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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

Lancaster Labs (LL) #

October 01, 2013

Project: Mayflower, AR Pipeline Incident

Submittal Date: 09/27/2013 Group Number: 1422005 SDG: PEL77 PO Number: B0086003.1301 State of Sample Origin: AR

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	ExxonMobil	Attn: Michael J. Firth
COPY TO ELECTRONIC	ARCADIS	Attn: Emily Leamer





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COPY TO ELECTRONIC ARCADIS COPY TO ELECTRONIC ARCADIS COPY TO ELECTRONIC ExxonMobil COPY TO ELECTRONIC ExxonMobil COPY TO

Attn: Rhiannon Parmalee Attn: Jamie Pritchard Attn: Michael L Sixsmith Attn: Julie Foster

Respectfully Submitted,

Katherine a. Klinefelter

Katherine A. Klinefelter Principal Specialist

(717) 556-7256

🛟 eurofins

Lancaster Laboratories Environmental

Project Name: Mayflower, AR Pipeline Incident LLI Group #: 1422005

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:

No additional comments are necessary.



Analysis Report

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Sample	Description:	WS-014(1.5-2.0)092613	Filt	Grab	Surface	Water	LL	Sample	#	ww '	7215182	1
		Mayflower, AR					$\mathbf{L}\mathbf{L}$	Group	#	1422	2005	
		Pipeline Incident					Aco	count	#	1473	39	

Project Name: Mayflower, AR Pipeline Incident

Collected:	09/26/2013	08:45	by HVA	ExxonMobil c/o Arcadis
				630 Plaza Drive, Suite 600
Submitted:	09/27/2013	09:30		Highlands Ranch CO 80129
Reported:	10/01/2013	11:43		

2614F SDG#: PEL77-01

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metal	s 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	0.0172	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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132701848007	10/01/2013 04:34	Tara L Snyder	1
07046	Barium	SW-846 6010B	1	132701848007	10/01/2013 04:34	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	132701848007	10/01/2013 04:34	Tara L Snyder	1
07051	Chromium	SW-846 6010B	1	132701848007	10/01/2013 04:34	Tara L Snyder	1
07055	Lead	SW-846 6010B	1	132701848007	10/01/2013 04:34	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	132701848007	10/01/2013 04:34	Tara L Snyder	1
07036	Selenium	SW-846 6010B	1	132701848007	10/01/2013 04:34	Tara L Snyder	1
07066	Silver	SW-846 6010B	1	132701848007	10/01/2013 04:34	Tara L Snyder	1
07071	Vanadium	SW-846 6010B	1	132701848007	10/01/2013 04:34	Tara L Snyder	1
00259	Mercury	SW-846 7470A	1	132735713002	10/01/2013 05:01	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132701848007	09/30/2013 11:31	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132735713002	09/30/2013 15:30	Nelli S Markaryar	ı 1



Analysis Report

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Sample	Description:	WS-014(5.5-6.0)092613	Filt	Grab	Surface	Water	$\mathbf{L}\mathbf{L}$	Sample	#	ww	7215183	6
		Mayflower, AR					$\mathbf{L}\mathbf{L}$	Group	#	142	2005	
		Pipeline Incident					Aco	count	#	147	39	

Project Name: Mayflower, AR Pipeline Incident

Collected:	09/26/2013	08:55	by HVA	ExxonMobil c/o Arcadis
				630 Plaza Drive, Suite 60
Submitted:	09/27/2013	09:30		Highlands Ranch CO 80129
Reported:	10/01/2013	11:43		

26F14 SDG#: PEL77-02

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metal	s 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	0.0176	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	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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132701848007	10/01/2013 04:38	Tara L Snyder	1
07046	Barium	SW-846 6010B	1	132701848007	10/01/2013 04:38	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	132701848007	10/01/2013 04:38	Tara L Snyder	1
07051	Chromium	SW-846 6010B	1	132701848007	10/01/2013 04:38	Tara L Snyder	1
07055	Lead	SW-846 6010B	1	132701848007	10/01/2013 04:38	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	132701848007	10/01/2013 04:38	Tara L Snyder	1
07036	Selenium	SW-846 6010B	1	132701848007	10/01/2013 04:38	Tara L Snyder	1
07066	Silver	SW-846 6010B	1	132701848007	10/01/2013 04:38	Tara L Snyder	1
07071	Vanadium	SW-846 6010B	1	132701848007	10/01/2013 04:38	Tara L Snyder	1
00259	Mercury	SW-846 7470A	1	132735713002	10/01/2013 05:03	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132701848007	09/30/2013 11:31	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132735713002	09/30/2013 15:30	Nelli S Markaryar	1



Analysis Report

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Sample	Description:	WS-012(1.5-2.0)092613	Filt	Grab	Surface	Water	LL	Sample	#	ww	7215184	
		Mayflower, AR					$\mathbf{L}\mathbf{L}$	Group	#	142	2005	
		Pipeline Incident					Aco	count	#	147	39	

Project Name: Mayflower, AR Pipeline Incident

Collected:	09/26/2013	09:05	by HVA	ExxonMobil c/o Arcadis
				630 Plaza Drive, Suite 600
Submitted:	09/27/2013	09:30		Highlands Ranch CO 80129
Reported:	10/01/2013	11:43		

2612F SDG#: PEL77-03

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metal	s 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	0.0198	0.00033	0.0050	1
07049	Cadmium		7440-43-9	N.D.	0.00076	0.0050	1
07051	Chromium		7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead		7439-92-1	N.D.	0.0047	0.0150	1
07061	Nickel		7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium		7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver		7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium		7440-62-2	N.D.	0.0020	0.0050	1
		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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132701848007	10/01/2013 04:49	Tara L Snyder	1
07046	Barium	SW-846 6010B	1	132701848007	10/01/2013 04:49	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	132701848007	10/01/2013 04:49	Tara L Snyder	1
07051	Chromium	SW-846 6010B	1	132701848007	10/01/2013 04:49	Tara L Snyder	1
07055	Lead	SW-846 6010B	1	132701848007	10/01/2013 04:49	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	132701848007	10/01/2013 04:49	Tara L Snyder	1
07036	Selenium	SW-846 6010B	1	132701848007	10/01/2013 04:49	Tara L Snyder	1
07066	Silver	SW-846 6010B	1	132701848007	10/01/2013 04:49	Tara L Snyder	1
07071	Vanadium	SW-846 6010B	1	132701848007	10/01/2013 04:49	Tara L Snyder	1
00259	Mercury	SW-846 7470A	1	132735713002	10/01/2013 05:05	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132701848007	09/30/2013 11:31	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132735713002	09/30/2013 15:30	Nelli S Markaryan	1 1



Analysis Report

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Sample	Description:	WS-012(5.0-5.5)092613	Filt	Grab	Surface	Water	$\mathbf{L}\mathbf{L}$	Sample	#	ww	7215185	
		Mayflower, AR					$\mathbf{L}\mathbf{L}$	Group	#	142	2005	
		Pipeline Incident					Aco	count	#	147	39	

Project Name: Mayflower, AR Pipeline Incident

Collected:	09/26/2013	09:15	by HVA	ExxonMobil c/o Arcadis
				630 Plaza Drive, Suite 600
Submitted:	09/27/2013	09:30		Highlands Ranch CO 80129
Reported:	10/01/2013	11:43		

26F12 SDG#: PEL77-04

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metal	s 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	0.0208	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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
07035	Arsenic	SW-846 6010E	3 1	132701848007	10/01/2013 0	4:53	Tara L Snyder	1
07046	Barium	SW-846 6010E	3 1	132701848007	10/01/2013 0	4:53	Tara L Snyder	1
07049	Cadmium	SW-846 6010E	3 1	132701848007	10/01/2013 0	4:53	Tara L Snyder	1
07051	Chromium	SW-846 6010E	3 1	132701848007	10/01/2013 0	4:53	Tara L Snyder	1
07055	Lead	SW-846 6010E	3 1	132701848007	10/01/2013 0	4:53	Tara L Snyder	1
07061	Nickel	SW-846 6010E	в 1	132701848007	10/01/2013 0	4:53	Tara L Snyder	1
07036	Selenium	SW-846 6010E	в 1	132701848007	10/01/2013 0	4:53	Tara L Snyder	1
07066	Silver	SW-846 6010E	3 1	132701848007	10/01/2013 0	4:53	Tara L Snyder	1
07071	Vanadium	SW-846 6010E	в 1	132701848007	10/01/2013 0	4:53	Tara L Snyder	1
00259	Mercury	SW-846 74702	A 1	132735713002	10/01/2013 0	5:07	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 30057	A 1	132701848007	09/30/2013 1	1:31	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 74702	A 1	132735713002	09/30/2013 1	5:30	Nelli S Markaryan	1



Analysis Report

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Sample	Description:	WS-010(1.5-2.0)092613	Filt	Grab	Surface	Water	$\mathbf{L}\mathbf{L}$	Sample	#	ww	7215186	;
		Mayflower, AR					$\mathbf{L}\mathbf{L}$	Group	#	142	2005	
		Pipeline Incident					Aco	count	#	147	39	

Project Name: Mayflower, AR Pipeline Incident

Collected:	09/26/2013	09:25	by HVA	ExxonMobil c/o Arcadis
				630 Plaza Drive, Suite 600
Submitted:	09/27/2013	09:30		Highlands Ranch CO 80129
Reported:	10/01/2013	11:43		

2610F SDG#: PEL77-05

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metal	s 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	0.0216	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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132701848007	10/01/2013 04:57	Tara L Snyder	1
07046	Barium	SW-846 6010B	1	132701848007	10/01/2013 04:57	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	132701848007	10/01/2013 04:57	Tara L Snyder	1
07051	Chromium	SW-846 6010B	1	132701848007	10/01/2013 04:57	Tara L Snyder	1
07055	Lead	SW-846 6010B	1	132701848007	10/01/2013 04:57	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	132701848007	10/01/2013 04:57	Tara L Snyder	1
07036	Selenium	SW-846 6010B	1	132701848007	10/01/2013 04:57	Tara L Snyder	1
07066	Silver	SW-846 6010B	1	132701848007	10/01/2013 04:57	Tara L Snyder	1
07071	Vanadium	SW-846 6010B	1	132701848007	10/01/2013 04:57	Tara L Snyder	1
00259	Mercury	SW-846 7470A	1	132735713002	10/01/2013 05:19	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132701848007	09/30/2013 11:31	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132735713002	09/30/2013 15:30	Nelli S Markaryar	n 1



Analysis Report

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Sample	Description:	WS-010(3.5-4.0)092613	Filt	Grab	Surface	Water	LL	Sample	#	ww	7215187	
		Mayflower, AR					$\mathbf{L}\mathbf{L}$	Group	#	142	2005	
		Pipeline Incident					Aco	count	#	147	39	

Project Name: Mayflower, AR Pipeline Incident

Collected:	09/26/2013	09:35	by HVA	ExxonMobil c/o Arcadis
				630 Plaza Drive, Suite 60
Submitted:	09/27/2013	09:30		Highlands Ranch CO 80129
Reported:	10/01/2013	11:43		

26F10 SDG#: PEL77-06

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metal	s 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	0.0223	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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
07035	Arsenic	SW-846 6010	0B 1	132701848007	10/01/2013 05	5:01 I	Tara L Snyder	1
07046	Barium	SW-846 6010	0B 1	132701848007	10/01/2013 05	5:01 I	Tara L Snyder	1
07049	Cadmium	SW-846 6010	0B 1	132701848007	10/01/2013 05	5:01 I	Tara L Snyder	1
07051	Chromium	SW-846 6010	0B 1	132701848007	10/01/2013 05	5:01 I	Tara L Snyder	1
07055	Lead	SW-846 6010	0B 1	132701848007	10/01/2013 05	5:01 I	Tara L Snyder	1
07061	Nickel	SW-846 6010	0B 1	132701848007	10/01/2013 05	5:01 I	Tara L Snyder	1
07036	Selenium	SW-846 6010	0B 1	132701848007	10/01/2013 05	5:01 I	Tara L Snyder	1
07066	Silver	SW-846 6010	0B 1	132701848007	10/01/2013 05	5:01 I	Tara L Snyder	1
07071	Vanadium	SW-846 6010	0B 1	132701848007	10/01/2013 05	5:01 I	Tara L Snyder	1
00259	Mercury	SW-846 7470	0A 1	132735713002	10/01/2013 05	5:21 I	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005	5A 1	132701848007	09/30/2013 13	1:31 J	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470	0A 1	132735713002	09/30/2013 15	5:30 N	Welli S Markaryan	1



Analysis Report

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Sample	Description:	WS-006(0.5-1.0)092613	Filt	Grab	Surface	Water	LL	Sample	#	ww	7215188	
		Mayflower, AR					$\mathbf{L}\mathbf{L}$	Group	#	142	2005	
		Pipeline Incident					Aco	count	#	147	39	

Project Name: Mayflower, AR Pipeline Incident

Collected:	09/26/2013	09:45	by HVA	ExxonMobil c/o Arcadis
Cubmittod	09/27/2013	00.20		630 Plaza Drive, Suite 600 Highlands Ranch CO 80129
Submittled:	09/21/2013	09:30		RIGHTAHUS KAHCH CO 80129
Reported:	10/01/2013	11:43		

2606F SDG#: PEL77-07

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metal	B 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	0.0204	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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132701848007	10/01/2013 04:11	Tara L Snyder	1
07046	Barium	SW-846 6010B	1	132701848007	10/01/2013 04:11	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	132701848007	10/01/2013 04:11	Tara L Snyder	1
07051	Chromium	SW-846 6010B	1	132701848007	10/01/2013 04:11	Tara L Snyder	1
07055	Lead	SW-846 6010B	1	132701848007	10/01/2013 04:11	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	132701848007	10/01/2013 04:11	Tara L Snyder	1
07036	Selenium	SW-846 6010B	1	132701848007	10/01/2013 04:11	Tara L Snyder	1
07066	Silver	SW-846 6010B	1	132701848007	10/01/2013 04:11	Tara L Snyder	1
07071	Vanadium	SW-846 6010B	1	132701848007	10/01/2013 04:11	Tara L Snyder	1
00259	Mercury	SW-846 7470A	1	132735713002	10/01/2013 05:24	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132701848007	09/30/2013 11:31	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132735713002	09/30/2013 15:30	Nelli S Markaryar	n 1



Analysis Report

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

Sample	Description:	WS-005(Surface)092613	Filt	Grab	Surface	Water	$\mathbf{L}\mathbf{L}$	Sample	#	ww	7215189	
		Mayflower, AR					$\mathbf{L}\mathbf{L}$	Group	#	142	2005	
		Pipeline Incident					Aco	count	#	147	39	

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/26/2013 10:10 by HVA	ExxonMobil c/o Arcadis
	630 Plaza Drive, Suite 600
Submitted: 09/27/2013 09:30	Highlands Ranch CO 80129
Reported: 10/01/2013 11:43	

2605F SDG#: PEL77-08

CAT No.	Analysis Name	c	AS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metal	s Dissolved	SW-846 6010	В	mg/l	mg/l	mg/l	
07035	Arsenic	7	440-38-2	N.D.	0.0068	0.0200	1
07046	Barium	7	440-39-3	0.0268	0.00033	0.0050	1
07049	Cadmium	7	440-43-9	N.D.	0.00076	0.0050	1
07051	Chromium	7	440-47-3	N.D.	0.0016	0.0150	1
07055	Lead	7	439-92-1	N.D.	0.0047	0.0150	1
07061	Nickel	7	440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium	7	782-49-2	N.D.	0.0084	0.0200	1
07066	Silver	7	440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium	7	440-62-2	N.D.	0.0020	0.0050	1
		SW-846 7470.	A	mg/l	mg/l	mg/l	
00259	Mercury	7	439-97-6	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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Tim	ne	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132701848007	10/01/2013	05:04	Tara L Snyder	1
07046	Barium	SW-846 6010B	1	132701848007	10/01/2013	05:04	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	132701848007	10/01/2013	05:04	Tara L Snyder	1
07051	Chromium	SW-846 6010B	1	132701848007	10/01/2013	05:04	Tara L Snyder	1
07055	Lead	SW-846 6010B	1	132701848007	10/01/2013	05:04	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	132701848007	10/01/2013	05:04	Tara L Snyder	1
07036	Selenium	SW-846 6010B	1	132701848007	10/01/2013	05:04	Tara L Snyder	1
07066	Silver	SW-846 6010B	1	132701848007	10/01/2013	05:04	Tara L Snyder	1
07071	Vanadium	SW-846 6010B	1	132701848007	10/01/2013	05:04	Tara L Snyder	1
00259	Mercury	SW-846 7470A	1	132735713002	10/01/2013	05:26	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132701848007	09/30/2013	11:31	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132735713002	09/30/2013	15:30	Nelli S Markaryan	1



Analysis Report

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

Sample	Description:	WS-011(1.5-2.0)092613	Filt	Grab	Surface	Water	LГ	Sample	#	ww	7215190	
		Mayflower, AR					$\mathbf{L}\mathbf{L}$	Group	#	142	2005	
		Pipeline Incident					Aco	count	#	147	39	

ExxonMobil c/o Arcadis 630 Plaza Drive, Suite 600

Highlands Ranch CO 80129

Project Name: Mayflower, AR Pipeline Incident

Collected:	09/26/2013	10:35	by HVA

Submitted: 09/27/2013 09:30 Reported: 10/01/2013 11:43

2611F SDG#: PEL77-09

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metal	s 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	0.0190	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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132701848007	10/01/2013 05:08	Tara L Snyder	1
07046	Barium	SW-846 6010B	1	132701848007	10/01/2013 05:08	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	132701848007	10/01/2013 05:08	Tara L Snyder	1
07051	Chromium	SW-846 6010B	1	132701848007	10/01/2013 05:08	Tara L Snyder	1
07055	Lead	SW-846 6010B	1	132701848007	10/01/2013 05:08	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	132701848007	10/01/2013 05:08	Tara L Snyder	1
07036	Selenium	SW-846 6010B	1	132701848007	10/01/2013 05:08	Tara L Snyder	1
07066	Silver	SW-846 6010B	1	132701848007	10/01/2013 05:08	Tara L Snyder	1
07071	Vanadium	SW-846 6010B	1	132701848007	10/01/2013 05:08	Tara L Snyder	1
00259	Mercury	SW-846 7470A	1	132735713002	10/01/2013 05:28	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132701848007	09/30/2013 11:31	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132735713002	09/30/2013 15:30	Nelli S Markaryar	ı 1



Analysis Report

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

Sample	Description:	WS-011(5.0-5.5)092613	Filt	Grab	Surface	Water	LГ	Sample	#	ww '	7215191	
		Mayflower, AR					$\mathbf{L}\mathbf{L}$	Group	#	142	2005	
		Pipeline Incident					Aco	count	#	147	39	

Project Name: Mayflower, AR Pipeline Incident

Collected:	09/26/2013	10:45	by HVA	ExxonMobil c/o Arcadis
				630 Plaza Drive, Suite 600
Submitted:	09/27/2013	09:30		Highlands Ranch CO 80129
Reported:	10/01/2013	11:43		

26F11 SDG#: PEL77-10

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metal	s 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	0.0203	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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132701848007	10/01/2013 05:12	Tara L Snyder	1
07046	Barium	SW-846 6010B	1	132701848007	10/01/2013 05:12	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	132701848007	10/01/2013 05:12	Tara L Snyder	1
07051	Chromium	SW-846 6010B	1	132701848007	10/01/2013 05:12	Tara L Snyder	1
07055	Lead	SW-846 6010B	1	132701848007	10/01/2013 05:12	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	132701848007	10/01/2013 05:12	Tara L Snyder	1
07036	Selenium	SW-846 6010B	1	132701848007	10/01/2013 05:12	Tara L Snyder	1
07066	Silver	SW-846 6010B	1	132701848007	10/01/2013 05:12	Tara L Snyder	1
07071	Vanadium	SW-846 6010B	1	132701848007	10/01/2013 05:12	Tara L Snyder	1
00259	Mercury	SW-846 7470A	1	132735713002	10/01/2013 05:30	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132701848007	09/30/2013 11:31	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132735713002	09/30/2013 15:30	Nelli S Markaryan	1 1



Analysis Report

600

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

Sample	Description:	WS-002(Surface)092613	Filt	Grab	Surface	Water	$\mathbf{L}\mathbf{L}$	Sample	#	ww	7215192	
		Mayflower, AR					$\mathbf{L}\mathbf{L}$	Group	#	142	2005	
		Pipeline Incident					Aco	count	#	147	39	

Project Name: Mayflower, AR Pipeline Incident

Collected:	09/26/2013	10:55	by HVA	ExxonMobil c/o Arcadis
				630 Plaza Drive, Suite 60
Submitted:	09/27/2013	09:30		Highlands Ranch CO 80129
Reported:	10/01/2013	11:43		

2602F SDG#: PEL77-11

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metal	s 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	0.0188	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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Tim	ne	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132701848007	10/01/2013	05:16	Tara L Snyder	1
07046	Barium	SW-846 6010B	1	132701848007	10/01/2013	05:16	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	132701848007	10/01/2013	05:16	Tara L Snyder	1
07051	Chromium	SW-846 6010B	1	132701848007	10/01/2013	05:16	Tara L Snyder	1
07055	Lead	SW-846 6010B	1	132701848007	10/01/2013	05:16	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	132701848007	10/01/2013	05:16	Tara L Snyder	1
07036	Selenium	SW-846 6010B	1	132701848007	10/01/2013	05:16	Tara L Snyder	1
07066	Silver	SW-846 6010B	1	132701848007	10/01/2013	05:16	Tara L Snyder	1
07071	Vanadium	SW-846 6010B	1	132701848007	10/01/2013	05:16	Tara L Snyder	1
00259	Mercury	SW-846 7470A	1	132735713002	10/01/2013	05:32	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132701848007	09/30/2013	11:31	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132735713002	09/30/2013	15:30	Nelli S Markaryan	1



Analysis Report

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

Sample	Description:	WS-018(Surface)092613	Filt	Grab	Surface	Water	$\mathbf{L}\mathbf{L}$	Sample	#	ww	7215193	i
		Mayflower, AR					$\mathbf{L}\mathbf{L}$	Group	#	142	2005	
		Pipeline Incident					Aco	count	#	147	39	

Project Name: Mayflower, AR Pipeline Incident

Collected:	09/26/2013	11:20	by HVA	ExxonMobil c/o Arcadis
				630 Plaza Drive, Suite 600
Submitted:	09/27/2013	09:30		Highlands Ranch CO 80129
Reported:	10/01/2013	11:43		

2618F SDG#: PEL77-12

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metal	s 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	0.0341	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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132701848007	10/01/2013 05:20	Tara L Snyder	1
07046	Barium	SW-846 6010B	1	132701848007	10/01/2013 05:20	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	132701848007	10/01/2013 05:20	Tara L Snyder	1
07051	Chromium	SW-846 6010B	1	132701848007	10/01/2013 05:20	Tara L Snyder	1
07055	Lead	SW-846 6010B	1	132701848007	10/01/2013 05:20	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	132701848007	10/01/2013 05:20	Tara L Snyder	1
07036	Selenium	SW-846 6010B	1	132701848007	10/01/2013 05:20	Tara L Snyder	1
07066	Silver	SW-846 6010B	1	132701848007	10/01/2013 05:20	Tara L Snyder	1
07071	Vanadium	SW-846 6010B	1	132701848007	10/01/2013 05:20	Tara L Snyder	1
00259	Mercury	SW-846 7470A	1	132735713002	10/01/2013 05:38	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132701848007	09/30/2013 11:31	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132735713002	09/30/2013 15:30	Nelli S Markaryar	n 1



Analysis Report

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

Sample	Description:	WS-003(Surface)092613	Filt	Grab	Surface	Water	LL	Sample	#	WW 7	7215194	
		Mayflower, AR					$\mathbf{L}\mathbf{L}$	Group	#	1422	2005	
		Pipeline Incident					Aco	count	#	1473	39	

Project Name: Mayflower, AR Pipeline Incident

Collected:	09/26/2013	11:30	by HVA	ExxonMobil c/o Arcadis
				630 Plaza Drive, Suite 600
Submitted:	09/27/2013	09:30		Highlands Ranch CO 80129
Reported:	10/01/2013	11:43		

2603F SDG#: PEL77-13

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metal	s 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	0.0093	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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132701848007	10/01/2013 05:24	Tara L Snyder	1
07046	Barium	SW-846 6010B	1	132701848007	10/01/2013 05:24	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	132701848007	10/01/2013 05:24	Tara L Snyder	1
07051	Chromium	SW-846 6010B	1	132701848007	10/01/2013 05:24	Tara L Snyder	1
07055	Lead	SW-846 6010B	1	132701848007	10/01/2013 05:24	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	132701848007	10/01/2013 05:24	Tara L Snyder	1
07036	Selenium	SW-846 6010B	1	132701848007	10/01/2013 05:24	Tara L Snyder	1
07066	Silver	SW-846 6010B	1	132701848007	10/01/2013 05:24	Tara L Snyder	1
07071	Vanadium	SW-846 6010B	1	132701848007	10/01/2013 05:24	Tara L Snyder	1
00259	Mercury	SW-846 7470A	1	132735713002	10/01/2013 05:40	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132701848007	09/30/2013 11:31	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132735713002	09/30/2013 15:30	Nelli S Markaryar	1



Analysis Report

600

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Sample	Description:	WS-007(0.5-1.0)092613	Filt	Grab	Surface	Water	LL	Sample	#	ww	7215195	
		Mayflower, AR					$\mathbf{L}\mathbf{L}$	Group	#	142	2005	
		Pipeline Incident					Aco	count	#	147	39	

Project Name: Mayflower, AR Pipeline Incident

Collected:	09/26/2013	11:50	by HVA	ExxonMobil c/o Arcadis
				630 Plaza Drive, Suite 60
Submitted:	09/27/2013	09:30		Highlands Ranch CO 80129
Reported:	10/01/2013	11:43		

2607F SDG#: PEL77-14

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metal	B 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	0.0219	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	0.0016 J	0.0015	0.0100	1
07036	Selenium		7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver		7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium		7440-62-2	N.D.	0.0020	0.0050	1
		SW-846	7470A	mg/l	mg/l	mg/l	
00259	Mercury		7439-97-6	N.D.	0.000060	0.00020	1

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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132701848007	10/01/2013 05:35	Tara L Snyder	1
07046	Barium	SW-846 6010B	1	132701848007	10/01/2013 05:35	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	132701848007	10/01/2013 05:35	Tara L Snyder	1
07051	Chromium	SW-846 6010B	1	132701848007	10/01/2013 05:35	Tara L Snyder	1
07055	Lead	SW-846 6010B	1	132701848007	10/01/2013 05:35	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	132701848007	10/01/2013 05:35	Tara L Snyder	1
07036	Selenium	SW-846 6010B	1	132701848007	10/01/2013 05:35	Tara L Snyder	1
07066	Silver	SW-846 6010B	1	132701848007	10/01/2013 05:35	Tara L Snyder	1
07071	Vanadium	SW-846 6010B	1	132701848007	10/01/2013 05:35	Tara L Snyder	1
00259	Mercury	SW-846 7470A	1	132735713002	10/01/2013 05:42	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132701848007	09/30/2013 11:31	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132735713002	09/30/2013 15:30	Nelli S Markaryar	ı 1



Analysis Report

600

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

Sample Description:	WS-001(0.5-1.0)092613	Filt Grab	Surface	Water	LL Sample	#	WW 7215196
	Mayflower, AR				LL Group	#	1422005
	Pipeline Incident				Account	#	14739

Project Name: Mayflower, AR Pipeline Incident

Collected:	09/26/2013	12:00	by HVA	ExxonMobil c/o Arcadis
				630 Plaza Drive, Suite 60
Submitted:	09/27/2013	09:30		Highlands Ranch CO 80129
Reported:	10/01/2013	11:43		

2601F SDG#: PEL77-15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metal	s 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.

CAT No.	Analysis Name	Method	Trial# Batch#		Analysis Date and Time	Analyst	Dilution Factor	
07035	Arsenic	SW-846 6010B	1	132701848007	10/01/2013 05:39	Tara L Snyder	1	
07046	Barium	SW-846 6010B	1	132701848007	10/01/2013 05:39	Tara L Snyder	1	
07049	Cadmium	SW-846 6010B	1	132701848007	10/01/2013 05:39	Tara L Snyder	1	
07051	Chromium	SW-846 6010B	1	132701848007	10/01/2013 05:39	Tara L Snyder	1	
07055	Lead	SW-846 6010B	1	132701848007	10/01/2013 05:39	Tara L Snyder	1	
07061	Nickel	SW-846 6010B	1	132701848007	10/01/2013 05:39	Tara L Snyder	1	
07036	Selenium	SW-846 6010B	1	132701848007	10/01/2013 05:39	Tara L Snyder	1	
07066	Silver	SW-846 6010B	1	132701848007	10/01/2013 05:39	Tara L Snyder	1	
07071	Vanadium	SW-846 6010B	1	132701848007	10/01/2013 05:39	Tara L Snyder	1	
00259	Mercury	SW-846 7470A	1	132735713002	10/01/2013 05:44	Damary Valentin	1	
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132701848007	09/30/2013 11:31	James L Mertz	1	
05713	WW SW846 Hg Digest	SW-846 7470A	1	132735713002	09/30/2013 15:30	Nelli S Markaryar	n 1	



Analysis Report

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Sample Description:	WS-EB-73-092613 Filt Grab Water	LL Sample	#	WW 7215197
	Mayflower, AR	LL Group	#	1422005
	Pipeline Incident	Account	#	14739

ExxonMobil c/o Arcadis 630 Plaza Drive, Suite 600

Highlands Ranch CO 80129

Project Name: Mayflower, AR Pipeline Incident

Collected:	09/26/2013	12:30	by HVA	
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Submitted: 09/27/2013 09:30 Reported: 10/01/2013 11:43

2673F SDG#: PEL77-16EB

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metal	s 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	0.00043 J	0.00033	0.0050	1
07049	Cadmium		7440-43-9	N.D.	0.00076	0.0050	1
07051	Chromium		7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead		7439-92-1	N.D.	0.0047	0.0150	1
07061	Nickel		7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium		7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver		7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium		7440-62-2	N.D.	0.0020	0.0050	1
		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.

CAT No.	Analysis Name	Method	Trial#	Trial# Batch#		ie	Analyst	Dilution Factor	
07035	Arsenic	SW-846 6010	0B 1	132701848007	10/01/2013	05:43	Tara L Snyder	1	
07046	Barium	SW-846 6010	0B 1	132701848007	10/01/2013	05:43	Tara L Snyder	1	
07049	Cadmium	SW-846 6010	0B 1	132701848007	10/01/2013	05:43	Tara L Snyder	1	
07051	Chromium	SW-846 6010	0B 1	132701848007	10/01/2013	05:43	Tara L Snyder	1	
07055	Lead	SW-846 6010	0B 1	132701848007	10/01/2013	05:43	Tara L Snyder	1	
07061	Nickel	SW-846 6010	0B 1	132701848007	10/01/2013	05:43	Tara L Snyder	1	
07036	Selenium	SW-846 6010	0B 1	132701848007	10/01/2013	05:43	Tara L Snyder	1	
07066	Silver	SW-846 6010	0B 1	132701848007	10/01/2013	05:43	Tara L Snyder	1	
07071	Vanadium	SW-846 6010	0B 1	132701848007	10/01/2013	05:43	Tara L Snyder	1	
00259	Mercury	SW-846 7470	0A 1	132735713002	10/01/2013	05:46	Damary Valentin	1	
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005	5A 1	132701848007	09/30/2013	11:31	James L Mertz	1	
05713	WW SW846 Hg Digest	SW-846 7470	0A 1	132735713002	09/30/2013	15:30	Nelli S Markaryan	1	



Analysis Report

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Sample	Description:	DUP-WS-93-092613	Filt Grab	Surface	Water	\mathbf{LL}	Sample	#	ww	7215198	
		Mayflower, AR				\mathbf{LL}	Group	#	142	2005	
		Pipeline Incident	:			Aco	count	#	147	39	

ExxonMobil c/o Arcadis 630 Plaza Drive, Suite 600

Highlands Ranch CO 80129

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/26/2013 by HVA

Submitted: 09/27/2013 09:30 Reported: 10/01/2013 11:43

2693F SDG#: PEL77-17FD*

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metal	s 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	0.0315	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.

CAT No.	Analysis Name	Method	Trial# Batch#		Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132701848007	10/01/2013 05:46	Tara L Snyder	1
07046	Barium	SW-846 6010B	1	132701848007	10/01/2013 05:46	Tara L Snyder	1
07049	Cadmium	SW-846 6010B	1	132701848007	10/01/2013 05:46	Tara L Snyder	1
07051	Chromium	SW-846 6010B	1	132701848007	10/01/2013 05:46	Tara L Snyder	1
07055	Lead	SW-846 6010B	1	132701848007	10/01/2013 05:46	Tara L Snyder	1
07061	Nickel	SW-846 6010B	1	132701848007	10/01/2013 05:46	Tara L Snyder	1
07036	Selenium	SW-846 6010B	1	132701848007	10/01/2013 05:46	Tara L Snyder	1
07066	Silver	SW-846 6010B	1	132701848007	10/01/2013 05:46	Tara L Snyder	1
07071	Vanadium	SW-846 6010B	1	132701848007	10/01/2013 05:46	Tara L Snyder	1
00259	Mercury	SW-846 7470A	1	132735713002	10/01/2013 05:48	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132701848007	09/30/2013 11:31	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132735713002	09/30/2013 15:30	Nelli S Markaryar	1



Analysis Report

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Page 1 of 1

Quality Control Summary

Client Name: ExxonMobil c/o Arcadis Reported: 10/01/13 at 11:43 AM Group Number: 1422005

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>	Blank <u>Result</u>	Blank MDL**	Blank <u>LOQ</u>	Report <u>Units</u>	LCS <u>%REC</u>	LCSD <u>%REC</u>	LCS/LCSD <u>Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 132701848007	Sample num	ber(s): 72	15182-721	5198					
Arsenic	N.D.	0.0068	0.0200	mg/l	101		90-113		
Barium	N.D.	0.00033	0.0050	mg/l	100		90-110		
Cadmium	N.D.	0.00076	0.0050	mg/l	102		90-112		
Chromium	N.D.	0.0016	0.0150	mg/l	98		90-110		
Lead	N.D.	0.0047	0.0150	mg/l	106		88-110		
Nickel	N.D.	0.0015	0.0100	mg/l	105		90-111		
Selenium	N.D.	0.0084	0.0200	mg/l	99		80-120		
Silver	N.D.	0.0021	0.0050	mg/l	96		80-120		
Vanadium	N.D.	0.0020	0.0050	mg/l	99		90-110		
Batch number: 132735713002	Sample num	ber(s): 72	15182-721	5198					
Mercury	N.D.	0.00006 0	0.00020	mg/l	98		80-120		

Sample Matrix Quality Control

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

Analysis Name	MS <u>%REC</u>	MSD <u>%REC</u>	MS/MSD <u>Limits</u>	<u>RPD</u>	RPD <u>MAX</u>	BKG <u>Conc</u>	DUP <u>Conc</u>	DUP <u>RPD</u>	Dup RPD <u>Max</u>
Batch number: 132701848007	Sample	number(s)	: 7215182	-72151	98 UNSI	PK: 7215188	BKG: 721518	8	
Arsenic	102	104	81-123	2	20	N.D.	N.D.	0 (1)	20
Barium	100	104	78-118	3	20	0.0204	0.0208	2 (1)	20
Cadmium	102	103	83-116	1	20	N.D.	N.D.	0 (1)	20
Chromium	99	102	76-120	2	20	N.D.	N.D.	0 (1)	20
Lead	106	108	75-125	2	20	N.D.	N.D.	0 (1)	20
Nickel	105	106	86-115	1	20	N.D.	N.D.	0 (1)	20
Selenium	99	100	75-125	1	20	N.D.	N.D.	0 (1)	20
Silver	97	98	75-125	1	20	N.D.	N.D.	0 (1)	20
Vanadium	101	103	90-117	3	20	N.D.	N.D.	0 (1)	20
Batch number: 132735713002 Mercury	Sample 97	number(s) 96	: 7215182 80-120	-72151 1	98 UNSI 20	PK: 7215185 N.D.	BKG: 721518 N.D.	5 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.

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The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client. Page 22 of 25

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7) Turnaround Ti	ime Requested (TAT	(please circle)	Relinquistre	fby	h	n_1		Date Q	21	20B	Time	06		Receive	ed-by				Date	Time 9
Standard	5 day	4 day	Religiquished	by C	<u> </u>			Date	-00		Time	00		Receive	ed by	\checkmark			Date	Time
72 hour	48 hour	24 hour	Relinquished	l by			$\overline{}$	Date	,		Time			Receive	d by		$ \searrow $		Date	Time
8 Data Package	(circle if required) ED	D (circle if required)						+									٥	$\overline{\ }$		
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Type VI (Raw [NJ Reduced	Data) Oth	er				FedEx		~	ther	-			-		um	- 1/			10.27.19	1420
Other				Tem	perat	ure Upo	n Rec	eipt <u>()</u>	5-1	rd.	°C				Custod	y Séa	als Int	act?	Yes	No

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The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client. Page 23 of 25

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Environmental Sample Administration 1422005 **Receipt Documentation Log**

Not Chilled

Client/Project: XOM Mayflower	Shipping Container Sealed: (YES)	NO
Date of Receipt: $9/27/13$	Custody Seal Present * : YES	NO
Time of Receipt:	* Custody seal was intact unless otherwise noted in discrepancy section	n the
Source Code:	Package: Chilled No	ot Cl

Temperature of Shipping Containers													
Cooler #	Thermometer Temperature ID (°C)		Temp Bo Surface	ottle (TB) or Temp (ST)	Wet Ice Dry Ice Ice Pac	lc Prese Y/	ent?	Bagg	ose (L) ed Ice (B) or NA	Comr	nents		
1	DT146		1.1	TB		ωı		Ŷ		B			
2			1.2			1							
3		1	0,7										
4			0.5										
5			1.1									. <u></u>	
6		/	1.0						_				

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

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#:

10915 20 & Date/Time: <u>9/27/13</u> Oa Pest

Issued by Dept. 6042 Management

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Lancaster Laboratories Environmental

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)
С	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)	Ĺ	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

- 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 ≥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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