

## ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

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

September 19, 2013

Project: Mayflower, AR Pipeline Incident

Submittal Date: 09/14/2013

Group Number: 1418947

SDG: PEL48

PO Number: B0086003.1301

State of Sample Origin: AR

<u>Client Sample Description</u>	<u>Lancaster Labs (LL) #</u>
WS-014(1.5-2.0)091313 Filt Grab Surface Water	7198351
WS-014(5.5-6.0)091313 Filt Grab Surface Water	7198352
WS-012(1.5-2.0)091313 Filt Grab Surface Water	7198353
WS-012(5.0-5.5)091313 Filt Grab Surface Water	7198354
WS-010(1.5-2.0)091313 Filt Grab Surface Water	7198355
WS-010(3.5-4.0)091313 Filt Grab Surface Water	7198356
WS-006(0.5-1.0)091313 Filt Grab Surface Water	7198357
WS-006(0.5-1.0)091313MS Filt Grab Surface Water	7198358
WS-006(0.5-1.0)091313MSD Filt Grab Surface Water	7198359
WS-006(0.5-1.0)091313DUP Filt Grab Surface Water	7198360
WS-005(Surface)091313 Filt Grab Surface Water	7198361
WS-002(Surface)091313 Filt Grab Surface Water	7198362
WS-011(1.5-2.0)091313 Filt Grab Surface Water	7198363
WS-011(5.0-5.5)091313 Filt Grab Surface Water	7198364
WS-018(Surface)091313 Filt Grab Surface Water	7198365
WS-003(Surface)091313 Filt Grab Surface Water	7198366
WS-007(0.5-1.0)091313 Filt Grab Surface Water	7198367
WS-001(0.5-1.0)091313 Filt Grab Surface Water	7198368
WS-EB-060-091313 Filt Grab Water	7198369

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

ELECTRONIC COPY TO	ARCADIS	Attn: Stephen Barrick
ELECTRONIC COPY TO	ARCADIS	Attn: Lyndi Mott
ELECTRONIC COPY TO	ExxonMobil	Attn: Michael J. Firth

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

Respectfully Submitted,



Katherine A. Klinefelter  
Principal Specialist

(717) 556-7256

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Project Name: Mayflower, AR Pipeline Incident  
LLI Group #: 1418947

**General Comments:**

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

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

Project specific QC samples are included in this data set

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

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

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

**Analysis Specific Comments:**

No additional comments are necessary.

Sample Description: WS-014(1.5-2.0)091313 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7198351  
LL Group # 1418947  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/13/2013 08:30 by HVA

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

Submitted: 09/14/2013 08:50

Reported: 09/19/2013 15:42

P4801 SDG#: PEL48-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>Metals Dissolved</b>						
	<b>SW-846 6010B</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	0.0071 J	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0078	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	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
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
	<b>SW-846 7470A</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1

### General Sample Comments

This sample was filtered in the lab for dissolved metals.

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
07035	Arsenic	SW-846 6010B	1	132591848001	09/19/2013 02:21	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132591848001	09/19/2013 02:21	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132591848001	09/19/2013 02:21	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132591848001	09/19/2013 02:21	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132591848001	09/19/2013 02:21	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132591848001	09/19/2013 02:21	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132591848001	09/19/2013 02:21	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132591848001	09/19/2013 02:21	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132591848001	09/19/2013 02:21	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132595713004	09/18/2013 04:31	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132591848001	09/17/2013 09:15	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132595713004	09/17/2013 15:30	Nelli S Markaryan	1

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

Sample Description: WS-014(5.5-6.0)091313 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7198352  
LL Group # 1418947  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/13/2013 08:40 by HVA

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

Submitted: 09/14/2013 08:50

Reported: 09/19/2013 15:42

P4802 SDG#: PEL48-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>Metals Dissolved</b>						
		<b>SW-846 6010B</b>	<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	0.0072 J	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0075	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	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
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
		<b>SW-846 7470A</b>	<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1

### General Sample Comments

This sample was filtered in the lab for dissolved metals.

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
07035	Arsenic	SW-846 6010B	1	132591848001	09/19/2013 02:25	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132591848001	09/19/2013 02:25	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132591848001	09/19/2013 02:25	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132591848001	09/19/2013 02:25	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132591848001	09/19/2013 02:25	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132591848001	09/19/2013 02:25	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132591848001	09/19/2013 02:25	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132591848001	09/19/2013 02:25	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132591848001	09/19/2013 02:25	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132595713004	09/18/2013 04:33	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132591848001	09/17/2013 09:15	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132595713004	09/17/2013 15:30	Nelli S Markaryan	1

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

Sample Description: WS-012(1.5-2.0)091313 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7198353  
LL Group # 1418947  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

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

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

Submitted: 09/14/2013 08:50

Reported: 09/19/2013 15:42

P4803 SDG#: PEL48-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>Metals Dissolved</b>						
		<b>SW-846 6010B</b>	<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	0.0074 J	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0077	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	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
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
		<b>SW-846 7470A</b>	<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1

### General Sample Comments

This sample was filtered in the lab for dissolved metals.

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
07035	Arsenic	SW-846 6010B	1	132591848001	09/19/2013 02:37	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132591848001	09/19/2013 02:37	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132591848001	09/19/2013 02:37	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132591848001	09/19/2013 02:37	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132591848001	09/19/2013 02:37	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132591848001	09/19/2013 02:37	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132591848001	09/19/2013 02:37	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132591848001	09/19/2013 02:37	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132591848001	09/19/2013 02:37	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132595713004	09/18/2013 04:35	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132591848001	09/17/2013 09:15	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132595713004	09/17/2013 15:30	Nelli S Markaryan	1

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

Sample Description: WS-012(5.0-5.5)091313 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7198354  
LL Group # 1418947  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/13/2013 09:10 by HVA

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

Submitted: 09/14/2013 08:50

Reported: 09/19/2013 15:42

P4804 SDG#: PEL48-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>Metals Dissolved</b>						
		<b>SW-846 6010B</b>	<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0112	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	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
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
		<b>SW-846 7470A</b>	<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1

### General Sample Comments

This sample was filtered in the lab for dissolved metals.

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
07035	Arsenic	SW-846 6010B	1	132591848001	09/19/2013 02:41	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132591848001	09/19/2013 02:41	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132591848001	09/19/2013 02:41	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132591848001	09/19/2013 02:41	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132591848001	09/19/2013 02:41	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132591848001	09/19/2013 02:41	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132591848001	09/19/2013 02:41	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132591848001	09/19/2013 02:41	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132591848001	09/19/2013 02:41	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132595713004	09/18/2013 04:37	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132591848001	09/17/2013 09:15	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132595713004	09/17/2013 15:30	Nelli S Markaryan	1

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

Sample Description: WS-010(1.5-2.0)091313 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7198355  
LL Group # 1418947  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/13/2013 09:30 by HVA

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

Submitted: 09/14/2013 08:50

Reported: 09/19/2013 15:42

P4805 SDG#: PEL48-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>Metals Dissolved</b>						
	<b>SW-846 6010B</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0170	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	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
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
	<b>SW-846 7470A</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1

### General Sample Comments

This sample was filtered in the lab for dissolved metals.

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
07035	Arsenic	SW-846 6010B	1	132591848001	09/19/2013 02:45	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132591848001	09/19/2013 02:45	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132591848001	09/19/2013 02:45	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132591848001	09/19/2013 02:45	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132591848001	09/19/2013 02:45	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132591848001	09/19/2013 02:45	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132591848001	09/19/2013 02:45	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132591848001	09/19/2013 02:45	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132591848001	09/19/2013 02:45	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132595713004	09/18/2013 04:39	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132591848001	09/17/2013 09:15	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132595713004	09/17/2013 15:30	Nelli S Markaryan	1

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



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Sample Description: WS-010(3.5-4.0)091313 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7198356  
LL Group # 1418947  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/13/2013 09:40 by HVA

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

Submitted: 09/14/2013 08:50

Reported: 09/19/2013 15:42

P4806 SDG#: PEL48-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>Metals Dissolved</b>						
		<b>SW-846 6010B</b>	<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0189	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	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
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
		<b>SW-846 7470A</b>	<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1

### General Sample Comments

This sample was filtered in the lab for dissolved metals.

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
07035	Arsenic	SW-846 6010B	1	132591848001	09/19/2013 02:49	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132591848001	09/19/2013 02:49	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132591848001	09/19/2013 02:49	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132591848001	09/19/2013 02:49	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132591848001	09/19/2013 02:49	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132591848001	09/19/2013 02:49	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132591848001	09/19/2013 02:49	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132591848001	09/19/2013 02:49	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132591848001	09/19/2013 02:49	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132595713004	09/18/2013 04:41	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132591848001	09/17/2013 09:15	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132595713004	09/17/2013 15:30	Nelli S Markaryan	1

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

Sample Description: WS-006(0.5-1.0)091313 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7198357  
LL Group # 1418947  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/13/2013 09:50 by HVA

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

Submitted: 09/14/2013 08:50

Reported: 09/19/2013 15:42

P4807 SDG#: PEL48-07BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>Metals Dissolved</b>						
	<b>SW-846 6010B</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0164	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	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
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
	<b>SW-846 7470A</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1

### General Sample Comments

This sample was filtered in the lab for dissolved metals.

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
07035	Arsenic	SW-846 6010B	1	132591848001	09/19/2013 01:57	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132591848001	09/19/2013 01:57	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132591848001	09/19/2013 01:57	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132591848001	09/19/2013 01:57	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132591848001	09/19/2013 01:57	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132591848001	09/19/2013 01:57	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132591848001	09/19/2013 01:57	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132591848001	09/19/2013 01:57	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132591848001	09/19/2013 01:57	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132595713004	09/18/2013 04:43	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132591848001	09/17/2013 09:15	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132595713004	09/17/2013 15:30	Nelli S Markaryan	1

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

Sample Description: WS-006(0.5-1.0)091313MS Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7198358  
LL Group # 1418947  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/13/2013 09:50 by HVA

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

Submitted: 09/14/2013 08:50

Reported: 09/19/2013 15:42

P4807 SDG#: PEL48-07MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>Metals Dissolved</b>						
	<b>SW-846 6010B</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	0.162	0.0068	0.0200	1
07046	Barium	7440-39-3	2.08	0.00033	0.0050	1
07049	Cadmium	7440-43-9	0.0523	0.00076	0.0050	1
07051	Chromium	7440-47-3	0.202	0.0016	0.0150	1
07055	Lead	7439-92-1	0.158	0.0047	0.0150	1
07061	Nickel	7440-02-0	0.526	0.0015	0.0100	1
07036	Selenium	7782-49-2	0.155	0.0084	0.0200	1
07066	Silver	7440-22-4	0.0462	0.0021	0.0050	1
07071	Vanadium	7440-62-2	0.517	0.0020	0.0050	1
	<b>SW-846 7470A</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
00259	Mercury	7439-97-6	0.0010	0.000060	0.00020	1

### General Sample Comments

This sample was filtered in the lab for dissolved metals.

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
07035	Arsenic	SW-846 6010B	1	132591848001	09/19/2013 02:09	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132591848001	09/19/2013 02:09	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132591848001	09/19/2013 02:09	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132591848001	09/19/2013 02:09	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132591848001	09/19/2013 02:09	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132591848001	09/19/2013 02:09	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132591848001	09/19/2013 02:09	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132591848001	09/19/2013 02:09	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132591848001	09/19/2013 02:09	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132595713004	09/18/2013 04:52	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132591848001	09/17/2013 09:15	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132595713004	09/17/2013 15:30	Nelli S Markaryan	1

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

Sample Description: WS-006(0.5-1.0)091313MSD Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7198359  
LL Group # 1418947  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/13/2013 09:50 by HVA

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

Submitted: 09/14/2013 08:50

Reported: 09/19/2013 15:42

P4807 SDG#: PEL48-07MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>Metals Dissolved</b>						
	<b>SW-846 6010B</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	0.161	0.0068	0.0200	1
07046	Barium	7440-39-3	2.07	0.00033	0.0050	1
07049	Cadmium	7440-43-9	0.0526	0.00076	0.0050	1
07051	Chromium	7440-47-3	0.205	0.0016	0.0150	1
07055	Lead	7439-92-1	0.159	0.0047	0.0150	1
07061	Nickel	7440-02-0	0.529	0.0015	0.0100	1
07036	Selenium	7782-49-2	0.155	0.0084	0.0200	1
07066	Silver	7440-22-4	0.0472	0.0021	0.0050	1
07071	Vanadium	7440-62-2	0.514	0.0020	0.0050	1
	<b>SW-846 7470A</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
00259	Mercury	7439-97-6	0.0010	0.000060	0.00020	1

### General Sample Comments

This sample was filtered in the lab for dissolved metals.

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
07035	Arsenic	SW-846 6010B	1	132591848001	09/19/2013 02:13	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132591848001	09/19/2013 02:13	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132591848001	09/19/2013 02:13	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132591848001	09/19/2013 02:13	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132591848001	09/19/2013 02:13	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132591848001	09/19/2013 02:13	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132591848001	09/19/2013 02:13	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132591848001	09/19/2013 02:13	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132591848001	09/19/2013 02:13	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132595713004	09/18/2013 04:54	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132591848001	09/17/2013 09:15	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132595713004	09/17/2013 15:30	Nelli S Markaryan	1

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

Sample Description: WS-006(0.5-1.0)091313DUP Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7198360  
LL Group # 1418947  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/13/2013 09:50 by HVA

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

Submitted: 09/14/2013 08:50

Reported: 09/19/2013 15:42

P4807 SDG#: PEL48-07DUP

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>Metals Dissolved</b>						
	<b>SW-846 6010B</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0165	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	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
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
	<b>SW-846 7470A</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1

### General Sample Comments

This sample was filtered in the lab for dissolved metals.

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
07035	Arsenic	SW-846 6010B	1	132591848001	09/19/2013 02:05	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132591848001	09/19/2013 02:05	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132591848001	09/19/2013 02:05	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132591848001	09/19/2013 02:05	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132591848001	09/19/2013 02:05	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132591848001	09/19/2013 02:05	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132591848001	09/19/2013 02:05	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132591848001	09/19/2013 02:05	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132591848001	09/19/2013 02:05	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132595713004	09/18/2013 04:45	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132591848001	09/17/2013 09:15	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132595713004	09/17/2013 15:30	Nelli S Markaryan	1

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

Sample Description: WS-005 (Surface) 091313 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7198361  
LL Group # 1418947  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/13/2013 10:20 by HVA

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

Submitted: 09/14/2013 08:50

Reported: 09/19/2013 15:42

P4808 SDG#: PEL48-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>Metals Dissolved</b>						
	<b>SW-846 6010B</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0239	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	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
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
	<b>SW-846 7470A</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1

### General Sample Comments

This sample was filtered in the lab for dissolved metals.

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
07035	Arsenic	SW-846 6010B	1	132591848001	09/19/2013 02:53	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132591848001	09/19/2013 02:53	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132591848001	09/19/2013 02:53	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132591848001	09/19/2013 02:53	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132591848001	09/19/2013 02:53	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132591848001	09/19/2013 02:53	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132591848001	09/19/2013 02:53	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132591848001	09/19/2013 02:53	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132591848001	09/19/2013 02:53	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132595713004	09/18/2013 04:56	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132591848001	09/17/2013 09:15	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132595713004	09/17/2013 15:30	Nelli S Markaryan	1

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

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

Sample Description: WS-002 (Surface) 091313 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7198362  
LL Group # 1418947  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/13/2013 11:10 by HVA

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

Submitted: 09/14/2013 08:50

Reported: 09/19/2013 15:42

P4809 SDG#: PEL48-09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>Metals Dissolved</b>						
		<b>SW-846 6010B</b>	<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0136	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	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
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
		<b>SW-846 7470A</b>	<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1

### General Sample Comments

This sample was filtered in the lab for dissolved metals.

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
07035	Arsenic	SW-846 6010B	1	132591848001	09/19/2013 02:57	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132591848001	09/19/2013 02:57	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132591848001	09/19/2013 02:57	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132591848001	09/19/2013 02:57	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132591848001	09/19/2013 02:57	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132591848001	09/19/2013 02:57	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132591848001	09/19/2013 02:57	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132591848001	09/19/2013 02:57	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132591848001	09/19/2013 02:57	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132595713004	09/18/2013 04:58	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132591848001	09/17/2013 09:15	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132595713004	09/17/2013 15:30	Nelli S Markaryan	1

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

Sample Description: WS-011(1.5-2.0)091313 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7198363  
LL Group # 1418947  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/13/2013 10:50 by HVA

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

Submitted: 09/14/2013 08:50

Reported: 09/19/2013 15:42

P4810 SDG#: PEL48-10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>Metals Dissolved</b>						
	<b>SW-846 6010B</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0148	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	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
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
	<b>SW-846 7470A</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1

### General Sample Comments

This sample was filtered in the lab for dissolved metals.

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
07035	Arsenic	SW-846 6010B	1	132591848001	09/19/2013 03:01	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132591848001	09/19/2013 03:01	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132591848001	09/19/2013 03:01	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132591848001	09/19/2013 03:01	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132591848001	09/19/2013 03:01	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132591848001	09/19/2013 03:01	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132591848001	09/19/2013 03:01	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132591848001	09/19/2013 03:01	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132591848001	09/19/2013 03:01	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132595713004	09/18/2013 05:00	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132591848001	09/17/2013 09:15	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132595713004	09/17/2013 15:30	Nelli S Markaryan	1

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



Sample Description: WS-011(5.0-5.5)091313 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7198364  
LL Group # 1418947  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/13/2013 11:00 by HVA

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

Submitted: 09/14/2013 08:50

Reported: 09/19/2013 15:42

P4811 SDG#: PEL48-11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>Metals Dissolved</b>						
	<b>SW-846 6010B</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0164	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	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
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
	<b>SW-846 7470A</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1

### General Sample Comments

This sample was filtered in the lab for dissolved metals.

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
07035	Arsenic	SW-846 6010B	1	132591848001	09/19/2013 03:05	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132591848001	09/19/2013 03:05	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132591848001	09/19/2013 03:05	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132591848001	09/19/2013 03:05	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132591848001	09/19/2013 03:05	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132591848001	09/19/2013 03:05	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132591848001	09/19/2013 03:05	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132591848001	09/19/2013 03:05	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132591848001	09/19/2013 03:05	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132595713004	09/18/2013 05:02	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132591848001	09/17/2013 09:15	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132595713004	09/17/2013 15:30	Nelli S Markaryan	1

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

Sample Description: WS-018 (Surface) 091313 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7198365  
LL Group # 1418947  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/13/2013 11:30 by HVA

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

Submitted: 09/14/2013 08:50

Reported: 09/19/2013 15:42

P4812 SDG#: PEL48-12

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>Metals Dissolved</b>						
	<b>SW-846 6010B</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0399	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	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
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
	<b>SW-846 7470A</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1

### General Sample Comments

This sample was filtered in the lab for dissolved metals.

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
07035	Arsenic	SW-846 6010B	1	132591848001	09/19/2013 03:09	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132591848001	09/19/2013 03:09	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132591848001	09/19/2013 03:09	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132591848001	09/19/2013 03:09	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132591848001	09/19/2013 03:09	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132591848001	09/19/2013 03:09	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132591848001	09/19/2013 03:09	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132591848001	09/19/2013 03:09	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132591848001	09/19/2013 03:09	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132595713004	09/18/2013 05:04	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132591848001	09/17/2013 09:15	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132595713004	09/17/2013 15:30	Nelli S Markaryan	1

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

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Sample Description: WS-003 (Surface) 091313 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7198366  
LL Group # 1418947  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/13/2013 11:40 by HVA

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

Submitted: 09/14/2013 08:50

Reported: 09/19/2013 15:42

P4813 SDG#: PEL48-13

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>Metals Dissolved</b>						
		<b>SW-846 6010B</b>	<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0198	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	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
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
		<b>SW-846 7470A</b>	<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1

### General Sample Comments

This sample was filtered in the lab for dissolved metals.

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
07035	Arsenic	SW-846 6010B	1	132591848001	09/19/2013 03:13	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132591848001	09/19/2013 03:13	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132591848001	09/19/2013 03:13	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132591848001	09/19/2013 03:13	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132591848001	09/19/2013 03:13	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132591848001	09/19/2013 03:13	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132591848001	09/19/2013 03:13	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132591848001	09/19/2013 03:13	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132591848001	09/19/2013 03:13	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132595713004	09/18/2013 05:06	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132591848001	09/17/2013 09:15	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132595713004	09/17/2013 15:30	Nelli S Markaryan	1

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

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Sample Description: WS-007(0.5-1.0)091313 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7198367  
LL Group # 1418947  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/13/2013 11:50 by HVA

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

Submitted: 09/14/2013 08:50

Reported: 09/19/2013 15:42

P4814 SDG#: PEL48-14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>Metals Dissolved</b>						
	<b>SW-846 6010B</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0202	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	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
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
	<b>SW-846 7470A</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1

### General Sample Comments

This sample was filtered in the lab for dissolved metals.

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
07035	Arsenic	SW-846 6010B	1	132591848001	09/19/2013 03:25	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132591848001	09/19/2013 03:25	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132591848001	09/19/2013 03:25	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132591848001	09/19/2013 03:25	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132591848001	09/19/2013 03:25	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132591848001	09/19/2013 03:25	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132591848001	09/19/2013 03:25	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132591848001	09/19/2013 03:25	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132591848001	09/19/2013 03:25	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132595713004	09/18/2013 05:08	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132591848001	09/17/2013 09:15	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132595713004	09/17/2013 15:30	Nelli S Markaryan	1

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

Sample Description: WS-001(0.5-1.0)091313 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7198368  
LL Group # 1418947  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

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

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

Submitted: 09/14/2013 08:50

Reported: 09/19/2013 15:42

P4815 SDG#: PEL48-15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>Metals Dissolved</b>						
	<b>SW-846 6010B</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0142	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	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
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
	<b>SW-846 7470A</b>		<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1

### General Sample Comments

This sample was filtered in the lab for dissolved metals.

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
07035	Arsenic	SW-846 6010B	1	132591848001	09/19/2013 03:29	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132591848001	09/19/2013 03:29	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132591848001	09/19/2013 03:29	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132591848001	09/19/2013 03:29	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132591848001	09/19/2013 03:29	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132591848001	09/19/2013 03:29	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132591848001	09/19/2013 03:29	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132591848001	09/19/2013 03:29	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132591848001	09/19/2013 03:29	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132595713004	09/18/2013 05:10	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132591848001	09/17/2013 09:15	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132595713004	09/17/2013 15:30	Nelli S Markaryan	1

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

Sample Description: **WS-EB-060-091313 Filt Grab Water**  
**Mayflower, AR**  
**Pipeline Incident**

LL Sample # **WW 7198369**  
 LL Group # **1418947**  
 Account # **14739**

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

Collected: 09/13/2013 12:30 by HVA

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

Submitted: 09/14/2013 08:50

Reported: 09/19/2013 15:42

P4816 SDG#: PEL48-16EB\*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>Metals Dissolved</b>						
		<b>SW-846 6010B</b>	<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0014 J	0.00033	0.0050	1
07049	Cadmium	7440-43-9	N.D.	0.00076	0.0050	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
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
		<b>SW-846 7470A</b>	<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1

### General Sample Comments

This sample was filtered in the lab for dissolved metals.

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
07035	Arsenic	SW-846 6010B	1	132591848001	09/19/2013 03:33	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	132591848001	09/19/2013 03:33	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	132591848001	09/19/2013 03:33	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	132591848001	09/19/2013 03:33	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	132591848001	09/19/2013 03:33	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	132591848001	09/19/2013 03:33	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	132591848001	09/19/2013 03:33	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	132591848001	09/19/2013 03:33	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	132591848001	09/19/2013 03:33	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	132595713004	09/18/2013 05:16	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132591848001	09/17/2013 09:15	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132595713004	09/17/2013 15:30	Nelli S Markaryan	1

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

## Quality Control Summary

Client Name: ExxonMobil c/o Arcadis  
Reported: 09/19/13 at 03:42 PM

Group Number: 1418947

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: 132591848001	Sample number(s): 7198351-7198369								
Arsenic	N.D.	0.0068	0.0200	mg/l	106		90-113		
Barium	N.D.	0.00033	0.0050	mg/l	103		90-110		
Cadmium	N.D.	0.00076	0.0050	mg/l	105		90-112		
Chromium	N.D.	0.0016	0.0150	mg/l	101		90-110		
Lead	N.D.	0.0047	0.0150	mg/l	105		88-110		
Nickel	N.D.	0.0015	0.0100	mg/l	105		90-111		
Selenium	N.D.	0.0084	0.0200	mg/l	104		80-120		
Silver	N.D.	0.0021	0.0050	mg/l	93		80-120		
Vanadium	N.D.	0.0020	0.0050	mg/l	102		90-110		
Batch number: 132595713004	Sample number(s): 7198351-7198369								
Mercury	N.D.	0.00006	0.00020	mg/l	99		80-120		
		0							

### Sample Matrix Quality Control

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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 132591848001	Sample number(s): 7198351-7198369 UNSPK: 7198357 BKG: 7198357								
Arsenic	108	108	81-123	0	20	N.D.	N.D.	0 (1)	20
Barium	103	103	78-118	0	20	0.0164	0.0165	0 (1)	20
Cadmium	105	105	83-116	1	20	N.D.	N.D.	0 (1)	20
Chromium	101	102	81-120	1	20	N.D.	N.D.	0 (1)	20
Lead	105	106	75-125	1	20	N.D.	N.D.	0 (1)	20
Nickel	105	106	86-115	0	20	N.D.	N.D.	0 (1)	20
Selenium	103	103	75-125	0	20	N.D.	N.D.	0 (1)	20
Silver	92	94	75-125	2	20	N.D.	N.D.	0 (1)	20
Vanadium	103	103	90-111	0	20	N.D.	N.D.	0 (1)	20
Batch number: 132595713004	Sample number(s): 7198351-7198369 UNSPK: 7198357 BKG: 7198357								
Mercury	104	103	80-120	1	20	N.D.	N.D.	0 (1)	20

\*- Outside of specification

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

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

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

# ExxonMobil Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

Acct. # 14739

For Eurofins Lancaster Laboratories Environmental use only

Group # 1418947

Sample # 7198351-69

Instructions on reverse side correspond with circled numbers.

1 of 2

<b>1 Client Information</b>				<b>4 Matrix</b>				<b>5 Analyses Requested</b>								SCR#: _____																												
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	<b>Preservation Code</b>								<b>6 Preservation Codes</b> H = HCl      T = Thiosulfate N = HNO <sub>3</sub> B = NaOH S = H <sub>2</sub> SO <sub>4</sub> O = Other																															
Site Address <u>Mayflower, AR</u>					<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">H</td><td style="width: 20px; text-align: center;">N</td><td style="width: 20px; text-align: center;">H</td><td style="width: 20px; text-align: center;"></td><td style="width: 20px; text-align: center;"></td><td style="width: 20px; text-align: center;"></td><td style="width: 20px; text-align: center;"></td><td style="width: 20px; text-align: center;"></td><td style="width: 20px; text-align: center;"></td><td style="width: 20px; text-align: center;"></td><td style="width: 20px; text-align: center;"></td><td style="width: 20px; text-align: center;"></td><td style="width: 20px; text-align: center;"></td><td style="width: 20px; text-align: center;"></td><td style="width: 20px; text-align: center;"></td> </tr> <tr> <td style="text-align: center;">X</td><td style="text-align: center;">X</td><td style="text-align: center;">X</td><td style="text-align: center;">X</td><td style="text-align: center;">X</td><td style="text-align: center;">X</td><td style="text-align: center;">X</td><td style="text-align: center;">X</td><td style="text-align: center;">X</td><td style="text-align: center;">X</td><td style="text-align: center;">X</td><td style="text-align: center;">X</td><td style="text-align: center;">X</td><td style="text-align: center;">X</td><td style="text-align: center;">X</td> </tr> </table>										H	N	H													X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
H	N	H																																										
X	X	X	X		X	X	X	X	X	X	X	X			X	X	X																											
ExxonMobil PM <u>Scott Bushroe</u>		Cost Center/AFE		<b>Total # of Containers</b> VOCs <u>8260B</u> PAH <u>8270 SIM</u> RCRA Metals <u>Phys. Chem. Ni, Cr, Pb, Cu, Ag</u> Diss. Metals HEM Oil & Grease																																								
Consultant/Office <u>ARCADIS</u>				<b>3</b> Grab <input type="checkbox"/> Composite <input type="checkbox"/>				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;"><b>6</b> Remarks</td> </tr> <tr> <td colspan="2" style="text-align: center; vertical-align: top;">                     Lab to filter and pressure dss. metals upon receipt                 </td> </tr> </table>								<b>6</b> Remarks		Lab to filter and pressure dss. metals upon receipt																										
<b>6</b> Remarks																																												
Lab to filter and pressure dss. metals upon receipt																																												
Consultant PM <u>Steve Barrick</u>		Consultant Phone # <u>919 3026299</u>																																										
Sampler <u>Hans Van Aller / Ryan Lewis</u>																																												
<b>2 Sample Identification</b>				<b>Collected</b>																																								
		Date		Time		Grab																																						
<u>WS-014(1.5-2.0)091313</u>		<u>9-13-13</u>		<u>0830</u>		X																																						
<u>WS-014(5.5-6.0)091313</u>		<u>9-13-13</u>		<u>0840</u>		X																																						
<u>WS-012(1.5-2.0)091313</u>		<u>9-13-13</u>		<u>0900</u>		X																																						
<u>WS-012(5.0-5.5)091313</u>		<u>9-13-13</u>		<u>0910</u>		X																																						
<u>WS-010(1.5-2.0)091313</u>		<u>9-13-13</u>		<u>0930</u>		X																																						
<u>WS-010(3.5-4.0)091313</u>		<u>9-13-13</u>		<u>0940</u>		X																																						
<u>WS-006(0.5-1.0)091313</u>		<u>9-13-13</u>		<u>0950</u>		X																																						
<u>WS-005(surface)091313</u>		<u>9-13-13</u>		<u>1020</u>		X																																						
<u>WS-002(surface)091313</u>		<u>9-13-13</u>		<u>1110</u>		X																																						
<u>WS-011(1.5-2.0)091313</u>		<u>9-13-13</u>		<u>1050</u>		X																																						
<u>WS-011(5.0-5.5)091313</u>		<u>9-13-13</u>		<u>1100</u>		X																																						
<u>WS-018(surface)091313</u>		<u>9-13-13</u>		<u>1130</u>		X																																						
<b>7 Turnaround Time Requested (TAT) (please circle)</b>				Relinquished by <u>Mon Lewis</u>				Date <u>9-13-13</u>		Time <u>1430</u>		Received by _____		Date _____		Time _____																												
Standard <u>5 day</u> 4 day				Relinquished by _____				Date _____		Time _____		Received by _____		Date _____		Time _____																												
72 hour      48 hour      24 hour				Relinquished by _____				Date _____		Time _____		Received by _____		Date _____		Time _____																												
<b>8 Data Package (circle if required)</b>				Relinquished by Commercial Carrier				Date _____		Time _____		Received by _____		Date <u>9/14/13</u>		Time <u>850</u>																												
Type I - Full				UPS <input checked="" type="checkbox"/> FedEx _____      Other _____				Temperature Upon Receipt <u>0.5-3.3 °C</u>		Custody Seals Intact? <u>Yes</u> No		Type VI (Raw Data)		EDD (circle if required)		Locus EIM (default)																												
NJ Reduced				Other _____				Other _____		Other _____		Other _____		Other _____		Other _____																												
Other _____				Other _____				Other _____		Other _____		Other _____		Other _____		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.

7053 0713



# ExxonMobil Analysis Request/Chain of Custody



Lancaster Laboratories  
Environmental

Acct. # 14739

For Eurofins Lancaster Laboratories Environmental use only  
Group # 1418947 Sample # 7198351-69

Instructions on reverse side correspond with circled numbers.

2 of 2

<b>1 Client Information</b>				<b>4 Matrix</b>			<b>5 Analyses Requested</b>										SCR#: _____	
Facility #/SID <u>Mayflower Pipeline Incident</u>				<input type="checkbox"/> Sediment  <input type="checkbox"/> Potable  <input type="checkbox"/> Soil  <input type="checkbox"/> Water  <input type="checkbox"/> Oil	<input type="checkbox"/> Ground  <input type="checkbox"/> NPDES  <input type="checkbox"/> Air	<input checked="" type="checkbox"/> Surface	<b>Preservation Code</b>										<b>6 Preservation Codes</b> H = HCl      T = Thiosulfate N = HNO <sub>3</sub> B = NaOH S = H <sub>2</sub> SO <sub>4</sub> O = Other	
Site Address <u>Mayflower, AR</u>							H <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>										<b>9 Remarks</b>  MS / MSD	
ExxonMobil PM <u>Scott Bushroe</u>		Cost Center/AFE					Total # of Containers VOC 8260B PAH 8270SIM RCRA Metals <sup>Business</sup> / <sup>CA, NY, MS</sup> Diss. Metals HEM Oil & Grease											
Consultant/Office <u>ARCADIS</u>																		
Consultant PM <u>Steve Barrick</u>		Consultant Phone # <u>919 3026799</u>																
Sampler <u>Hans Van Aller / Ryan Lewis</u>																		
<b>2 Sample Identification</b>		<b>Collected</b>		<b>3</b>														
		Date	Time	Grab	Composite													
<u>WS-003 (Surface) 091313</u>		<u>9-13-13</u>	<u>1140</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>													
<u>WS-007 (0.5-1.0) 091313</u>		<u>9-13-13</u>	<u>1150</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>													
<u>WS-001 (0.5-1.0) 091313</u>		<u>9-13-13</u>	<u>1200</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>													
<u>WS-EB-060-091313</u>		<u>9-13-13</u>	<u>1230</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>													
<u>WS-006 (0.5-1.0) 091313 MS/MSD</u>		<u>9-13-13</u>	<u>0950</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>													
<u>WS-TB-149-091313</u>		<u>9-13-13</u>	<u>-</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>													
<b>7 Turnaround Time Requested (TAT) (please circle)</b>				Relinquished by <u>[Signature]</u>		Date <u>9-13-13</u>	Time <u>1430</u>	Received by <u>[Signature]</u>				Date	Time					
Standard		<input checked="" type="radio"/> 5 day	4 day		Relinquished by	Date	Time	Received by				Date	Time					
72 hour		48 hour	24 hour		Relinquished by	Date	Time	Received by				Date	Time					
<b>8 Data Package (circle if required)</b>				Relinquished by Commercial Carrier		Temperature Upon Receipt <u>0.5-3.3</u> °C		Received by <u>[Signature]</u>				Date <u>9/14/13</u>	Time <u>850</u>					
Type I - Full		EDD (circle if required)		UPS <input checked="" type="checkbox"/> FedEx _____ Other _____		Custody Seals Intact? <input checked="" type="checkbox"/> Yes _____ No												
Type VI (Raw Data)		Locus EIM (default)																
NJ Reduced		Other _____																
Other _____																		

Environmental Sample Administration  
Receipt Documentation Log

Client/Project: ExxonMobil  
 Date of Receipt: 9/14/13  
 Time of Receipt: 850  
 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	DT121	1.0	TB	WI	Y	B	
2	↓	1.6	↓	↓	↓	↓	
3	↓	0.9	↓	↓	↓	↓	
4	↓	0.6	↓	↓	↓	↓	
5	↓	3.3	↓	↓	↓	↓	
6	↓	0.5	↓	↓	↓	↓	

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

Paperwork Discrepancy/Unpacking Problems:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Unpacker Signature/Emp#: [Signature] 2308 Date/Time: 9/14/13 1036

# Explanation of Symbols and Abbreviations

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

<b>RL</b>	Reporting Limit	<b>BMQL</b>	Below Minimum Quantitation Level
<b>N.D.</b>	none detected	<b>MPN</b>	Most Probable Number
<b>TNTC</b>	Too Numerous To Count	<b>CP Units</b>	cobalt-chloroplatinate units
<b>IU</b>	International Units	<b>NTU</b>	nephelometric turbidity units
<b>umhos/cm</b>	micromhos/cm	<b>ng</b>	nanogram(s)
<b>C</b>	degrees Celsius	<b>F</b>	degrees Fahrenheit
<b>meq</b>	milliequivalents	<b>lb.</b>	pound(s)
<b>g</b>	gram(s)	<b>kg</b>	kilogram(s)
<b>µg</b>	microgram(s)	<b>mg</b>	milligram(s)
<b>mL</b>	milliliter(s)	<b>L</b>	liter(s)
<b>m<sup>3</sup></b>	cubic meter(s)	<b>µL</b>	microliter(s)
		<b>pg/L</b>	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**

**Inorganic Qualifiers**

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