02:00	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13257WAC026	09/15/2013 18:45	Elaine F Stoltzfus	1
06256	Total Hardness as CaCO3	SM 2340 B-1997	1	132606256001	09/17/2013 05:19	Deborah A Krady	1
07035	Arsenic	SW-846 6010B	1	132561848004	09/16/2013 22:40	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132561848004	09/16/2013 22:40	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132561848004	09/16/2013 22:40	John W Yanzuk II	1
01750	Calcium	SW-846 6010B	1	132561848004	09/16/2013 22:40	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132561848004	09/16/2013 22:40	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132561848004	09/16/2013 22:40	John W Yanzuk II	1
01757	Magnesium	SW-846 6010B	1	132561848004	09/16/2013 22:40	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132561848004	09/16/2013 22:40	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132561848004	09/16/2013 22:40	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132561848004	09/16/2013 22:40	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132561848004	09/16/2013 22:40	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132565713009	09/16/2013 06:00	Damary Valentin	1

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

Sample Description: DUP-WS-86-091213 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196389
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/12/2013 by HVA

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12D86 SDG#: PEL45-17FD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132561848004	09/15/2013 09:40	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132565713009	09/14/2013 06:25	Damary Valentin	1
08079	HEM (oil & grease)	EPA 1664A	1	13262807902A	09/19/2013 07:01	Yolunder Y Bunch	1

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

Sample Description: **WS-TB-148-091213 Water**
Mayflower, AR
Pipeline Incident

LL Sample # **WW 7196390**
 LL Group # **1418628**
 Account # **14739**

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

Collected: 09/12/2013

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12148 SDG#: PEL45-18TB*

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-TB-148-091213 Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7196390
LL Group # 1418628
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/12/2013

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

Submitted: 09/13/2013 09:20

Reported: 09/20/2013 12:24

12148 SDG#: PEL45-18TB*

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	C132571AA	09/14/2013 09:49	Stephanie A Selis	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	C132571AA	09/14/2013 09:49	Stephanie A Selis	1

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

Quality Control Summary

Client Name: ExxonMobil c/o Arcadis
Reported: 09/20/13 at 12:24 PM

Group Number: 1418628

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: C132562AA	Sample number(s): 7196373-7196380,7196382								
Acetone	N.D.	3.0	5.0	ug/l	97		60-139		
Allyl Chloride	N.D.	0.1	0.5	ug/l	81		61-130		
Benzene	N.D.	0.1	0.5	ug/l	102		80-120		
Bromobenzene	N.D.	0.1	0.5	ug/l	103		80-120		
Bromochloromethane	N.D.	0.1	0.5	ug/l	109		80-125		
Bromodichloromethane	N.D.	0.1	0.5	ug/l	103		80-120		
Bromoform	N.D.	0.1	0.5	ug/l	103		73-128		
Bromomethane	N.D.	0.1	0.5	ug/l	98		62-126		
2-Butanone	N.D.	1.0	5.0	ug/l	93		70-130		
n-Butylbenzene	N.D.	0.1	0.5	ug/l	99		80-120		
sec-Butylbenzene	N.D.	0.1	0.5	ug/l	100		80-120		
tert-Butylbenzene	N.D.	0.1	0.5	ug/l	101		80-120		
Carbon Tetrachloride	N.D.	0.1	0.5	ug/l	111		80-129		
Chlorobenzene	N.D.	0.1	0.5	ug/l	107		80-120		
Chloroethane	N.D.	0.1	0.5	ug/l	94		68-120		
Chloroform	N.D.	0.1	0.5	ug/l	107		80-120		
Chloromethane	N.D.	0.2	0.5	ug/l	87		55-120		
2-Chlorotoluene	N.D.	0.1	0.5	ug/l	102		80-120		
4-Chlorotoluene	N.D.	0.1	0.5	ug/l	103		80-120		
1,2-Dibromo-3-chloropropane	N.D.	0.2	0.5	ug/l	92		64-141		
Dibromochloromethane	N.D.	0.1	0.5	ug/l	106		80-126		
1,2-Dibromoethane	N.D.	0.1	0.5	ug/l	107		80-120		
Dibromomethane	N.D.	0.1	0.5	ug/l	106		80-120		
1,2-Dichlorobenzene	N.D.	0.1	0.5	ug/l	107		80-120		
1,3-Dichlorobenzene	N.D.	0.1	0.5	ug/l	105		80-120		
1,4-Dichlorobenzene	N.D.	0.1	0.5	ug/l	105		80-120		
Dichlorodifluoromethane	N.D.	0.1	0.5	ug/l	94		39-120		
1,1-Dichloroethane	N.D.	0.1	0.5	ug/l	99		80-120		
1,2-Dichloroethane	N.D.	0.1	0.5	ug/l	106		80-127		
1,1-Dichloroethene	N.D.	0.1	0.5	ug/l	103		80-123		
cis-1,2-Dichloroethene	N.D.	0.1	0.5	ug/l	105		80-120		
trans-1,2-Dichloroethene	N.D.	0.1	0.5	ug/l	106		80-120		
Dichlorofluoromethane	N.D.	0.2	0.5	ug/l	118		75-145		
1,2-Dichloropropane	N.D.	0.1	0.5	ug/l	102		80-120		
1,3-Dichloropropane	N.D.	0.1	0.5	ug/l	100		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	104		80-121		
cis-1,3-Dichloropropene	N.D.	0.1	0.5	ug/l	94		80-123		
trans-1,3-Dichloropropene	N.D.	0.1	0.5	ug/l	91		80-120		
Ethyl ether	N.D.	0.1	0.5	ug/l	102		59-130		
Ethylbenzene	N.D.	0.1	0.5	ug/l	102		80-120		
Freon 113	N.D.	0.2	0.5	ug/l	103		78-132		
Hexachlorobutadiene	N.D.	0.1	0.5	ug/l	101		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: 09/20/13 at 12:24 PM

Group Number: 1418628

<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>
Isopropylbenzene	N.D.	0.1	0.5	ug/l	103		80-120		
p-Isopropyltoluene	N.D.	0.1	0.5	ug/l	99		80-120		
Methyl Tertiary Butyl Ether	N.D.	0.1	0.5	ug/l	95		80-120		
4-Methyl-2-Pentanone	N.D.	1.0	5.0	ug/l	92		69-135		
Methylene Chloride	N.D.	0.2	0.5	ug/l	105		80-120		
n-Propylbenzene	N.D.	0.1	0.5	ug/l	100		80-120		
Styrene	N.D.	0.1	0.5	ug/l	105		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	98		80-125		
Tetrachloroethene	N.D.	0.1	0.5	ug/l	107		80-120		
Tetrahydrofuran	N.D.	2.0	5.0	ug/l	96		65-131		
Toluene	N.D.	0.1	0.5	ug/l	103		80-120		
1,2,3-Trichlorobenzene	N.D.	0.1	0.5	ug/l	99		63-120		
1,2,4-Trichlorobenzene	N.D.	0.1	0.5	ug/l	97		70-120		
1,1,1-Trichloroethane	N.D.	0.1	0.5	ug/l	105		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	109		80-120		
Trichlorofluoromethane	N.D.	0.1	0.5	ug/l	104		77-132		
1,2,3-Trichloropropane	N.D.	0.3	1.0	ug/l	107		80-120		
1,2,4-Trimethylbenzene	N.D.	0.1	0.5	ug/l	102		80-120		
1,3,5-Trimethylbenzene	N.D.	0.1	0.5	ug/l	101		80-120		
Vinyl Chloride	N.D.	0.1	0.5	ug/l	93		65-127		
Xylene (Total)	N.D.	0.1	0.5	ug/l	103		80-120		

Batch number: C132571AA

Sample number(s): 7196381,7196383-7196390

Acetone	N.D.	3.0	5.0	ug/l	108		60-139		
Allyl Chloride	N.D.	0.1	0.5	ug/l	70		61-130		
Benzene	N.D.	0.1	0.5	ug/l	98		80-120		
Bromobenzene	N.D.	0.1	0.5	ug/l	100		80-120		
Bromochloromethane	N.D.	0.1	0.5	ug/l	106		80-125		
Bromodichloromethane	N.D.	0.1	0.5	ug/l	103		80-120		
Bromoform	N.D.	0.1	0.5	ug/l	107		73-128		
Bromomethane	N.D.	0.1	0.5	ug/l	94		62-126		
2-Butanone	N.D.	1.0	5.0	ug/l	96		70-130		
n-Butylbenzene	N.D.	0.1	0.5	ug/l	94		80-120		
sec-Butylbenzene	N.D.	0.1	0.5	ug/l	93		80-120		
tert-Butylbenzene	N.D.	0.1	0.5	ug/l	102		80-120		
Carbon Tetrachloride	N.D.	0.1	0.5	ug/l	116		80-129		
Chlorobenzene	N.D.	0.1	0.5	ug/l	106		80-120		
Chloroethane	N.D.	0.1	0.5	ug/l	87		68-120		
Chloroform	N.D.	0.1	0.5	ug/l	108		80-120		
Chloromethane	N.D.	0.2	0.5	ug/l	77		55-120		
2-Chlorotoluene	N.D.	0.1	0.5	ug/l	96		80-120		
4-Chlorotoluene	N.D.	0.1	0.5	ug/l	98		80-120		
1,2-Dibromo-3-chloropropane	N.D.	0.2	0.5	ug/l	113		64-141		
Dibromochloromethane	N.D.	0.1	0.5	ug/l	104		80-126		
1,2-Dibromoethane	N.D.	0.1	0.5	ug/l	101		80-120		
Dibromomethane	N.D.	0.1	0.5	ug/l	106		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	102		80-120		
1,4-Dichlorobenzene	N.D.	0.1	0.5	ug/l	103		80-120		
Dichlorodifluoromethane	N.D.	0.1	0.5	ug/l	82		39-120		
1,1-Dichloroethane	N.D.	0.1	0.5	ug/l	93		80-120		
1,2-Dichloroethane	N.D.	0.1	0.5	ug/l	115		80-127		
1,1-Dichloroethene	N.D.	0.1	0.5	ug/l	98		80-123		
cis-1,2-Dichloroethene	N.D.	0.1	0.5	ug/l	100		80-120		

*- 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: 09/20/13 at 12:24 PM

Group Number: 1418628

<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>
trans-1,2-Dichloroethene	N.D.	0.1	0.5	ug/l	105		80-120		
Dichlorofluoromethane	N.D.	0.2	0.5	ug/l	115		75-145		
1,2-Dichloropropane	N.D.	0.1	0.5	ug/l	95		80-120		
1,3-Dichloropropane	N.D.	0.1	0.5	ug/l	94		80-120		
2,2-Dichloropropane	N.D.	0.1	0.5	ug/l	96		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	84		80-123		
trans-1,3-Dichloropropene	N.D.	0.1	0.5	ug/l	85		80-120		
Ethyl ether	N.D.	0.1	0.5	ug/l	93		59-130		
Ethylbenzene	N.D.	0.1	0.5	ug/l	99		80-120		
Freon 113	N.D.	0.2	0.5	ug/l	99		78-132		
Hexachlorobutadiene	N.D.	0.1	0.5	ug/l	100		73-120		
Isopropylbenzene	N.D.	0.1	0.5	ug/l	99		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	85		80-120		
4-Methyl-2-Pentanone	N.D.	1.0	5.0	ug/l	81		69-135		
Methylene Chloride	N.D.	0.2	0.5	ug/l	103		80-120		
n-Propylbenzene	N.D.	0.1	0.5	ug/l	94		80-120		
Styrene	N.D.	0.1	0.5	ug/l	103		80-120		
1,1,1,2-Tetrachloroethane	N.D.	0.1	0.5	ug/l	110		80-120		
1,1,2,2-Tetrachloroethane	N.D.	0.1	0.5	ug/l	91		80-125		
Tetrachloroethene	N.D.	0.1	0.5	ug/l	108		80-120		
Tetrahydrofuran	N.D.	2.0	5.0	ug/l	103		65-131		
Toluene	N.D.	0.1	0.5	ug/l	99		80-120		
1,2,3-Trichlorobenzene	N.D.	0.1	0.5	ug/l	93		63-120		
1,2,4-Trichlorobenzene	N.D.	0.1	0.5	ug/l	90		70-120		
1,1,1-Trichloroethane	N.D.	0.1	0.5	ug/l	109		80-120		
1,1,2-Trichloroethane	N.D.	0.1	0.5	ug/l	101		80-120		
Trichloroethene	N.D.	0.1	0.5	ug/l	107		80-120		
Trichlorofluoromethane	N.D.	0.1	0.5	ug/l	105		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	84		65-127		
Xylene (Total)	N.D.	0.1	0.5	ug/l	101		80-120		

Batch number: 13257WAC026

Sample number(s): 7196373-7196389

Acenaphthene	N.D.	0.010	0.050	ug/l	102	101	77-118	1	30
Acenaphthylene	N.D.	0.010	0.050	ug/l	105	104	80-123	1	30
Anthracene	N.D.	0.010	0.050	ug/l	107	106	78-123	2	30
Benzo(a)anthracene	N.D.	0.010	0.050	ug/l	105	102	73-127	2	30
Benzo(a)pyrene	N.D.	0.010	0.050	ug/l	107	102	72-120	4	30
Benzo(b)fluoranthene	N.D.	0.010	0.050	ug/l	117	111	79-136	5	30
Benzo(g,h,i)perylene	N.D.	0.010	0.050	ug/l	107	105	64-130	3	30
Benzo(k)fluoranthene	N.D.	0.010	0.050	ug/l	113	107	73-131	5	30
Chrysene	N.D.	0.010	0.050	ug/l	108	107	76-125	1	30
Dibenz(a,h)anthracene	N.D.	0.010	0.050	ug/l	105	104	58-131	1	30
Fluoranthene	N.D.	0.010	0.050	ug/l	109	106	79-124	2	30
Fluorene	N.D.	0.010	0.050	ug/l	104	103	74-115	1	30
Indeno(1,2,3-cd)pyrene	N.D.	0.010	0.050	ug/l	106	100	62-130	6	30
1-Methylnaphthalene	N.D.	0.010	0.050	ug/l	110	108	80-126	2	30
2-Methylnaphthalene	N.D.	0.010	0.050	ug/l	108	106	81-124	2	30
Naphthalene	N.D.	0.030	0.050	ug/l	105	103	75-120	2	30
Phenanthrene	N.D.	0.030	0.050	ug/l	105	102	75-120	2	30
Pyrene	N.D.	0.010	0.050	ug/l	109	108	71-130	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: 09/20/13 at 12:24 PM

Group Number: 1418628

Analysis Name	Blank Result	Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 132561848004	Sample number(s): 7196373-7196389								
Arsenic	N.D.	0.0068	0.0200	mg/l	105		90-113		
Barium	N.D.	0.00033	0.0050	mg/l	100		90-110		
Cadmium	N.D.	0.00076	0.0050	mg/l	105		90-112		
Calcium	N.D.	0.0334	0.200	mg/l	102		90-110		
Chromium	N.D.	0.0016	0.0150	mg/l	99		90-110		
Lead	N.D.	0.0047	0.0150	mg/l	106		88-110		
Magnesium	N.D.	0.0167	0.100	mg/l	100		90-110		
Nickel	N.D.	0.0015	0.0100	mg/l	104		90-111		
Selenium	N.D.	0.0084	0.0200	mg/l	105		80-120		
Silver	N.D.	0.0021	0.0050	mg/l	93		80-120		
Vanadium	N.D.	0.0020	0.0050	mg/l	101		90-110		
Batch number: 132565713009	Sample number(s): 7196373-7196389								
Mercury	N.D.	0.00006	0.00020	mg/l	102		80-120		
		0							
Batch number: 13262807902A	Sample number(s): 7196373-7196387,7196389								
HEM (oil & grease)	N.D.	1.4	5.0	mg/l	88	96	78-114	8	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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: C132562AA	Sample number(s): 7196373-7196380,7196382 UNSPK: P194923								
Acetone	102	87	57-163	16	30				
Allyl Chloride	78	77	56-160	1	30				
Benzene	100	105	87-126	4	30				
Bromobenzene	102	114	80-123	11	30				
Bromochloromethane	106	105	82-125	1	30				
Bromodichloromethane	103	114	82-133	11	30				
Bromoform	107	124	60-138	15	30				
Bromomethane	93	99	66-130	6	30				
2-Butanone	95	108	56-160	12	30				
n-Butylbenzene	101	108	83-131	7	30				
sec-Butylbenzene	101	110	84-128	9	30				
tert-Butylbenzene	100	112	84-135	11	30				
Carbon Tetrachloride	116	119	81-148	3	30				
Chlorobenzene	108	118	78-133	9	30				
Chloroethane	90	97	70-139	8	30				
Chloroform	106	114	86-136	7	30				
Chloromethane	83	88	49-135	6	30				
2-Chlorotoluene	102	111	75-134	8	30				
4-Chlorotoluene	104	112	76-134	8	30				
1,2-Dibromo-3-chloropropane	104	117	43-143	12	30				
Dibromochloromethane	107	120	79-125	11	30				
1,2-Dibromoethane	104	118	84-127	13	30				
Dibromomethane	104	115	83-126	10	30				
1,2-Dichlorobenzene	107	119*	83-117	10	30				
1,3-Dichlorobenzene	106	116	79-132	9	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: 09/20/13 at 12:24 PM

Group Number: 1418628

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>
1,4-Dichlorobenzene	105	116	79-120	9	30				
Dichlorodifluoromethane	90	94	28-136	4	30				
1,1-Dichloroethane	95	101	88-136	5	30				
1,2-Dichloroethane	106	115	82-135	8	30				
1,1-Dichloroethene	105	107	83-150	2	30				
cis-1,2-Dichloroethene	47 (2)	155 (2)	82-129	9	30				
trans-1,2-Dichloroethene	106	108	88-127	2	30				
Dichlorofluoromethane	117	123	81-161	5	30				
1,2-Dichloropropane	100	109	91-126	9	30				
1,3-Dichloropropane	99	112	80-127	12	30				
2,2-Dichloropropane	97	101	80-134	4	30				
1,1-Dichloropropene	105	108	86-139	3	30				
cis-1,3-Dichloropropene	90	102	74-132	13	30				
trans-1,3-Dichloropropene	89	103	71-128	14	30				
Ethyl ether	91	95	57-139	5	30				
Ethylbenzene	103	112	80-140	8	30				
Freon 113	110	110	77-147	0	30				
Hexachlorobutadiene	107	115	65-128	7	30				
Isopropylbenzene	104	112	81-133	8	30				
p-Isopropyltoluene	100	108	84-124	8	30				
Methyl Tertiary Butyl Ether	88	97	82-132	10	30				
4-Methyl-2-Pentanone	91	109	69-149	18	30				
Methylene Chloride	101	103	77-135	2	30				
n-Propylbenzene	100	109	79-131	8	30				
Styrene	5*	3*	63-151	36*	30				
1,1,1,2-Tetrachloroethane	110	122	87-126	10	30				
1,1,2,2-Tetrachloroethane	99	114	75-131	14	30				
Tetrachloroethene	105	115	75-129	8	30				
Tetrahydrofuran	95	107	56-154	12	30				
Toluene	103	111	83-127	7	30				
1,2,3-Trichlorobenzene	98	111	73-125	13	30				
1,2,4-Trichlorobenzene	96	108	77-120	12	30				
1,1,1-Trichloroethane	107	112	85-140	5	30				
1,1,2-Trichloroethane	106	118	85-129	10	30				
Trichloroethene	85	92	85-131	3	30				
Trichlorofluoromethane	106	111	73-139	5	30				
1,2,3-Trichloropropane	109	123*	76-120	12	30				
1,2,4-Trimethylbenzene	103	111	87-126	8	30				
1,3,5-Trimethylbenzene	102	111	89-129	8	30				
Vinyl Chloride	93	99	62-135	6	30				
Xylene (Total)	104	113	81-137	8	30				

Batch number: C132571AA	Sample number(s): 7196381,7196383-7196390 UNSPK: 7196381
Acetone	115 116 57-163 1 30
Allyl Chloride	80 82 56-160 2 30
Benzene	108 108 87-126 0 30
Bromobenzene	106 106 80-123 1 30
Bromochloromethane	115 114 82-125 2 30
Bromodichloromethane	111 112 82-133 1 30
Bromoform	113 120 60-138 6 30
Bromomethane	105 106 66-130 1 30
2-Butanone	95 97 56-160 2 30

*- Outside of specification

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- (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: 09/20/13 at 12:24 PM

Group Number: 1418628

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</u> <u>RPD</u> <u>Max</u>
n-Butylbenzene	107	107	83-131	0	30				
sec-Butylbenzene	107	108	84-128	1	30				
tert-Butylbenzene	106	105	84-135	1	30				
Carbon Tetrachloride	137	133	81-148	3	30				
Chlorobenzene	115	115	78-133	0	30				
Chloroethane	100	102	70-139	2	30				
Chloroform	119	119	86-136	0	30				
Chloromethane	88	92	49-135	4	30				
2-Chlorotoluene	105	106	75-134	1	30				
4-Chlorotoluene	108	108	76-134	0	30				
1,2-Dibromo-3-chloropropane	112	114	43-143	2	30				
Dibromochloromethane	112	113	79-125	1	30				
1,2-Dibromoethane	105	108	84-127	3	30				
Dibromomethane	112	112	83-126	0	30				
1,2-Dichlorobenzene	112	111	83-117	0	30				
1,3-Dichlorobenzene	110	111	79-132	0	30				
1,4-Dichlorobenzene	111	111	79-120	0	30				
Dichlorodifluoromethane	106	102	28-136	3	30				
1,1-Dichloroethane	103	105	88-136	2	30				
1,2-Dichloroethane	119	118	82-135	1	30				
1,1-Dichloroethene	114	116	83-150	1	30				
cis-1,2-Dichloroethene	109	110	82-129	0	30				
trans-1,2-Dichloroethene	117	119	88-127	1	30				
Dichlorofluoromethane	133	133	81-161	0	30				
1,2-Dichloropropane	104	106	91-126	2	30				
1,3-Dichloropropane	99	102	80-127	2	30				
2,2-Dichloropropane	111	113	80-134	2	30				
1,1-Dichloropropene	116	115	86-139	0	30				
cis-1,3-Dichloropropene	89	93	74-132	5	30				
trans-1,3-Dichloropropene	90	95	71-128	5	30				
Ethyl ether	96	104	57-139	7	30				
Ethylbenzene	109	111	80-140	1	30				
Freon 113	126	120	77-147	5	30				
Hexachlorobutadiene	116	116	65-128	1	30				
Isopropylbenzene	112	112	81-133	1	30				
p-Isopropyltoluene	106	107	84-124	1	30				
Methyl Tertiary Butyl Ether	88	93	82-132	6	30				
4-Methyl-2-Pentanone	83	88	69-149	6	30				
Methylene Chloride	109	111	77-135	2	30				
n-Propylbenzene	105	106	79-131	2	30				
Styrene	111	112	63-151	1	30				
1,1,1,2-Tetrachloroethane	118	119	87-126	0	30				
1,1,2,2-Tetrachloroethane	94	97	75-131	3	30				
Tetrachloroethene	121	121	75-129	0	30				
Tetrahydrofuran	98	102	56-154	4	30				
Toluene	110	113	83-127	2	30				
1,2,3-Trichlorobenzene	99	104	73-125	4	30				
1,2,4-Trichlorobenzene	98	100	77-120	2	30				
1,1,1-Trichloroethane	124	124	85-140	0	30				
1,1,2-Trichloroethane	107	110	85-129	2	30				
Trichloroethene	119	120	85-131	1	30				
Trichlorofluoromethane	129	127	73-139	2	30				

*- Outside of specification

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- (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: 09/20/13 at 12:24 PM

Group Number: 1418628

Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
1,2,3-Trichloropropane	105	109	76-120	4	30				
1,2,4-Trimethylbenzene	107	108	87-126	1	30				
1,3,5-Trimethylbenzene	107	107	89-129	0	30				
Vinyl Chloride	100	102	62-135	2	30				
Xylene (Total)	111	112	81-137	1	30				
Batch number: 132561848004 Sample number(s): 7196373-7196389 UNSPK: 7196379 BKG: 7196379									
Arsenic	103	104	81-123	2	20	0.0072 J	0.0095 J	28* (1)	20
Barium	100	100	78-118	1	20	0.0534	0.0549	3	20
Cadmium	106	105	83-116	0	20	N.D.	N.D.	0 (1)	20
Calcium	109	111	81-118	1	20	6.96	7.28	4	20
Chromium	100	101	81-120	0	20	N.D.	N.D.	0 (1)	20
Lead	106	105	75-125	2	20	N.D.	N.D.	0 (1)	20
Magnesium	103	106	75-125	1	20	3.11	3.23	4	20
Nickel	104	104	86-115	0	20	N.D.	N.D.	0 (1)	20
Selenium	105	104	75-125	2	20	N.D.	N.D.	0 (1)	20
Silver	95	96	75-125	0	20	N.D.	N.D.	0 (1)	20
Vanadium	103	102	90-111	1	20	N.D.	N.D.	0 (1)	20
Batch number: 132565713009 Sample number(s): 7196373-7196389 UNSPK: 7196373 BKG: 7196373									
Mercury	101	101	80-120	1	20	N.D.	N.D.	0 (1)	20
Batch number: 13262807902A Sample number(s): 7196373-7196387,7196389 UNSPK: 7196373									
HEM (oil & grease)	39*		78-114						

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: C132562AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7196373	107	103	96	95
7196374	107	101	96	95
7196375	108	101	95	95
7196376	108	101	97	95
7196377	108	103	95	95
7196378	109	101	96	95
7196379	109	102	95	94
7196380	108	103	95	93
7196382	104	101	97	95
Blank	103	100	96	96
LCS	103	99	98	99
MS	103	103	98	99
MSD	104	104	98	99
Limits:	77-114	74-113	77-110	78-110

*- Outside of specification

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

Quality Control Summary

Client Name: ExxonMobil c/o Arcadis
Reported: 09/20/13 at 12:24 PM

Group Number: 1418628

Surrogate Quality Control

Analysis Name: BTEX 25-ml purge

Batch number: C132571AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7196381	110	104	96	95
7196383	108	102	96	94
7196384	108	102	96	94
7196385	109	102	96	94
7196386	109	100	95	94
7196387	110	101	96	95
7196388	111	104	96	94
7196389	111	105	95	94
7196390	111	103	96	93
Blank	110	103	97	94
LCS	106	103	99	101
MS	106	102	99	101
MSD	105	99	99	100
<hr/>				
Limits:	77-114	74-113	77-110	78-110

Analysis Name: PAHs in waters by SIM

Batch number: 13257WAC026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7196373	98	65	98
7196374	95	62	100
7196375	97	62	98
7196376	98	66	100
7196377	98	59*	102
7196378	99	63	97
7196379	100	61*	99
7196380	99	71	102
7196381	95	62	94
7196382	100	51*	103
7196383	96	50*	97
7196384	99	67	97
7196385	92	42*	100
7196386	89	71	103
7196387	102	57*	107
7196388	102	107	105
7196389	102	59*	105
Blank	97	103	97
LCS	102	112	110
LCSD	100	107	106
<hr/>			
Limits:	44-137	62-141	51-136

*- Outside of specification

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ExxonMobil Analysis Request/Chain of Custody



Lancaster Laboratories
Environmental

Acct. # 14739

For Eurofins Lancaster Laboratories Environmental use only

Group # 1418628 Sample # 7196373-90

Instructions on reverse side correspond with circled numbers.

1 of 2

1 Client Information				4 Matrix				5 Analyses Requested												SCR#: _____	
Facility #/SID <u>Mayflower Pipeline Incident</u>				<input type="checkbox"/> Sediment <input type="checkbox"/> Potable <input type="checkbox"/> Ground <input type="checkbox"/> Water <input type="checkbox"/> NPDES <input type="checkbox"/> Surface <input checked="" type="checkbox"/> <input type="checkbox"/> Oil <input type="checkbox"/> Air				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>																					
ExxonMobil PM <u>Scott Bushroe</u>		Cost Center/AFE																			
Consultant/Office <u>ARCADIS</u>																					
Consultant PM <u>Steve Barrick</u>		Consultant Phone # <u>919 302 6799</u>		Total # of Containers				H V P A H C R A M e t a l s H E M O I L & Grease												6 Remarks Lab to filter and pressure disc. metals upon receipt	
Consultant PM <u>Steve Barrick</u>																					
Consultant Phone # <u>919 302 6799</u>																					
Sampler <u>Hans Van Aller / Ryan Lewis</u>																					
2 Sample Identification				3 Collected		Grab <input type="checkbox"/> Composite															
		Date		Time																	
<u>WS-014 (1.5-2.0) 091213</u>		<u>9-12-13</u>		<u>0950</u>		<input checked="" type="checkbox"/>															
<u>WS-014 (5.5-6.0) 091213</u>		<u>9-12-13</u>		<u>0900</u>		<input checked="" type="checkbox"/>															
<u>WS-012 (1.5-2.0) 091213</u>		<u>9-12-13</u>		<u>0910</u>		<input checked="" type="checkbox"/>															
<u>WS-012 (5.0-5.5) 091213</u>		<u>9-12-13</u>		<u>0920</u>		<input checked="" type="checkbox"/>															
<u>WS-010 (1.5-2.0) 091213</u>		<u>9-12-13</u>		<u>0930</u>		<input checked="" type="checkbox"/>															
<u>WS-010 (3.5-4.0) 091213</u>		<u>9-12-13</u>		<u>0940</u>		<input checked="" type="checkbox"/>															
<u>WS-006 (0.5-1.0) 091213</u>		<u>9-12-13</u>		<u>0950</u>		<input checked="" type="checkbox"/>															
<u>WS-005 (Surface) 091213</u>		<u>9-12-13</u>		<u>1020</u>		<input checked="" type="checkbox"/>															
<u>WS-002 (Surface) 091213</u>		<u>9-12-13</u>		<u>1040</u>		<input checked="" type="checkbox"/>															
<u>WS-011 (1.5-2.0) 091213</u>		<u>9-12-13</u>		<u>1100</u>		<input checked="" type="checkbox"/>															
<u>WS-011 (5.0-5.5) 091213</u>		<u>9-12-13</u>		<u>1110</u>		<input checked="" type="checkbox"/>															
<u>WS-018 (Surface) 091213</u>		<u>9-12-13</u>		<u>1140</u>		<input checked="" type="checkbox"/>															
7 Turnaround Time Requested (TAT) (please circle)				Relinquished by <u>[Signature]</u> Date <u>9-12-13</u> Time <u>1430</u> Relinquished by _____ Date _____ Time _____ Relinquished by _____ Date _____ Time _____				Received by _____ Date _____ Time _____ Received by _____ Date _____ Time _____ Received by _____ Date _____ Time _____				9									
Standard <input checked="" type="radio"/> 5 day		4 day																			
72 hour		48 hour 24 hour																			
8 Data Package (circle if required)				Relinquished by Commercial Carrier UPS <input checked="" type="checkbox"/> FedEx _____ Other _____ Temperature Upon Receipt <u>0.6-1.7</u> °C				Received by <u>[Signature]</u> Date <u>9/13/13</u> Time <u>0920</u> Custody Seals Intact? <input checked="" type="radio"/> Yes <input type="radio"/> No													
Type I - Full		Type VI (Raw Data)																			
NJ Reduced		Other _____																			
Type VI (Raw Data)		Other _____																			

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300

The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client.

ExxonMobil Analysis Request/Chain of Custody



**Lancaster Laboratories
Environmental**

Acct. # 14739 For Eurofins Lancaster Laboratories Environmental use only
 Group # 1418628 Sample # 7196373-90
Instructions on reverse side correspond with circled numbers.

2 of 2

1 Client Information				4 Matrix				5 Analyses Requested												6 Remarks													
Preservation Code				Preservation Codes																													
Facility #/SID <u>Mayflower Pipeline Incident</u>				<input type="checkbox"/> Sediment <input type="checkbox"/> Potable <input type="checkbox"/> Ground <input type="checkbox"/> NPDES <input checked="" type="checkbox"/> Surface <input type="checkbox"/> Air				H = HCl T = Thiosulfate N = HNO ₃ B = NaOH S = H ₂ SO ₄ O = Other												SCR#: _____													
Site Address <u>Mayflower, AR</u>								H N H H																									
ExxonMobil PM <u>Scott Bushnoe</u>		Cost Center/AFE		<input type="checkbox"/> Soil <input type="checkbox"/> Water <input type="checkbox"/> Oil				Total # of Containers <u>VOCS 8260B</u> <u>PAH 827051M</u> <u>RCA Metals Ni, Cr, Mg</u> <u>Diss. Metals</u> <u>HEM Oil & Grease</u>												6													
Consultant/Office <u>ARCADIS</u>		Consultant Phone #						VOCs 8260B PAH 827051M RCA Metals Ni, Cr, Mg Diss. Metals HEM Oil & Grease																									
Consultant PM <u>Steve Barrick</u>		SAMPLER		Composite <input type="checkbox"/> Grab <input type="checkbox"/> Composite				VOCs 8260B PAH 827051M RCA Metals Ni, Cr, Mg Diss. Metals HEM Oil & Grease												6													
SAMPLER <u>Hans Van Aller / Ryan Lewis</u>		Date																				Time		Grab		Composite							
2 Sample Identification				3				7 Turnaround Time Requested (TAT) (please circle)												9													
Collected				Date				Time				Standard				Relinquished by						Date		Time									
<u>WS-003 (surface)</u>				<u>09/12/13</u>				<u>1200</u>				<input checked="" type="checkbox"/>				<input type="checkbox"/>				<u>9-12-13</u>		<u>1300</u>											
<u>WS-007 (0.5-1.0)</u>				<u>09/12/13</u>				<u>1220</u>				<input checked="" type="checkbox"/>				<input type="checkbox"/>				<u>9-12-13</u>		<u>1220</u>											
<u>WS-001 (0.5-1.0)</u>				<u>09/12/13</u>				<u>1230</u>				<input checked="" type="checkbox"/>				<input type="checkbox"/>				<u>9-12-13</u>		<u>1230</u>											
<u>WS-EB-59-09/12/13</u>				<u>9-12-13</u>				<u>1300</u>				<input checked="" type="checkbox"/>				<input type="checkbox"/>				<u>9-12-13</u>		<u>1300</u>											
<u>DUP-WS-86-09/12/13</u>				<u>9-12-13</u>				<u>-</u>				<input checked="" type="checkbox"/>				<input type="checkbox"/>				<u>9-12-13</u>		<u>-</u>											
<u>WS-TB-48-09/12/13</u>				<u>9-12-13</u>				<u>-</u>				<input checked="" type="checkbox"/>				<input type="checkbox"/>				<u>9-12-13</u>		<u>-</u>											
Standard				5 day				4 day				72 hour				48 hour				24 hour				Relinquished by		Date		Time					
Type I - Full				Type VI (Raw Data)				NJ Reduced				Other				EDD (circle if required)				Locus EIM (default)				Other				Relinquished by Commercial Carrier		Date		Time	
UPS <input checked="" type="checkbox"/>				FedEx				Other				Temperature Upon Receipt				Custody Seals Intact?				Yes <input checked="" type="checkbox"/>		No											

Environmental Sample Administration 1418628
Receipt Documentation Log

Client/Project: XOM Mayflower
Date of Receipt: 9/13/13
Time of Receipt: 0920
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	0.6	TB	WI	Y	B	
2	↓	1.0	↓	↓	↓	↓	
3	↓	1.0	↓	↓	↓	↓	
4	↓	1.7	↓	↓	↓	↓	
5	↓	1.1	↓	↓	↓	↓	
6	↓	0.6	↓	↓	↓	↓	

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

Paperwork Discrepancy/Unpacking Problems:
Rec'd 1 Trip Blank broken @ receipt

Unpacker Signature/Emp#: Daniel / 208 Date/Time: 9/13/13 / 0945

Issued by Dept. 6042 Management

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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