

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

November 01, 2013

Project: Mayflower, AR Pipeline Incident

Submittal Date: 10/25/2013

Group Number: 1429144

SDG: PEM44

PO Number: B0086003.1301

State of Sample Origin: AR

Client Sample DescriptionLancaster Labs (LL) #

WS-018(Surface)102413 Filt Grab Surface Water	7251870
WS-003(Surface)102413 Filt Grab Surface Water	7251871
WS-005(Surface)102413 Filt Grab Surface Water	7251872
WS-014(1.5-2.0)102413 Filt Grab Surface Water	7251873
WS-014(5.5-6.0)102413 Filt Grab Surface Water	7251874
WS-012(1.5-2.0)102413 Filt Grab Surface Water	7251875
WS-012(5.0-5.5)102413 Filt Grab Surface Water	7251876
WS-010(1.5-2.0)102413 Filt Grab Surface Water	7251877
WS-010(3.5-4.0)102413 Filt Grab Surface Water	7251878
WS-006(0.5-1.0)102413 Filt Grab Surface Water	7251879
WS-002(Surface)102413 Filt Grab Surface Water	7251880
WS-011(1.5-2.0)102413 Filt Grab Surface Water	7251881
WS-011(5.0-5.5)102413 Filt Grab Surface Water	7251882
WS-007(0.5-1.0)102413 Filt Grab Surface Water	7251883
WS-001(0.5-1.0)102413 Filt Grab Surface Water	7251884
DUP-WS-107-102413 Filt Grab Surface Water	7251885
WS-EB-101-102413 Filt Grab Water	7251886

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

ELECTRONIC COPY TO
ARCADIS

Attn: Emily Leamer

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ARCADIS

ExxonMobil

ExxonMobil

Attn: Rhiannon Parmalee

Attn: Michael L Sixsmith

Attn: Julie Foster

Respectfully Submitted,



Katherine A. Klinefelter
Principal Specialist

(717) 556-7256

Project Name: Mayflower, AR Pipeline Incident
LLI Group #: 1429144

General Comments:

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

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

Project specific QC samples are not included in this data set

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

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

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

Analysis Specific Comments:**SW-846 6010B, Metals Dissolved**

Batch #: 133011848002 (Sample number(s): 7251870-7251886 UNSPK: 7251876 BKG: 7251876)

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

Sample Description: WS-018(Surface)102413 Filt Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7251870
LL Group # 1429144
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/24/2013 08:30 by CP

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

Submitted: 10/25/2013 09:20

Reported: 11/01/2013 10:48

2418F SDG#: PEM44-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07035	Arsenic	SW-846 6010B 7440-38-2	mg/l N.D.	mg/l 0.0068	mg/l 0.0200	1
07046	Barium	7440-39-3	0.0206	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
SW-846 7470A						
00259	Mercury	7439-97-6	mg/l N.D.	mg/l 0.000060	mg/l 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	133011848002	10/31/2013 23:58	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	133011848002	10/31/2013 23:58	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	133011848002	10/31/2013 23:58	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	133011848002	10/31/2013 23:58	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	133011848002	10/31/2013 23:58	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	133011848002	10/31/2013 23:58	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	133011848002	10/31/2013 23:58	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	133011848002	10/31/2013 23:58	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	133011848002	10/31/2013 23:58	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	133005713002	10/29/2013 07:13	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	133011848002	10/29/2013 07:00	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	133005713002	10/28/2013 15:50	Nelli S Markaryan	1

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

Sample Description: WS-003(Surface)102413 Filt Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7251871
LL Group # 1429144
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/24/2013 08:40 by CP

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

Submitted: 10/25/2013 09:20

Reported: 11/01/2013 10:48

2403F SDG#: PEM44-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0205	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	0.0053 J	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
		SW-846 7470A	mg/l	mg/l	mg/l	
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	133011848002	11/01/2013 00:02	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	133011848002	11/01/2013 00:02	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	133011848002	11/01/2013 00:02	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	133011848002	11/01/2013 00:02	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	133011848002	11/01/2013 00:02	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	133011848002	11/01/2013 00:02	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	133011848002	11/01/2013 00:02	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	133011848002	11/01/2013 00:02	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	133011848002	11/01/2013 00:02	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	133005713002	10/29/2013 07:15	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	133011848002	10/29/2013 07:00	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	133005713002	10/28/2013 15:50	Nelli S Markaryan	1

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

Sample Description: WS-005(Surface)102413 Filt Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7251872
LL Group # 1429144
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/24/2013 09:00 by CP

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

Submitted: 10/25/2013 09:20

Reported: 11/01/2013 10:48

2405F SDG#: PEM44-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0147	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
		SW-846 7470A	mg/l	mg/l	mg/l	
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	133011848002	11/01/2013 00:13	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	133011848002	11/01/2013 00:13	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	133011848002	11/01/2013 00:13	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	133011848002	11/01/2013 00:13	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	133011848002	11/01/2013 00:13	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	133011848002	11/01/2013 00:13	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	133011848002	11/01/2013 00:13	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	133011848002	11/01/2013 00:13	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	133011848002	11/01/2013 00:13	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	133005713002	10/29/2013 07:17	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	133011848002	10/29/2013 07:00	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	133005713002	10/28/2013 15:50	Nelli S Markaryan	1

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

Sample Description: WS-014(1.5-2.0)102413 Filt Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7251873
LL Group # 1429144
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/24/2013 09:40 by CP

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

Submitted: 10/25/2013 09:20

Reported: 11/01/2013 10:48

2414F SDG#: PEM44-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0158	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	0.0049 J	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
		SW-846 7470A	mg/l	mg/l	mg/l	
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	133011848002	11/01/2013 00:17	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	133011848002	11/01/2013 00:17	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	133011848002	11/01/2013 00:17	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	133011848002	11/01/2013 00:17	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	133011848002	11/01/2013 00:17	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	133011848002	11/01/2013 00:17	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	133011848002	11/01/2013 00:17	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	133011848002	11/01/2013 00:17	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	133011848002	11/01/2013 00:17	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	133005713002	10/29/2013 07:19	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	133011848002	10/29/2013 07:00	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	133005713002	10/28/2013 15:50	Nelli S Markaryan	1

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

Sample Description: WS-014(5.5-6.0)102413 Filt Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7251874
LL Group # 1429144
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/24/2013 09:50 by CP

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

Submitted: 10/25/2013 09:20

Reported: 11/01/2013 10:48

24F14 SDG#: PEM44-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0154	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
SW-846 6010B						
SW-846 7470A						
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	133011848002	11/01/2013 00:21	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	133011848002	11/01/2013 00:21	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	133011848002	11/01/2013 00:21	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	133011848002	11/01/2013 00:21	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	133011848002	11/01/2013 00:21	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	133011848002	11/01/2013 00:21	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	133011848002	11/01/2013 00:21	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	133011848002	11/01/2013 00:21	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	133011848002	11/01/2013 00:21	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	133005713002	10/29/2013 07:21	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	133011848002	10/29/2013 07:00	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	133005713002	10/28/2013 15:50	Nelli S Markaryan	1

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

Sample Description: WS-012(1.5-2.0)102413 Filt Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7251875
LL Group # 1429144
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/24/2013 10:00 by CP

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

Submitted: 10/25/2013 09:20

Reported: 11/01/2013 10:48

2412F SDG#: PEM44-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0165	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	0.0051 J	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
		SW-846 7470A	mg/l	mg/l	mg/l	
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	133011848002	11/01/2013 00:24	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	133011848002	11/01/2013 00:24	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	133011848002	11/01/2013 00:24	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	133011848002	11/01/2013 00:24	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	133011848002	11/01/2013 00:24	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	133011848002	11/01/2013 00:24	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	133011848002	11/01/2013 00:24	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	133011848002	11/01/2013 00:24	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	133011848002	11/01/2013 00:24	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	133005713002	10/29/2013 07:23	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	133011848002	10/29/2013 07:00	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	133005713002	10/28/2013 15:50	Nelli S Markaryan	1

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

Sample Description: WS-012(5.0-5.5)102413 Filt Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7251876
LL Group # 1429144
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/24/2013 10:10 by CP

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

Submitted: 10/25/2013 09:20

Reported: 11/01/2013 10:48

24F12 SDG#: PEM44-07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0154	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
		SW-846 7470A	mg/l	mg/l	mg/l	
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	133011848002	11/01/2013 08:42	Tara L Snyder	1
07046	Barium	SW-846 6010B	1	133011848002	11/01/2013 08:42	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	133011848002	11/01/2013 08:42	Tara L Snyder	1
07051	Chromium	SW-846 6010B	1	133011848002	11/01/2013 08:42	Tara L Snyder	1
07055	Lead	SW-846 6010B	1	133011848002	11/01/2013 08:42	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	133011848002	11/01/2013 08:42	Tara L Snyder	1
07036	Selenium	SW-846 6010B	1	133011848002	11/01/2013 08:42	Tara L Snyder	1
07066	Silver	SW-846 6010B	1	133011848002	11/01/2013 08:42	Tara L Snyder	1
07071	Vanadium	SW-846 6010B	1	133011848002	11/01/2013 08:42	Tara L Snyder	1
00259	Mercury	SW-846 7470A	1	133005713002	10/29/2013 07:29	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	133011848002	10/29/2013 07:00	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	133005713002	10/28/2013 15:50	Nelli S Markaryan	1

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

Sample Description: WS-010(1.5-2.0)102413 Filt Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7251877
LL Group # 1429144
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/24/2013 10:30 by CP

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

Submitted: 10/25/2013 09:20

Reported: 11/01/2013 10:48

2410F SDG#: PEM44-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0176	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	0.0066 J	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
SW-846 6010B						
00259	Mercury	7439-97-6	N.D.	0.000060	0.00020	1
SW-846 7470A						

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	133011848002	11/01/2013 00:28	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	133011848002	11/01/2013 00:28	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	133011848002	11/01/2013 00:28	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	133011848002	11/01/2013 00:28	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	133011848002	11/01/2013 00:28	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	133011848002	11/01/2013 00:28	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	133011848002	11/01/2013 00:28	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	133011848002	11/01/2013 00:28	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	133011848002	11/01/2013 00:28	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	133005713002	10/29/2013 07:31	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	133011848002	10/29/2013 07:00	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	133005713002	10/28/2013 15:50	Nelli S Markaryan	1

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

Sample Description: WS-010(3.5-4.0)102413 Filt Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7251878
LL Group # 1429144
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/24/2013 10:40 by CP

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

Submitted: 10/25/2013 09:20

Reported: 11/01/2013 10:48

24F10 SDG#: PEM44-09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0181	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	0.0060 J	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
		SW-846 7470A	mg/l	mg/l	mg/l	
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	133011848002	11/01/2013 00:32	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	133011848002	11/01/2013 00:32	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	133011848002	11/01/2013 00:32	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	133011848002	11/01/2013 00:32	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	133011848002	11/01/2013 00:32	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	133011848002	11/01/2013 00:32	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	133011848002	11/01/2013 00:32	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	133011848002	11/01/2013 00:32	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	133011848002	11/01/2013 00:32	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	133005713002	10/29/2013 07:33	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	133011848002	10/29/2013 07:00	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	133005713002	10/28/2013 15:50	Nelli S Markaryan	1

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

Sample Description: WS-006(0.5-1.0)102413 Filt Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7251879
LL Group # 1429144
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/24/2013 11:00 by CP

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

Submitted: 10/25/2013 09:20

Reported: 11/01/2013 10:48

2406F SDG#: PEM44-10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0157	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
		SW-846 7470A	mg/l	mg/l	mg/l	
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	133011848002	11/01/2013 00:35	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	133011848002	11/01/2013 00:35	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	133011848002	11/01/2013 00:35	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	133011848002	11/01/2013 00:35	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	133011848002	11/01/2013 00:35	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	133011848002	11/01/2013 00:35	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	133011848002	11/01/2013 00:35	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	133011848002	11/01/2013 00:35	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	133011848002	11/01/2013 00:35	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	133005713002	10/29/2013 07:35	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	133011848002	10/29/2013 07:00	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	133005713002	10/28/2013 15:50	Nelli S Markaryan	1

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

Sample Description: WS-002(Surface)102413 Filt Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7251880
LL Group # 1429144
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/24/2013 11:20 by CP

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

Submitted: 10/25/2013 09:20

Reported: 11/01/2013 10:48

2402F SDG#: PEM44-11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07035	Arsenic	SW-846 6010B 7440-38-2	mg/l N.D.	mg/l 0.0068	mg/l 0.0200	1
07046	Barium	7440-39-3	0.0159	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
SW-846 7470A						
00259	Mercury	7439-97-6	mg/l N.D.	mg/l 0.000060	mg/l 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	133011848002	11/01/2013 00:39	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	133011848002	11/01/2013 00:39	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	133011848002	11/01/2013 00:39	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	133011848002	11/01/2013 00:39	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	133011848002	11/01/2013 00:39	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	133011848002	11/01/2013 00:39	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	133011848002	11/01/2013 00:39	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	133011848002	11/01/2013 00:39	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	133011848002	11/01/2013 00:39	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	133005713002	10/29/2013 07:37	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	133011848002	10/29/2013 07:00	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	133005713002	10/28/2013 15:50	Nelli S Markaryan	1

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

Sample Description: WS-011(1.5-2.0)102413 Filt Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7251881
LL Group # 1429144
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/24/2013 11:40 by CP

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

Submitted: 10/25/2013 09:20

Reported: 11/01/2013 10:48

2411F SDG#: PEM44-12

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0180	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
		SW-846 7470A	mg/l	mg/l	mg/l	
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	133011848002	11/01/2013 00:43	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	133011848002	11/01/2013 00:43	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	133011848002	11/01/2013 00:43	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	133011848002	11/01/2013 00:43	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	133011848002	11/01/2013 00:43	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	133011848002	11/01/2013 00:43	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	133011848002	11/01/2013 00:43	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	133011848002	11/01/2013 00:43	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	133011848002	11/01/2013 00:43	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	133005713002	10/29/2013 07:45	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	133011848002	10/29/2013 07:00	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	133005713002	10/28/2013 15:50	Nelli S Markaryan	1

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

Sample Description: WS-011(5.0-5.5)102413 Filt Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7251882
LL Group # 1429144
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/24/2013 11:50 by CP

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

Submitted: 10/25/2013 09:20

Reported: 11/01/2013 10:48

24F11 SDG#: PEM44-13

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0175	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
		SW-846 7470A	mg/l	mg/l	mg/l	
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	133011848002	11/01/2013 00:47	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	133011848002	11/01/2013 00:47	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	133011848002	11/01/2013 00:47	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	133011848002	11/01/2013 00:47	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	133011848002	11/01/2013 00:47	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	133011848002	11/01/2013 00:47	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	133011848002	11/01/2013 00:47	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	133011848002	11/01/2013 00:47	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	133011848002	11/01/2013 00:47	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	133005713002	10/29/2013 07:47	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	133011848002	10/29/2013 07:00	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	133005713002	10/28/2013 15:50	Nelli S Markaryan	1

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

Sample Description: WS-007(0.5-1.0)102413 Filt Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7251883
LL Group # 1429144
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/24/2013 12:20 by CP

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

Submitted: 10/25/2013 09:20

Reported: 11/01/2013 10:48

2407F SDG#: PEM44-14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	0.0070 J	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0262	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	0.0057 J	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
		SW-846 7470A	mg/l	mg/l	mg/l	
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	133011848002	11/01/2013 00:58	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	133011848002	11/01/2013 00:58	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	133011848002	11/01/2013 00:58	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	133011848002	11/01/2013 00:58	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	133011848002	11/01/2013 00:58	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	133011848002	11/01/2013 00:58	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	133011848002	11/01/2013 00:58	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	133011848002	11/01/2013 00:58	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	133011848002	11/01/2013 00:58	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	133005713002	10/29/2013 07:53	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	133011848002	10/29/2013 07:00	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	133005713002	10/28/2013 15:50	Nelli S Markaryan	1

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

Sample Description: WS-001(0.5-1.0)102413 Filt Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7251884
LL Group # 1429144
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/24/2013 12:40 by CP

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

Submitted: 10/25/2013 09:20

Reported: 11/01/2013 10:48

2401F SDG#: PEM44-15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0159	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	0.0048 J	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
		SW-846 7470A	mg/l	mg/l	mg/l	
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	133011848002	11/01/2013 01:01	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	133011848002	11/01/2013 01:01	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	133011848002	11/01/2013 01:01	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	133011848002	11/01/2013 01:01	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	133011848002	11/01/2013 01:01	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	133011848002	11/01/2013 01:01	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	133011848002	11/01/2013 01:01	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	133011848002	11/01/2013 01:01	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	133011848002	11/01/2013 01:01	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	133005713002	10/29/2013 07:55	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	133011848002	10/29/2013 07:00	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	133005713002	10/28/2013 15:50	Nelli S Markaryan	1

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

Sample Description: DUP-WS-107-102413 Filt Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7251885
LL Group # 1429144
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/24/2013 by CP

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

Submitted: 10/25/2013 09:20

Reported: 11/01/2013 10:48

107-F SDG#: PEM44-16FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved		SW-846 6010B	mg/l	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7440-39-3	0.0160	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
		SW-846 7470A	mg/l	mg/l	mg/l	
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	133011848002	11/01/2013 01:05	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	133011848002	11/01/2013 01:05	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	133011848002	11/01/2013 01:05	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	133011848002	11/01/2013 01:05	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	133011848002	11/01/2013 01:05	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	133011848002	11/01/2013 01:05	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	133011848002	11/01/2013 01:05	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	133011848002	11/01/2013 01:05	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	133011848002	11/01/2013 01:05	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	133005713002	10/29/2013 07:57	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	133011848002	10/29/2013 07:00	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	133005713002	10/28/2013 15:50	Nelli S Markaryan	1

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

Sample Description: WS-EB-101-102413 Filt Grab Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7251886
LL Group # 1429144
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/24/2013 13:30 by CP

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

Submitted: 10/25/2013 09:20

Reported: 11/01/2013 10:48

101-F SDG#: PEM44-17EB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals Dissolved						
07035	Arsenic	SW-846 6010B 7440-38-2	mg/l N.D.	mg/l 0.0068	mg/l 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
SW-846 7470A						
00259	Mercury	7439-97-6	mg/l N.D.	mg/l 0.000060	mg/l 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	133011848002	11/01/2013 01:09	John W Yanzuk II	1
07046	Barium	SW-846 6010B	1	133011848002	11/01/2013 01:09	John W Yanzuk II	1
07049	Cadmium	SW-846 6010B	1	133011848002	11/01/2013 01:09	John W Yanzuk II	1
07051	Chromium	SW-846 6010B	1	133011848002	11/01/2013 01:09	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	133011848002	11/01/2013 01:09	John W Yanzuk II	1
07061	Nickel	SW-846 6010B	1	133011848002	11/01/2013 01:09	John W Yanzuk II	1
07036	Selenium	SW-846 6010B	1	133011848002	11/01/2013 01:09	John W Yanzuk II	1
07066	Silver	SW-846 6010B	1	133011848002	11/01/2013 01:09	John W Yanzuk II	1
07071	Vanadium	SW-846 6010B	1	133011848002	11/01/2013 01:09	John W Yanzuk II	1
00259	Mercury	SW-846 7470A	1	133005713002	10/29/2013 08:00	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	133011848002	10/29/2013 07:00	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	133005713002	10/28/2013 15:50	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: 11/01/13 at 10:48 AM

Group Number: 1429144

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: 133005713002	Sample number(s): 7251870-7251886								
Mercury	N.D.	0.00006	0.00020	mg/l	104		80-120		
		0							
Batch number: 133011848002	Sample number(s): 7251870-7251886								
Arsenic	N.D.	0.0068	0.0200	mg/l	104		90-113		
Barium	N.D.	0.00033	0.0050	mg/l	100		90-110		
Cadmium	N.D.	0.00076	0.0050	mg/l	100		90-112		
Chromium	N.D.	0.0016	0.0150	mg/l	101		90-110		
Lead	N.D.	0.0047	0.0150	mg/l	101		88-110		
Nickel	N.D.	0.0015	0.0100	mg/l	106		90-111		
Selenium	N.D.	0.0084	0.0200	mg/l	99		80-120		
Silver	N.D.	0.0021	0.0050	mg/l	108		80-120		
Vanadium	N.D.	0.0020	0.0050	mg/l	99		90-110		

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: 133005713002	Sample number(s): 7251870-7251886 UNSPK: 7251880 BKG: 7251880								
Mercury	104	103	80-120	1	20	N.D.	N.D.	0 (1)	20
Batch number: 133011848002	Sample number(s): 7251870-7251886 UNSPK: 7251876 BKG: 7251876								
Arsenic	104	106	81-123	2	20	N.D.	N.D.	0 (1)	20
Barium	101	104	78-118	3	20	0.0154	0.0165	7 (1)	20
Cadmium	101	102	83-116	2	20	N.D.	N.D.	0 (1)	20
Chromium	100	104	76-120	4	20	N.D.	N.D.	0 (1)	20
Lead	104	103	75-125	1	20	N.D.	0.0049 J	200* (1)	20
Nickel	106	108	86-115	2	20	N.D.	N.D.	0 (1)	20
Selenium	101	102	75-125	2	20	N.D.	N.D.	0 (1)	20
Silver	107	110	75-125	3	20	N.D.	N.D.	0 (1)	20
Vanadium	99	102	90-117	3	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 # 1429144 Sample # 7251870-86
Instructions on reverse side correspond with circled numbers.

1 OF 2

1 Client Information				4 Matrix				5 Analyses Requested												6 Remarks			
Facility #/SID <u>MAYFLOWER APPELINE INCIDENT</u>				Matrix ☐ Sediment ☐ Ground ☒ Surface ☐ Potable ☐ NPDES ☐ Air Total # of Containers				Preservation Code												SCR#: _____			
Site Address <u>MAYFLOWER, AR</u>								Preservation Codes H = HCl T = Thiosulfate N = HNO₃ B = NaOH S = H₂SO₄ O = Other												Lab To FILTER AND PRESSURE DISSOLVED METALS UPON RECEIPT			
ExxonMobil PM <u>SCOTT BUSHROE</u>		Cost Center/AFE		H N H																			
Consultant/Office <u>ARCADIS</u>				Soil ☐ Water ☐ Oil ☐				H N H															
Consultant PM <u>STEVE BARRICK</u>		Consultant Phone # <u>919.302.6799</u>						H N H															
Sampler <u>CLEMENT PAPAFIO / RYAN LEWIS</u>				Grab Composite				H N H															
								H N H															
2 Sample Identification				3 Collected																			
				Date Time																			
WS-018 (Surface) 102413				10-24-13 0830				X X X X X															
WS-003 (Surface) 102413				10-24-13 0840				X X X X X															
WS-005 (Surface) 102413				10-24-13 0900				X X X X X															
WS-014 (1.5-2.0) 102413				10-24-13 0940				X X X X X															
WS-014 (5.5-6.0) 102413				10-24-13 0950				X X X X X															
WS-012 (1.5-2.0) 102413				10-24-13 1000				X X X X X															
WS-012 (5.0-5.5) 102413				10-24-13 1010				X X X X X															
WS-010 (1.5-2.0) 102413				10-24-13 1030				X X X X X															
WS-010 (3.5-4.0) 102413				10-24-13 1040				X X X X X															
WS-006 (0.5-1.0) 102413				10-24-13 1100				X X X X X															
WS-002 (Surface) 102413				10-24-13 1120				X X X X X															
WS-011 (1.5-2.0) 102413				10-24-13 1140				X X X X X															
7 Turnaround Time Requested (TAT) (please circle)				Relinquished by				Date				Time				Received by				Date		Time	
Standard <u>5 day</u> 4 day				<u>[Signature]</u>				10-24-13				1600				<u>[Signature]</u>							
72 hour 48 hour 24 hour				Relinquished by				Date				Time				Received by				Date		Time	
				Relinquished by				Date				Time				Received by				Date		Time	
8 Data Package (circle if required)				Relinquished by Commercial Carrier				Date				Time				Received by				Date		Time	
Type I - Full				UPS <u>X</u> FedEx Other												<u>[Signature]</u>				10/25/13		0920	
Type VI (Raw Data)																							
NJ Reduced																							
Other																							
				Temperature Upon Receipt <u>0.4-1.1</u> °C												Custody Seals Intact? <u>Yes</u> No							

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

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

ExxonMobil Analysis Request/Chain of Custody

**Lancaster Laboratories
Environmental**

Acct. # 14739

For Eurofins Lancaster Laboratories Environmental use only

Group #1429144

Sample # 7251870-86

2 of 2

Instructions on reverse side correspond with circled numbers.

[illegible]

Environmental Sample Administration
Receipt Documentation Log

1429144

Client/Project: MamflowerShipping Container Sealed: YES NODate of Receipt: 10/25/13Custody Seal Present *: YES NOTime of Receipt: 0920* Custody seal was intact unless otherwise noted in the
discrepancy sectionSource Code: 60-1Package: 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	1.1	TB	WI	Y	B	
2		0.4					
3		0.5					
4		0.4					
5		0.9					
6		0.7					

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

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#: CCash 3647 Date/Time: 10/25/13 1033

Explanation of Symbols and Abbreviations

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

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m3	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than - The number following the sign is the <u>limit of quantitation</u> , 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	
A	TIC is a possible aldol-condensation product	B	Value is $<$ CRDL, but $\geq$ IDL
B	Analyte was also detected in the blank	E	Estimated due to interference
C	Pesticide result confirmed by GC/MS	M	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	N	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	S	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
P	Concentration difference between primary and confirmation columns $>25\%$	W	Post digestion spike out of control limits
U	Compound was not detected	*	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	+	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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