

## 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 09, 2013

Project: Mayflower, AR Pipeline Incident

Submittal Date: 09/02/2013

Group Number: 1415759

SDG: PEL20

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)090113 Filt Grab Surface Water	7182970
WS-014(5.5-6.0)090113 Filt Grab Surface Water	7182971
WS-012(1.5-2.0)090113 Filt Grab Surface Water	7182972
WS-012(5.0-5.5)090113 Filt Grab Surface Water	7182973
WS-010(1.5-2.0)090113 Filt Grab Surface Water	7182974
WS-010(3.5-4.0)090113 Filt Grab Surface Water	7182975
WS-006(0.5-1.0)090113 Filt Grab Surface Water	7182976
WS-006(0.5-1.0)090113MS Filt Grab Surface Water	7182977
WS-006(0.5-1.0)090113MSD Filt Grab Surface Water	7182978
WS-006(0.5-1.0)090113DUP Filt Grab Surface Water	7182979
WS-005(Surface)090113 Filt Grab Surface Water	7182980
WS-002(Surface)090113 Filt Grab Surface Water	7182981
WS-011(1.5-2.0)090113 Filt Grab Surface Water	7182982
WS-011(5.0-5.5)090113 Filt Grab Surface Water	7182983
WS-018(Surface)090113 Filt Grab Surface Water	7182984
WS-003(Surface)090113 Filt Grab Surface Water	7182985
WS-007(0.5-1.0)090113 Filt Grab Surface Water	7182986
WS-001(0.5-1.0)090113 Filt Grab Surface Water	7182987
WS-EB-048-090113 Filt Grab Water	7182988

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

COPY TO		
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 #: 1415759

**General Comments:**

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

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

Project specific QC samples are included in this data set

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

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

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

**Analysis Specific Comments:****SW-846 7470A, Metals Dissolved**

Batch #: 132475713003 (Sample number(s): 7182970-7182988 UNSPK: 7182976 BKG: 7182976)

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

Sample Description: WS-014(1.5-2.0)090113 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7182970  
LL Group # 1415759  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/01/2013 08:40 by HVA

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

Submitted: 09/02/2013 10:05

Reported: 09/09/2013 17:01

0114F SDG#: PEL20-01

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	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0107	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	132471848005	09/05/2013 13:38	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848005	09/05/2013 13:38	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848005	09/05/2013 13:38	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848005	09/05/2013 13:38	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848005	09/05/2013 13:38	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848005	09/05/2013 13:38	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848005	09/05/2013 13:38	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848005	09/05/2013 13:38	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848005	09/05/2013 13:38	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713003	09/06/2013 07:43	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848005	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713003	09/05/2013 15:30	Nelli S Markaryan	1

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

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Sample Description: WS-014(5.5-6.0)090113 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7182971  
LL Group # 1415759  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/01/2013 08:50 by HVA

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

Submitted: 09/02/2013 10:05

Reported: 09/09/2013 17:01

01F14 SDG#: PEL20-02

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	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0097	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	132471848005	09/05/2013 13:41	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848005	09/05/2013 13:41	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848005	09/05/2013 13:41	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848005	09/05/2013 13:41	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848005	09/05/2013 13:41	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848005	09/05/2013 13:41	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848005	09/05/2013 13:41	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848005	09/05/2013 13:41	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848005	09/05/2013 13:41	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713003	09/06/2013 07:45	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848005	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713003	09/05/2013 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)090113 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7182972  
LL Group # 1415759  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/01/2013 09:10 by HVA

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

Submitted: 09/02/2013 10:05

Reported: 09/09/2013 17:01

0112F SDG#: PEL20-03

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	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0241	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	132471848005	09/05/2013 13:53	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848005	09/05/2013 13:53	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848005	09/05/2013 13:53	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848005	09/05/2013 13:53	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848005	09/05/2013 13:53	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848005	09/05/2013 13:53	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848005	09/05/2013 13:53	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848005	09/05/2013 13:53	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848005	09/05/2013 13:53	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713003	09/06/2013 07:47	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848005	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713003	09/05/2013 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)090113 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7182973  
LL Group # 1415759  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/01/2013 09:20 by HVA

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

Submitted: 09/02/2013 10:05

Reported: 09/09/2013 17:01

01F12 SDG#: PEL20-04

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	0.0245	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	132471848005	09/05/2013 13:57	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848005	09/05/2013 13:57	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848005	09/05/2013 13:57	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848005	09/05/2013 13:57	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848005	09/05/2013 13:57	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848005	09/05/2013 13:57	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848005	09/05/2013 13:57	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848005	09/05/2013 13:57	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848005	09/05/2013 13:57	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713003	09/06/2013 07:49	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848005	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713003	09/05/2013 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(1.5-2.0)090113 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7182974  
LL Group # 1415759  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/01/2013 09:40 by HVA

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

Submitted: 09/02/2013 10:05

Reported: 09/09/2013 17:01

0110F SDG#: PEL20-05

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	0.0300	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	132471848005	09/05/2013 14:01	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848005	09/05/2013 14:01	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848005	09/05/2013 14:01	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848005	09/05/2013 14:01	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848005	09/05/2013 14:01	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848005	09/05/2013 14:01	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848005	09/05/2013 14:01	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848005	09/05/2013 14:01	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848005	09/05/2013 14:01	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713003	09/06/2013 07:52	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848005	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713003	09/05/2013 15:30	Nelli S Markaryan	1

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



Sample Description: WS-010(3.5-4.0)090113 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7182975  
LL Group # 1415759  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/01/2013 09:50 by HVA

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

Submitted: 09/02/2013 10:05

Reported: 09/09/2013 17:01

01F10 SDG#: PEL20-06

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	0.0561	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	132471848005	09/05/2013 14:04	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848005	09/05/2013 14:04	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848005	09/05/2013 14:04	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848005	09/05/2013 14:04	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848005	09/05/2013 14:04	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848005	09/05/2013 14:04	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848005	09/05/2013 14:04	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848005	09/05/2013 14:04	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848005	09/05/2013 14:04	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713003	09/06/2013 07:54	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848005	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713003	09/05/2013 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)090113 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7182976  
LL Group # 1415759  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/01/2013 10:00 by HVA

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

Submitted: 09/02/2013 10:05

Reported: 09/09/2013 17:01

0106F SDG#: PEL20-07BKG

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	0.0404	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	132471848005	09/05/2013 13:15	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848005	09/05/2013 13:15	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848005	09/05/2013 13:15	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848005	09/05/2013 13:15	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848005	09/05/2013 13:15	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848005	09/05/2013 13:15	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848005	09/05/2013 13:15	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848005	09/05/2013 13:15	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848005	09/05/2013 13:15	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713003	09/06/2013 08:00	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848005	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713003	09/05/2013 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)090113MS Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7182977  
LL Group # 1415759  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/01/2013 10:00 by HVA

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

Submitted: 09/02/2013 10:05

Reported: 09/09/2013 17:01

0106F SDG#: PEL20-07MS

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	2.21	0.00033	0.0050	1
07049	Cadmium	7440-43-9	0.0538	0.00076	0.0050	1
07051	Chromium	7440-47-3	0.211	0.0016	0.0150	1
07055	Lead	7439-92-1	0.166	0.0047	0.0150	1
07061	Nickel	7440-02-0	0.559	0.0015	0.0100	1
07036	Selenium	7782-49-2	0.158	0.0084	0.0200	1
07066	Silver	7440-22-4	0.0524	0.0021	0.0050	1
07071	Vanadium	7440-62-2	0.520	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	132471848005	09/05/2013 13:26	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848005	09/05/2013 13:26	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848005	09/05/2013 13:26	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848005	09/05/2013 13:26	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848005	09/05/2013 13:26	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848005	09/05/2013 13:26	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848005	09/05/2013 13:26	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848005	09/05/2013 13:26	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848005	09/05/2013 13:26	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713003	09/06/2013 08:04	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848005	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713003	09/05/2013 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)090113MSD Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7182978  
LL Group # 1415759  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/01/2013 10:00 by HVA

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

Submitted: 09/02/2013 10:05

Reported: 09/09/2013 17:01

0106F SDG#: PEL20-07MSD

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	0.163	0.0068	0.0200	1
07046	Barium	7440-39-3	2.21	0.00033	0.0050	1
07049	Cadmium	7440-43-9	0.0539	0.00076	0.0050	1
07051	Chromium	7440-47-3	0.211	0.0016	0.0150	1
07055	Lead	7439-92-1	0.165	0.0047	0.0150	1
07061	Nickel	7440-02-0	0.558	0.0015	0.0100	1
07036	Selenium	7782-49-2	0.160	0.0084	0.0200	1
07066	Silver	7440-22-4	0.0524	0.0021	0.0050	1
07071	Vanadium	7440-62-2	0.518	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	0.0011	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	132471848005	09/05/2013 13:30	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848005	09/05/2013 13:30	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848005	09/05/2013 13:30	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848005	09/05/2013 13:30	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848005	09/05/2013 13:30	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848005	09/05/2013 13:30	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848005	09/05/2013 13:30	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848005	09/05/2013 13:30	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848005	09/05/2013 13:30	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713003	09/06/2013 08:06	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848005	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713003	09/05/2013 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)090113DUP Filtr Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7182979  
LL Group # 1415759  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/01/2013 10:00 by HVA

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

Submitted: 09/02/2013 10:05

Reported: 09/09/2013 17:01

0106F SDG#: PEL20-07DUP

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	0.0405	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	0.000061 J	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	132471848005	09/05/2013 13:22	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848005	09/05/2013 13:22	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848005	09/05/2013 13:22	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848005	09/05/2013 13:22	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848005	09/05/2013 13:22	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848005	09/05/2013 13:22	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848005	09/05/2013 13:22	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848005	09/05/2013 13:22	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848005	09/05/2013 13:22	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713003	09/06/2013 08:02	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848005	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713003	09/05/2013 15:30	Nelli S Markaryan	1

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

Sample Description: WS-005 (Surface) 090113 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7182980  
LL Group # 1415759  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/01/2013 10:35 by HVA

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

Submitted: 09/02/2013 10:05

Reported: 09/09/2013 17:01

0105F SDG#: PEL20-08

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	0.0233	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	132471848005	09/05/2013 14:08	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848005	09/05/2013 14:08	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848005	09/05/2013 14:08	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848005	09/05/2013 14:08	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848005	09/05/2013 14:08	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848005	09/05/2013 14:08	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848005	09/05/2013 14:08	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848005	09/05/2013 14:08	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848005	09/05/2013 14:08	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713003	09/06/2013 08:08	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848005	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713003	09/05/2013 15:30	Nelli S Markaryan	1

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

Sample Description: WS-002 (Surface) 090113 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7182981  
LL Group # 1415759  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/01/2013 11:10 by HVA

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

Submitted: 09/02/2013 10:05

Reported: 09/09/2013 17:01

0102F SDG#: PEL20-09

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	0.0127	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	132471848005	09/05/2013 14:12	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848005	09/05/2013 14:12	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848005	09/05/2013 14:12	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848005	09/05/2013 14:12	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848005	09/05/2013 14:12	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848005	09/05/2013 14:12	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848005	09/05/2013 14:12	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848005	09/05/2013 14:12	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848005	09/05/2013 14:12	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713003	09/06/2013 08:10	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848005	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713003	09/05/2013 15:30	Nelli S Markaryan	1

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

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Sample Description: WS-011(1.5-2.0)090113 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7182982  
LL Group # 1415759  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/01/2013 11:25 by HVA

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

Submitted: 09/02/2013 10:05

Reported: 09/09/2013 17:01

0111F SDG#: PEL20-10

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	0.0116	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	132471848005	09/05/2013 14:16	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848005	09/05/2013 14:16	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848005	09/05/2013 14:16	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848005	09/05/2013 14:16	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848005	09/05/2013 14:16	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848005	09/05/2013 14:16	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848005	09/05/2013 14:16	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848005	09/05/2013 14:16	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848005	09/05/2013 14:16	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713003	09/06/2013 08:12	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848005	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713003	09/05/2013 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)090113 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7182983  
LL Group # 1415759  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/01/2013 11:35 by HVA

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

Submitted: 09/02/2013 10:05

Reported: 09/09/2013 17:01

01F11 SDG#: PEL20-11

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	0.0106	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	132471848005	09/05/2013 14:20	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848005	09/05/2013 14:20	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848005	09/05/2013 14:20	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848005	09/05/2013 14:20	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848005	09/05/2013 14:20	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848005	09/05/2013 14:20	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848005	09/05/2013 14:20	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848005	09/05/2013 14:20	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848005	09/05/2013 14:20	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713003	09/06/2013 08:14	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848005	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713003	09/05/2013 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-018 (Surface) 090113 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7182984  
LL Group # 1415759  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/01/2013 12:00 by HVA

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

Submitted: 09/02/2013 10:05

Reported: 09/09/2013 17:01

0118F SDG#: PEL20-12

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>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	0.116	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 6010B</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
<b>SW-846 7470A</b>			<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	

### 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	132471848005	09/05/2013 14:23	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848005	09/05/2013 14:23	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848005	09/05/2013 14:23	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848005	09/05/2013 14:23	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848005	09/05/2013 14:23	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848005	09/05/2013 14:23	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848005	09/05/2013 14:23	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848005	09/05/2013 14:23	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848005	09/05/2013 14:23	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713003	09/06/2013 08:16	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848005	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713003	09/05/2013 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) 090113 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7182985  
LL Group # 1415759  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/01/2013 12:10 by HVA

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

Submitted: 09/02/2013 10:05

Reported: 09/09/2013 17:01

01-3F SDG#: PEL20-13

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>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	0.0337	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 6010B</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
<b>SW-846 7470A</b>			<b>mg/l</b>	<b>mg/l</b>	<b>mg/l</b>	

### 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	132471848005	09/05/2013 14:27	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848005	09/05/2013 14:27	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848005	09/05/2013 14:27	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848005	09/05/2013 14:27	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848005	09/05/2013 14:27	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848005	09/05/2013 14:27	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848005	09/05/2013 14:27	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848005	09/05/2013 14:27	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848005	09/05/2013 14:27	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713003	09/06/2013 08:18	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848005	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713003	09/05/2013 15:30	Nelli S Markaryan	1

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

Sample Description: WS-007(0.5-1.0)090113 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7182986  
LL Group # 1415759  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/01/2013 12:20 by HVA

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

Submitted: 09/02/2013 10:05

Reported: 09/09/2013 17:01

0107F SDG#: PEL20-14

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	0.0189	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	132471848005	09/05/2013 14:39	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848005	09/05/2013 14:39	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848005	09/05/2013 14:39	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848005	09/05/2013 14:39	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848005	09/05/2013 14:39	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848005	09/05/2013 14:39	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848005	09/05/2013 14:39	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848005	09/05/2013 14:39	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848005	09/05/2013 14:39	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713003	09/06/2013 08:24	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848005	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713003	09/05/2013 15:30	Nelli S Markaryan	1

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

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Sample Description: WS-001(0.5-1.0)090113 Filt Grab Surface Water  
Mayflower, AR  
Pipeline Incident

LL Sample # WW 7182987  
LL Group # 1415759  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/01/2013 12:35 by HVA

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

Submitted: 09/02/2013 10:05

Reported: 09/09/2013 17:01

01-1F SDG#: PEL20-15

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	0.0747	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	0.000061 J	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	132471848005	09/05/2013 14:42	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848005	09/05/2013 14:42	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848005	09/05/2013 14:42	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848005	09/05/2013 14:42	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848005	09/05/2013 14:42	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848005	09/05/2013 14:42	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848005	09/05/2013 14:42	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848005	09/05/2013 14:42	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848005	09/05/2013 14:42	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713003	09/06/2013 08:26	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848005	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713003	09/05/2013 15:30	Nelli S Markaryan	1

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

Sample Description: **WS-EB-048-090113 Filt Grab Water**  
**Mayflower, AR**  
**Pipeline Incident**

LL Sample # **WW 7182988**  
 LL Group # **1415759**  
 Account # **14739**

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

Collected: 09/01/2013 13:00 by HVA

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

Submitted: 09/02/2013 10:05

Reported: 09/09/2013 17:01

0148F SDG#: PEL20-16EB\*

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	N.D.	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	132471848005	09/05/2013 14:46	Eric L Eby	1
07046	Barium	SW-846 6010B	1	132471848005	09/05/2013 14:46	Eric L Eby	1
07049	Cadmium	SW-846 6010B	1	132471848005	09/05/2013 14:46	Eric L Eby	1
07051	Chromium	SW-846 6010B	1	132471848005	09/05/2013 14:46	Eric L Eby	1
07055	Lead	SW-846 6010B	1	132471848005	09/05/2013 14:46	Eric L Eby	1
07061	Nickel	SW-846 6010B	1	132471848005	09/05/2013 14:46	Eric L Eby	1
07036	Selenium	SW-846 6010B	1	132471848005	09/05/2013 14:46	Eric L Eby	1
07066	Silver	SW-846 6010B	1	132471848005	09/05/2013 14:46	Eric L Eby	1
07071	Vanadium	SW-846 6010B	1	132471848005	09/05/2013 14:46	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	132475713003	09/06/2013 08:28	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132471848005	09/04/2013 23:30	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132475713003	09/05/2013 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: 09/09/13 at 05:01 PM

Group Number: 1415759

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: 132471848005	Sample number(s): 7182970-7182988								
Arsenic	N.D.	0.0068	0.0200	mg/l	107		90-113		
Barium	N.D.	0.00033	0.0050	mg/l	108		90-110		
Cadmium	N.D.	0.00076	0.0050	mg/l	107		90-112		
Chromium	N.D.	0.0016	0.0150	mg/l	105		90-110		
Lead	N.D.	0.0047	0.0150	mg/l	110		88-110		
Nickel	N.D.	0.0015	0.0100	mg/l	111		90-111		
Selenium	N.D.	0.0084	0.0200	mg/l	107		80-120		
Silver	N.D.	0.0021	0.0050	mg/l	106		80-120		
Vanadium	N.D.	0.0020	0.0050	mg/l	102		90-110		
Batch number: 132475713003	Sample number(s): 7182970-7182988								
Mercury	N.D.	0.00006	0.00020	mg/l	102		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: 132471848005	Sample number(s): 7182970-7182988 UNSPK: 7182976 BKG: 7182976								
Arsenic	108	109	81-123	0	20	N.D.	N.D.	0 (1)	20
Barium	108	109	78-118	0	20	0.0404	0.0405	0	20
Cadmium	108	108	83-116	0	20	N.D.	N.D.	0 (1)	20
Chromium	105	105	81-120	0	20	N.D.	N.D.	0 (1)	20
Lead	111	110	75-125	1	20	N.D.	N.D.	0 (1)	20
Nickel	112	112	86-115	0	20	N.D.	N.D.	0 (1)	20
Selenium	106	106	75-125	1	20	N.D.	N.D.	0 (1)	20
Silver	105	105	75-125	0	20	N.D.	N.D.	0 (1)	20
Vanadium	104	104	90-111	0	20	N.D.	N.D.	0 (1)	20
Batch number: 132475713003	Sample number(s): 7182970-7182988 UNSPK: 7182976 BKG: 7182976								
Mercury	102	108	80-120	6	20	N.D.	0.000061 J	200* (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 # 1415759 Sample # 7182970-88

Instructions on reverse side correspond with circled numbers.

2 of 3

<b>1 Client Information</b>				<b>4 Matrix</b>			<b>5 Analyses Requested</b>										SCR#: _____															
Facility #/SID <u>May flower 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>																	
Site Address <u>May flower, AR</u>					<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">H</td> <td style="width: 25%;">N</td> <td style="width: 25%;">H</td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table>										H	N	H														H = HCl      T = Thiosulfate N = HNO <sub>3</sub> B = NaOH S = H <sub>2</sub> SO <sub>4</sub> O = Other	
H	N	H																														
ExxonMobil PM <u>Scott Bushroe</u>		Cost Center/AFE			Total # of Containers VOLs 8260B PAHs 8270 SIM ACRA metals Ni, V, Cr, Mg Diss Metals HEM Oil & Grease										<b>6 Remarks</b>																	
Consultant/Office <u>Arcadis</u>																																
Consultant PM <u>Steve Barrick</u>		Consultant Phone # <u>919-302 6799</u>																														
Sampler <u>Hans Van Aller / Dave Drost</u>				<b>3</b>																												
<b>2 Sample Identification</b>				<b>Collected</b>																												
				Date		Time		Grab		Composite																						
WS-003 (surface) 083113				8/31/13		1155		X																								
WS-007 (0.5-1.0) 083113				↓		1215		X																								
WS-001 (0.5-1.0) 083113						1225		X																								
WS-EB-047-083113						1300		X																								
DUP-WS-80-083113						—		X																								
WS-014 (1.5-2.0) 090113				9/1/13		840		X																								
WS-014 (5.5-6.0) 090113				↓		850		X																								
WS-012 (1.5-2.0) 090113						910		X																								
WS-012 (5.0-5.5) 090113						920		X																								
WS-010 (1.5-2.0) 090113						940		X																								
WS-010 (3.5-4.0) 090113						950		X																								
WS-006 (0.5-1.0) 090113						1000		X				Y																				
<b>7 Turnaround Time Requested (TAT) (please circle)</b>				Relinquished by <u>Hans Van Aller</u>			Date <u>9/1/13</u>		Time <u>1530</u>		Received by			Date		Time <b>9</b>																
Standard <b>8 day</b> 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		Time																
Type I - Full				UPS _____ FedEx _____ Other <u>Southwest</u>							<u>Deborah Nesbitt</u>			<u>9/2/13</u>		<u>1005</u>																
Type VI (Raw Data)				Temperature Upon Receipt <u>0.6 - 5.8 °C</u>							Custody Seals Intact?			<b>Yes</b>		No																
NJ Reduced																																
Other _____																																



# ExxonMobil Analysis Request/Chain of Custody



Lancaster Laboratories  
Environmental

Acct. # 14739

For Eurofins Lancaster Laboratories Environmental use only

Group # 1415759 Sample # 7182970-88

Instructions on reverse side correspond with circled numbers.

3 of 3

<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"/> Water <input type="checkbox"/> NPDES <input checked="" type="checkbox"/> Surface <input type="checkbox"/> Soil <input type="checkbox"/> Air				<b>Preservation Code</b>												<b>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      W      H 4      W      H VGS B260 B      PAHs B270 SIM      RCPA Metals + Ni, V, Cr, Pb      Diss Metals      HEM Oil & Grease													
ExxonMobil PM <u>Scott Bushroe</u>		Cost Center/AFE		Total # of Containers 9 9 9 9 9 9 9 9 7 2																<b>6 Remarks</b>	
Consultant/Office <u>Aracdis</u>		Consultant Phone # <u>919-302-6799</u>																			
Consultant PM <u>Steve Barrick</u>		Sampler <u>Hans Van Aller / Dave Drost</u>		Grab      Composite <input type="checkbox"/> <input type="checkbox"/>																	
Sample Identification		Collected																			
		Date	Time																		
<u>WS-006(0.5-1.0)090113MS/MSD</u>		<u>9/1/13</u>	<u>1000</u>	<input checked="" type="checkbox"/>																	
<u>WS-005(surface)090113</u>			<u>1035</u>	<input checked="" type="checkbox"/>																	
<u>WS-002(surface)090113</u>			<u>1110</u>	<input checked="" type="checkbox"/>																	
<u>WS-011(1.5-2.0)090113</u>			<u>1125</u>	<input checked="" type="checkbox"/>																	
<u>WS-011(5.0-5.5)090113</u>			<u>1135</u>	<input checked="" type="checkbox"/>																	
<u>WS-018(surface)090113</u>			<u>1200</u>	<input checked="" type="checkbox"/>																	
<u>WS-003(surface)090113</u>			<u>1210</u>	<input checked="" type="checkbox"/>																	
<u>WS-007(0.5-1.0)090113</u>			<u>1220</u>	<input checked="" type="checkbox"/>																	
<u>WS-001(0.5-1.0)090113</u>			<u>1235</u>	<input checked="" type="checkbox"/>																	
<u>WS-EB-048-090113</u>			<u>1300</u>	<input checked="" type="checkbox"/>																	
<u>WS-TB-138-090113</u>		<u>9/1/13</u>	—	<input checked="" type="checkbox"/>																	
<b>7 Turnaround Time Requested (TAT) (please circle)</b>				Relinquished by <u>H Van Aller</u>				Date <u>9/1/13</u>		Time <u>1530</u>		Received by		Date		Time <b>9</b>					
Standard <u>8 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 <u>Detor...</u>		Date <u>9/2/13</u>		Time <u>1005</u>					
Type I - Full				UPS _____ FedEx _____ Other <u>Southwest</u>				Temperature Upon Receipt <u>0.6-5.8</u> °C		Custody Seals Intact?		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No							
Type VI (Raw Data)				EDD (circle if required)																	
NJ Reduced				Locus EIM (default)																	
Other _____				Other _____																	

Environmental Sample Administration 1415759  
 Receipt Documentation Log

Client/Project: XOM Mayflower  
 Date of Receipt: 9/2/13  
 Time of Receipt: 1005  
 Source Code: 01

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	1.4	2.3	WI	Y	B	
2	↓	5.8	↓	↓	↓	↓	
3	↓	2.4	↓	↓	↓	↓	
4	↓	3.0	↓	↓	↓	↓	
5	↓	1.2	↓	↓	↓	↓	
6	↓	4.0	↓	↓	↓	↓	

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

Paperwork Discrepancy/Unpacking Problems:

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Unpacker Signature/Emp#: D. Meslund / 208 Date/Time: 9/2/13 1530

Environmental Sample Administration 1415759  
Receipt Documentation Log

Client/Project: XOM Mayflower

Date of Receipt: 9/2/13

Time of Receipt: 1005

Source Code: 01

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
7 <sub>x</sub>	DT121	2.3	TB	WI	Y	B	
8 <sub>x</sub>		2.3					
9 <sub>x</sub>		2.3					
10 <sub>x</sub>		0.6					
11 <sub>x</sub>		2.1					
12 <sub>x</sub>	↓	3.9	↓	↓	↓	↓	

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

Paperwork Discrepancy/Unpacking Problems:

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Unpacker Signature/Emp#: Paneslund / 208 Date/Time: 9/2/13 1530

Environmental Sample Administration **1415759**  
 Receipt Documentation Log

Client/Project: KOM Mayflower  
 Date of Receipt: 9/2/13  
 Time of Receipt: 1005  
 Source Code: 01

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
13	DT121	4.2	TB	WI	Y	B	
2							
3							
4							
5							
6							

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

Paperwork Discrepancy/Unpacking Problems:

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

Unpacker Signature/Emp#: Daneslund / 208 Date/Time: 9/2/13 1530

# 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>m3</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**

- 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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