

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

December 06, 2013

Project: Mayflower, AR Pipeline Incident

Submittal Date: 11/22/2013

Group Number: 1436021

SDG: PEM72

PO Number: B0086003.1301

State of Sample Origin: AR

Client Sample DescriptionLancaster Labs (LL) #

WS-020(Surface)112013 Grab Surface Water	7289043
WS-007(0.5-1.0)112013 Grab Surface Water	7289044
WS-009(Surface)112013 Grab Surface Water	7289045
WS-001(0.5-1.0)112013 Grab Surface Water	7289046
WS-021(Surface)112013 Grab Surface Water	7289047
WS-004(0.5-1.0)112013 Grab Surface Water	7289048
WS-011(1.5-2.0)112013 Grab Surface Water	7289049
WS-011(5.0-5.5)112013 Grab Surface Water	7289050
WS-EB-113-112013 Grab Water	7289051
WS-015(1.5-2.0)112113 Grab Surface Water	7289052
WS-015(3.5-4.0)112113 Grab Surface Water	7289053
WS-014(1.5-2.0)112113 Grab Surface Water	7289054
WS-014(5.5-6.0)112113 Grab Surface Water	7289055
WS-012(1.5-2.0)112113 Grab Surface Water	7289056
WS-012(5.0-5.5)112113 Grab Surface Water	7289057
WS-010(1.5-2.0)112113 Grab Surface Water	7289058
WS-010(3.5-4.0)112113 Grab Surface Water	7289059
WS-006(0.5-1.0)112113 Grab Surface Water	7289060
WS-006(0.5-1.0)112113MS Grab Surface Water	7289061
WS-006(0.5-1.0)112113MSD Grab Surface Water	7289062
WS-008(Surface)112113 Grab Surface Water	7289063
WS-EB-114-112113 Grab Water	7289064
DUP-WS-113-112113 Grab Surface Water	7289065

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

ELECTRONIC ARCADIS

Attn: Stephen Barrick

COPY TO		
ELECTRONIC	ARCADIS	Attn: Lyndi Mott
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ELECTRONIC	ExxonMobil	Attn: Michael J. Firth
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ELECTRONIC	ARCADIS	Attn: Emily Leamer
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ELECTRONIC	ARCADIS	Attn: Rhiannon Parmalee
COPY TO		
ELECTRONIC	ExxonMobil	Attn: Michael L Sixsmith
COPY TO		
ELECTRONIC	ExxonMobil	Attn: Julie Foster
COPY TO		

Respectfully Submitted,



Katherine A. Klinefelter
Principal Specialist

(717) 556-7256

Project Name: Mayflower, AR Pipeline Incident
LLI Group #: 1436021

General Comments:

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

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

Project specific QC samples are included in this data set

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

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

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

Analysis Specific Comments:

SW-846 8270C SIM, GC/MS Semivolatiles

Sample #s: 7289056

The GC/MS semivolatile internal standard peak areas listed below are outside the acceptance criteria of -50% to +100% for both the initial analysis and the re-analysis. The reported results are from the initial analysis of the sample.

Internal Standard - Initial Analysis	% Recovery
Perylene-d12	-63%
Internal Standard - Re-analysis	% Recovery
Perylene-d12	-64%

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

Sample #s: 7289053

The laboratory did not receive sufficient sample volume to perform

the method QC requirement for MS/MSD or MS/DUP analysis.

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

Sample #s: 7289065

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

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

Sample #s: 7289043, 7289058

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

Batch #: 13327WAC026 (Sample number(s): 7289043-7289052, 7289054-7289064 UNSPK: 7289060)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 7289043, 7289056, 7289058

Batch #: 13329WAF026 (Sample number(s): 7289053, 7289065)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 7289053, 7289065

Sample Description: WS-020(Surface)112013 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289043
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/20/2013 09:25 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

2020- SDG#: PEM72-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.051	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.051	1
08357	Anthracene	120-12-7	N.D.	0.010	0.051	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.051	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.051	1
08357	Chrysene	218-01-9	N.D.	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.051	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.051	1
08357	Fluorene	86-73-7	N.D.	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.051	1
08357	Naphthalene	91-20-3	0.038 J	0.030	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.051	1
08357	Pyrene	129-00-0	N.D.	0.010	0.051	1

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 05:24	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: WS-007(0.5-1.0)112013 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289044
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/20/2013 09:50 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

2007- SDG#: PEM72-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.050	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.050	1
08357	Anthracene	120-12-7	N.D.	0.010	0.050	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.050	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.050	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.050	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.050	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.050	1
08357	Chrysene	218-01-9	N.D.	0.010	0.050	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.050	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.050	1
08357	Fluorene	86-73-7	N.D.	0.010	0.050	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.050	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.050	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.050	1
08357	Naphthalene	91-20-3	0.053	0.030	0.050	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.050	1
08357	Pyrene	129-00-0	0.014 J	0.010	0.050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 05:51	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: WS-009(Surface)112013 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289045
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/20/2013 10:00 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

2009- SDG#: PEM72-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.050	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.050	1
08357	Anthracene	120-12-7	N.D.	0.010	0.050	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.050	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.050	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.050	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.050	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.050	1
08357	Chrysene	218-01-9	N.D.	0.010	0.050	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.050	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.050	1
08357	Fluorene	86-73-7	N.D.	0.010	0.050	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.050	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.050	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.050	1
08357	Naphthalene	91-20-3	N.D.	0.030	0.050	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.050	1
08357	Pyrene	129-00-0	N.D.	0.010	0.050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 06:19	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: WS-001(0.5-1.0)112013 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289046
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/20/2013 10:10 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

2001- SDG#: PEM72-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.051	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.051	1
08357	Anthracene	120-12-7	N.D.	0.010	0.051	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.051	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.051	1
08357	Chrysene	218-01-9	N.D.	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.051	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.051	1
08357	Fluorene	86-73-7	N.D.	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.051	1
08357	Naphthalene	91-20-3	0.035 J	0.030	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.051	1
08357	Pyrene	129-00-0	N.D.	0.010	0.051	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 06:46	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: WS-021(Surface)112013 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289047
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/20/2013 10:30 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

2021- SDG#: PEM72-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.050	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.050	1
08357	Anthracene	120-12-7	N.D.	0.010	0.050	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.050	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.050	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.050	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.050	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.050	1
08357	Chrysene	218-01-9	N.D.	0.010	0.050	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.050	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.050	1
08357	Fluorene	86-73-7	N.D.	0.010	0.050	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.050	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.050	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.050	1
08357	Naphthalene	91-20-3	0.035 J	0.030	0.050	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.050	1
08357	Pyrene	129-00-0	N.D.	0.010	0.050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 07:14	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: WS-004(0.5-1.0)112013 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289048
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/20/2013 10:40 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

2004- SDG#: PEM72-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.051	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.051	1
08357	Anthracene	120-12-7	N.D.	0.010	0.051	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	0.017 J	0.010	0.051	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.051	1
08357	Chrysene	218-01-9	0.015 J	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.051	1
08357	Fluoranthene	206-44-0	0.024 J	0.010	0.051	1
08357	Fluorene	86-73-7	N.D.	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.051	1
08357	Naphthalene	91-20-3	0.097	0.030	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.051	1
08357	Pyrene	129-00-0	0.038 J	0.010	0.051	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 07:41	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: WS-011(1.5-2.0)112013 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289049
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/20/2013 13:50 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

20111 SDG#: PEM72-07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.052	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.052	1
08357	Anthracene	120-12-7	N.D.	0.010	0.052	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.052	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.052	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.052	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.052	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.052	1
08357	Chrysene	218-01-9	N.D.	0.010	0.052	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.052	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.052	1
08357	Fluorene	86-73-7	N.D.	0.010	0.052	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.052	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.052	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.052	1
08357	Naphthalene	91-20-3	0.068	0.031	0.052	1
08357	Phenanthrene	85-01-8	N.D.	0.031	0.052	1
08357	Pyrene	129-00-0	N.D.	0.010	0.052	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 08:08	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: WS-011(5.0-5.5)112013 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289050
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/20/2013 14:00 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

20112 SDG#: PEM72-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.051	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.051	1
08357	Anthracene	120-12-7	N.D.	0.010	0.051	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.051	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.051	1
08357	Chrysene	218-01-9	N.D.	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.051	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.051	1
08357	Fluorene	86-73-7	N.D.	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.051	1
08357	Naphthalene	91-20-3	0.057	0.030	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.051	1
08357	Pyrene	129-00-0	N.D.	0.010	0.051	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 08:36	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: WS-EB-113-112013 Grab Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289051
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/20/2013 14:30 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

20113 SDG#: PEM72-09EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.011	0.053	1
08357	Acenaphthylene	208-96-8	N.D.	0.011	0.053	1
08357	Anthracene	120-12-7	N.D.	0.011	0.053	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.011	0.053	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.011	0.053	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.011	0.053	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.011	0.053	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.011	0.053	1
08357	Chrysene	218-01-9	N.D.	0.011	0.053	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.011	0.053	1
08357	Fluoranthene	206-44-0	N.D.	0.011	0.053	1
08357	Fluorene	86-73-7	N.D.	0.011	0.053	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.011	0.053	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.011	0.053	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.011	0.053	1
08357	Naphthalene	91-20-3	N.D.	0.032	0.053	1
08357	Phenanthrene	85-01-8	N.D.	0.032	0.053	1
08357	Pyrene	129-00-0	N.D.	0.011	0.053	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 09:03	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: WS-015(1.5-2.0)112113 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289052
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/21/2013 08:20 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

21151 SDG#: PEM72-10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.052	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.052	1
08357	Anthracene	120-12-7	N.D.	0.010	0.052	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.052	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.052	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.052	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.052	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.052	1
08357	Chrysene	218-01-9	N.D.	0.010	0.052	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.052	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.052	1
08357	Fluorene	86-73-7	N.D.	0.010	0.052	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.052	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.052	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.052	1
08357	Naphthalene	91-20-3	0.037 J	0.031	0.052	1
08357	Phenanthrene	85-01-8	N.D.	0.031	0.052	1
08357	Pyrene	129-00-0	N.D.	0.010	0.052	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 09:30	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: WS-015(3.5-4.0)112113 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289053
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/21/2013 08:30 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

21152 SDG#: PEM72-11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.012	0.059	1
08357	Acenaphthylene	208-96-8	N.D.	0.012	0.059	1
08357	Anthracene	120-12-7	N.D.	0.012	0.059	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.012	0.059	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.012	0.059	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.012	0.059	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.012	0.059	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.012	0.059	1
08357	Chrysene	218-01-9	N.D.	0.012	0.059	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.012	0.059	1
08357	Fluoranthene	206-44-0	N.D.	0.012	0.059	1
08357	Fluorene	86-73-7	N.D.	0.012	0.059	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.012	0.059	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.012	0.059	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.012	0.059	1
08357	Naphthalene	91-20-3	N.D.	0.035	0.059	1
08357	Phenanthrene	85-01-8	N.D.	0.035	0.059	1
08357	Pyrene	129-00-0	N.D.	0.012	0.059	1

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

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13329WAF026	11/26/2013 15:03	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13329WAF026	11/25/2013 22:30	Karen L Beyer	1

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

Sample Description: WS-014(1.5-2.0)112113 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289054
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/21/2013 08:40 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

21141 SDG#: PEM72-12

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.012	0.058	1
08357	Acenaphthylene	208-96-8	N.D.	0.012	0.058	1
08357	Anthracene	120-12-7	N.D.	0.012	0.058	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.012	0.058	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.012	0.058	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.012	0.058	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.012	0.058	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.012	0.058	1
08357	Chrysene	218-01-9	N.D.	0.012	0.058	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.012	0.058	1
08357	Fluoranthene	206-44-0	N.D.	0.012	0.058	1
08357	Fluorene	86-73-7	N.D.	0.012	0.058	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.012	0.058	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.012	0.058	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.012	0.058	1
08357	Naphthalene	91-20-3	0.037 J	0.035	0.058	1
08357	Phenanthrene	85-01-8	N.D.	0.035	0.058	1
08357	Pyrene	129-00-0	N.D.	0.012	0.058	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 09:58	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: WS-014(5.5-6.0)112113 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289055
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/21/2013 08:50 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

21142 SDG#: PEM72-13

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.011	0.056	1
08357	Acenaphthylene	208-96-8	N.D.	0.011	0.056	1
08357	Anthracene	120-12-7	N.D.	0.011	0.056	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.011	0.056	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.011	0.056	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.011	0.056	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.011	0.056	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.011	0.056	1
08357	Chrysene	218-01-9	N.D.	0.011	0.056	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.011	0.056	1
08357	Fluoranthene	206-44-0	N.D.	0.011	0.056	1
08357	Fluorene	86-73-7	N.D.	0.011	0.056	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.011	0.056	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.011	0.056	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.011	0.056	1
08357	Naphthalene	91-20-3	0.038 J	0.033	0.056	1
08357	Phenanthrene	85-01-8	N.D.	0.033	0.056	1
08357	Pyrene	129-00-0	N.D.	0.011	0.056	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 10:25	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: WS-012(1.5-2.0)112113 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289056
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/21/2013 09:00 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

21121 SDG#: PEM72-14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.011	0.056	1
08357	Acenaphthylene	208-96-8	N.D.	0.011	0.056	1
08357	Anthracene	120-12-7	N.D.	0.011	0.056	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.011	0.056	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.011	0.056	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.011	0.056	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.011	0.056	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.011	0.056	1
08357	Chrysene	218-01-9	N.D.	0.011	0.056	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.011	0.056	1
08357	Fluoranthene	206-44-0	N.D.	0.011	0.056	1
08357	Fluorene	86-73-7	N.D.	0.011	0.056	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.011	0.056	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.011	0.056	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.011	0.056	1
08357	Naphthalene	91-20-3	0.062	0.034	0.056	1
08357	Phenanthrene	85-01-8	N.D.	0.034	0.056	1
08357	Pyrene	129-00-0	N.D.	0.011	0.056	1

The GC/MS semivolatile internal standard peak areas listed below are outside the acceptance criteria of -50% to +100% for both the initial analysis and the re-analysis. The reported results are from the initial analysis of the sample.

Internal Standard - Initial Analysis % Recovery
Perylene-d12 -63%

Internal Standard - Re-analysis % Recovery
Perylene-d12 -64%

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 10:53	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: WS-012(5.0.5.5)112113 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289057
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/21/2013 09:10 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

21122 SDG#: PEM72-15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.052	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.052	1
08357	Anthracene	120-12-7	N.D.	0.010	0.052	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.052	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.052	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.052	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.052	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.052	1
08357	Chrysene	218-01-9	N.D.	0.010	0.052	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.052	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.052	1
08357	Fluorene	86-73-7	N.D.	0.010	0.052	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.052	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.052	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.052	1
08357	Naphthalene	91-20-3	0.045 J	0.031	0.052	1
08357	Phenanthrene	85-01-8	N.D.	0.031	0.052	1
08357	Pyrene	129-00-0	N.D.	0.010	0.052	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 11:20	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: WS-010(1.5-2.0)112113 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289058
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/21/2013 09:20 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

21101 SDG#: PEM72-16

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.051	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.051	1
08357	Anthracene	120-12-7	N.D.	0.010	0.051	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.051	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.051	1
08357	Chrysene	218-01-9	N.D.	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.051	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.051	1
08357	Fluorene	86-73-7	N.D.	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.051	1
08357	Naphthalene	91-20-3	0.042 J	0.030	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.051	1
08357	Pyrene	129-00-0	N.D.	0.010	0.051	1

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 11:47	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: WS-010(3.5-4.0)112113 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289059
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/21/2013 09:30 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

21102 SDG#: PEM72-17

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.0091	0.045	1
08357	Acenaphthylene	208-96-8	N.D.	0.0091	0.045	1
08357	Anthracene	120-12-7	N.D.	0.0091	0.045	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.0091	0.045	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.0091	0.045	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.0091	0.045	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.0091	0.045	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.0091	0.045	1
08357	Chrysene	218-01-9	N.D.	0.0091	0.045	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.0091	0.045	1
08357	Fluoranthene	206-44-0	N.D.	0.0091	0.045	1
08357	Fluorene	86-73-7	N.D.	0.0091	0.045	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.0091	0.045	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.0091	0.045	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.0091	0.045	1
08357	Naphthalene	91-20-3	0.038 J	0.027	0.045	1
08357	Phenanthrene	85-01-8	N.D.	0.027	0.045	1
08357	Pyrene	129-00-0	N.D.	0.0091	0.045	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 12:14	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: WS-006(0.5-1.0)112113 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289060
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/21/2013 09:40 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

2106- SDG#: PEM72-18BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.050	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.050	1
08357	Anthracene	120-12-7	N.D.	0.010	0.050	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.050	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.050	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.050	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.050	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.050	1
08357	Chrysene	218-01-9	N.D.	0.010	0.050	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.050	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.050	1
08357	Fluorene	86-73-7	N.D.	0.010	0.050	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.050	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.050	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.050	1
08357	Naphthalene	91-20-3	N.D.	0.030	0.050	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.050	1
08357	Pyrene	129-00-0	N.D.	0.010	0.050	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 04:02	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: WS-006(0.5-1.0)112113MS Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289061
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/21/2013 09:40 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

2106- SDG#: PEM72-18MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	0.98	0.010	0.051	1
08357	Acenaphthylene	208-96-8	1.1	0.010	0.051	1
08357	Anthracene	120-12-7	0.87	0.010	0.051	1
08357	Benzo(a)anthracene	56-55-3	0.90	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	0.76	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	0.95	0.010	0.051	1
08357	Benzo(g,h,i)perylene	191-24-2	0.76	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	0.90	0.010	0.051	1
08357	Chrysene	218-01-9	0.91	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	0.82	0.010	0.051	1
08357	Fluoranthene	206-44-0	1.1	0.010	0.051	1
08357	Fluorene	86-73-7	1.0	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	0.81	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	1.1	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	1.0	0.010	0.051	1
08357	Naphthalene	91-20-3	1.1	0.030	0.051	1
08357	Phenanthrene	85-01-8	1.0	0.030	0.051	1
08357	Pyrene	129-00-0	0.93	0.010	0.051	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 04:30	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: WS-006(0.5-1.0)112113MSD Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289062
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/21/2013 09:40 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

2106- SDG#: PEM72-18MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	1.1	0.010	0.052	1
08357	Acenaphthylene	208-96-8	1.2	0.010	0.052	1
08357	Anthracene	120-12-7	0.98	0.010	0.052	1
08357	Benzo(a)anthracene	56-55-3	1.0	0.010	0.052	1
08357	Benzo(a)pyrene	50-32-8	0.79	0.010	0.052	1
08357	Benzo(b)fluoranthene	205-99-2	1.0	0.010	0.052	1
08357	Benzo(g,h,i)perylene	191-24-2	0.81	0.010	0.052	1
08357	Benzo(k)fluoranthene	207-08-9	0.96	0.010	0.052	1
08357	Chrysene	218-01-9	0.99	0.010	0.052	1
08357	Dibenz(a,h)anthracene	53-70-3	0.87	0.010	0.052	1
08357	Fluoranthene	206-44-0	1.2	0.010	0.052	1
08357	Fluorene	86-73-7	1.1	0.010	0.052	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	0.86	0.010	0.052	1
08357	1-Methylnaphthalene	90-12-0	1.2	0.010	0.052	1
08357	2-Methylnaphthalene	91-57-6	1.2	0.010	0.052	1
08357	Naphthalene	91-20-3	1.3	0.031	0.052	1
08357	Phenanthrene	85-01-8	1.2	0.031	0.052	1
08357	Pyrene	129-00-0	0.97	0.010	0.052	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 04:57	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: WS-008(Surface)112113 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289063
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/21/2013 11:30 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

2108- SDG#: PEM72-19

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.052	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.052	1
08357	Anthracene	120-12-7	N.D.	0.010	0.052	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.052	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.052	1
08357	Benzo(b)fluoranthene	205-99-2	0.011 J	0.010	0.052	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.052	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.052	1
08357	Chrysene	218-01-9	0.011 J	0.010	0.052	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.052	1
08357	Fluoranthene	206-44-0	0.016 J	0.010	0.052	1
08357	Fluorene	86-73-7	N.D.	0.010	0.052	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.052	1
08357	1-Methylnaphthalene	90-12-0	0.011 J	0.010	0.052	1
08357	2-Methylnaphthalene	91-57-6	0.016 J	0.010	0.052	1
08357	Naphthalene	91-20-3	0.031 J	0.031	0.052	1
08357	Phenanthrene	85-01-8	N.D.	0.031	0.052	1
08357	Pyrene	129-00-0	0.012 J	0.010	0.052	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 12:41	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: WS-EB-114-112113 Grab Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289064
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/21/2013 14:00 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

21114 SDG#: PEM72-20EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.011	0.054	1
08357	Acenaphthylene	208-96-8	N.D.	0.011	0.054	1
08357	Anthracene	120-12-7	N.D.	0.011	0.054	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.011	0.054	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.011	0.054	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.011	0.054	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.011	0.054	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.011	0.054	1
08357	Chrysene	218-01-9	N.D.	0.011	0.054	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.011	0.054	1
08357	Fluoranthene	206-44-0	N.D.	0.011	0.054	1
08357	Fluorene	86-73-7	N.D.	0.011	0.054	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.011	0.054	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.011	0.054	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.011	0.054	1
08357	Naphthalene	91-20-3	N.D.	0.032	0.054	1
08357	Phenanthrene	85-01-8	N.D.	0.032	0.054	1
08357	Pyrene	129-00-0	N.D.	0.011	0.054	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13327WAC026	11/26/2013 13:09	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13327WAC026	11/24/2013 08:00	Kelli M Barto	1

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

Sample Description: DUP-WS-113-112113 Grab Surface Water
Mayflower, AR
Pipeline Incident

LL Sample # WW 7289065
LL Group # 1436021
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 11/21/2013 by RL

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

Submitted: 11/22/2013 09:00

Reported: 12/06/2013 15:43

D-113 SDG#: PEM72-21FD*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles	SW-846 8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.011	0.053	1
08357	Acenaphthylene	208-96-8	N.D.	0.011	0.053	1
08357	Anthracene	120-12-7	N.D.	0.011	0.053	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.011	0.053	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.011	0.053	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.011	0.053	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.011	0.053	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.011	0.053	1
08357	Chrysene	218-01-9	N.D.	0.011	0.053	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.011	0.053	1
08357	Fluoranthene	206-44-0	N.D.	0.011	0.053	1
08357	Fluorene	86-73-7	N.D.	0.011	0.053	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.011	0.053	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.011	0.053	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.011	0.053	1
08357	Naphthalene	91-20-3	N.D.	0.032	0.053	1
08357	Phenanthrene	85-01-8	N.D.	0.032	0.053	1
08357	Pyrene	129-00-0	N.D.	0.011	0.053	1

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

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13329WAF026	11/26/2013 15:32	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13329WAF026	11/25/2013 22:30	Karen L Beyer	1

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

Quality Control SummaryClient Name: ExxonMobil c/o Arcadis
Reported: 12/06/13 at 03:43 PM

Group Number: 1436021

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: 13327WAC026	Sample number(s): 7289043-7289052, 7289054-7289064								
Acenaphthene	N.D.	0.010	0.050	ug/l	107		77-118		
Acenaphthylene	N.D.	0.010	0.050	ug/l	115		80-123		
Anthracene	N.D.	0.010	0.050	ug/l	111		78-123		
Benzo(a)anthracene	N.D.	0.010	0.050	ug/l	106		73-127		
Benzo(a)pyrene	N.D.	0.010	0.050	ug/l	111		72-120		
Benzo(b)fluoranthene	N.D.	0.010	0.050	ug/l	130		79-136		
Benzo(g,h,i)perylene	N.D.	0.010	0.050	ug/l	88		64-130		
Benzo(k)fluoranthene	N.D.	0.010	0.050	ug/l	120		73-131		
Chrysene	N.D.	0.010	0.050	ug/l	109		76-125		
Dibenz(a,h)anthracene	N.D.	0.010	0.050	ug/l	96		58-131		
Fluoranthene	N.D.	0.010	0.050	ug/l	115		79-124		
Fluorene	N.D.	0.010	0.050	ug/l	108		74-115		
Indeno(1,2,3-cd)pyrene	N.D.	0.010	0.050	ug/l	95		62-130		
1-Methylnaphthalene	N.D.	0.010	0.050	ug/l	115		80-126		
2-Methylnaphthalene	N.D.	0.010	0.050	ug/l	113		81-124		
Naphthalene	N.D.	0.030	0.050	ug/l	112		75-120		
Phenanthrene	N.D.	0.030	0.050	ug/l	111		75-120		
Pyrene	N.D.	0.010	0.050	ug/l	106		71-130		
Batch number: 13329WAF026	Sample number(s): 7289053, 7289065								
Acenaphthene	N.D.	0.010	0.050	ug/l	96	106	77-118	10	30
Acenaphthylene	N.D.	0.010	0.050	ug/l	103	115	80-123	10	30
Anthracene	N.D.	0.010	0.050	ug/l	101	111	78-123	9	30
Benzo(a)anthracene	N.D.	0.010	0.050	ug/l	102	109	73-127	7	30
Benzo(a)pyrene	N.D.	0.010	0.050	ug/l	98	105	72-120	7	30
Benzo(b)fluoranthene	N.D.	0.010	0.050	ug/l	108	114	79-136	6	30
Benzo(g,h,i)perylene	N.D.	0.010	0.050	ug/l	104	104	64-130	0	30
Benzo(k)fluoranthene	N.D.	0.010	0.050	ug/l	108	111	73-131	3	30
Chrysene	N.D.	0.010	0.050	ug/l	98	103	76-125	5	30
Dibenz(a,h)anthracene	N.D.	0.010	0.050	ug/l	98	94	58-131	3	30
Fluoranthene	N.D.	0.010	0.050	ug/l	106	114	79-124	7	30
Fluorene	N.D.	0.010	0.050	ug/l	99	109	74-115	10	30
Indeno(1,2,3-cd)pyrene	N.D.	0.010	0.050	ug/l	102	100	62-130	2	30
1-Methylnaphthalene	N.D.	0.010	0.050	ug/l	106	118	80-126	11	30
2-Methylnaphthalene	N.D.	0.010	0.050	ug/l	105	120	81-124	13	30
Naphthalene	N.D.	0.030	0.050	ug/l	97	108	75-120	11	30
Phenanthrene	N.D.	0.030	0.050	ug/l	93	102	75-120	10	30
Pyrene	N.D.	0.010	0.050	ug/l	95	105	71-130	10	30

Sample Matrix Quality Control

*- Outside of specification

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

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

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

Quality Control Summary

Client Name: ExxonMobil c/o Arcadis

Group Number: 1436021

Reported: 12/06/13 at 03:43 PM

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

Background (BKG) = the sample used in conjunction with the duplicate

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Batch number: 13327WAC026	Sample number(s): 7289043-7289052, 7289054-7289064 UNSPK: 7289060								
Acenaphthene	97	107	47-136	12	30				
Acenaphthylene	106	116	33-146	11	30				
Anthracene	86	94	69-119	11	30				
Benzo(a)anthracene	89	97	37-150	12	30				
Benzo(a)pyrene	75	76	64-123	3	30				
Benzo(b)fluoranthene	93	99	33-152	8	30				
Benzo(g,h,i)perylene	75	78	36-138	7	30				
Benzo(k)fluoranthene	89	92	31-142	6	30				
Chrysene	90	95	34-135	8	30				
Dibenz(a,h)anthracene	80	83	17-134	6	30				
Fluoranthene	104	116	39-147	14	30				
Fluorene	100	110	38-149	11	30				
Indeno(1,2,3-cd)pyrene	79	83	29-143	6	30				
1-Methylnaphthalene	107	117	49-152	12	30				
2-Methylnaphthalene	103	114	51-146	12	30				
Naphthalene	106	127	58-131	20	30				
Phenanthrene	102	113	48-140	13	30				
Pyrene	92	93	59-125	4	30				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: PAHs in waters by SIM

Batch number: 13327WAC026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7289043	73	32*	87
7289044	91	62	97
7289045	97	83	98
7289046	97	71	102
7289047	111	91	107
7289048	94	73	96
7289049	98	73	100
7289050	104	85	105
7289051	104	99	102
7289052	95	78	95
7289054	108	89	107
7289055	105	88	100
7289056	89	49*	86
7289057	105	84	102
7289058	97	60*	98
7289059	103	85	99
7289060	105	88	104
7289061	103	81	103
7289062	111	79	111

*- Outside of specification

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

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

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

Quality Control Summary

Client Name: ExxonMobil c/o Arcadis

Group Number: 1436021

Reported: 12/06/13 at 03:43 PM

Surrogate Quality Control

7289063	109	93	106
7289064	113	108	109
Blank	93	93	91
LCS	112	114	112
MS	103	81	103
MSD	111	79	111

Limits:	44-137	62-141	51-136
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Analysis Name: PAHs in waters by SIM

Batch number: 13329WAF026

Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
------------------	--------------------	-------------------------

7289053	83	60*	90
7289065	96	56*	108
Blank	113	114	117
LCS	107	103	106
LCSD	113	109	119

Limits:	44-137	62-141	51-136
---------	--------	--------	--------

*- 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 # 1436021 Sample # 1289043-65

Instructions on reverse side correspond with circled numbers.

1 Client Information				5 Analyses Requested		6 Preservation Codes	
Facility #/SID				Preservation Code		H = HCl N = HNO ₃ S = H ₂ SO ₄ T = Thiosulfate B = NaOH O = Other	
Site Address				Matrix		Remarks	
ExxonMobil PM				Ground <input type="checkbox"/> Surface <input checked="" type="checkbox"/> NPDES <input type="checkbox"/> Air <input type="checkbox"/>			
Consultant/Office				Potable <input type="checkbox"/> Soil <input type="checkbox"/> Sediment <input type="checkbox"/> Water <input type="checkbox"/> Oil <input type="checkbox"/>			
Consultant PM				Total # of Containers			
Sampler				Composite			
2 Sample Identification				3			
Date				Time			
WS-020 (Surface)	11/20/13	0925					
WS-007 (0.5-1.0)	11/20/13	0950					
WS-009 (Surface)	11/20/13	1000					
WS-001 (0.5-1.0)	11/20/13	1010					
WS-021 (Surface)	11/20/13	1030					
WS-004 (0.5-1.0)	11/20/13	1040					
WS-011 (1.5-2.0)	11/20/13	1350					
WS-011 (5.0-5.5)	11/20/13	1400					
WS-EB-113-112013	11/20/13	1430					
WS-015 (1.5-2.0)	11/21/13	0820					
WS-015 (3.5-4.0)	11/21/13	0830					
WS-014 (1.5-2.0)	11/21/13	0840					
7 Turnaround Time Requested (TAT) (please circle)				Date		Time	
Standard				Date		Time	
5 day				Date		Time	
4 day				Date		Time	
24 hour				Date		Time	
72 hour				Date		Time	
8 Data Package (circle if required)				Date		Time	
Type I - Full				Date		Time	
Type VI (Raw Data)				Date		Time	
NJ Reduced				Date		Time	
Other				Date		Time	
8 EDD (circle if required)				Date		Time	
Locus EIM (default)				Date		Time	
Other				Date		Time	
Relinquished by				Date		Time	
Relinquished by				Date		Time	
Relinquished by				Date		Time	
Relinquished by Commercial Carrier				Date		Time	
UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other <input type="checkbox"/>				Date		Time	
Temperature Upon Receipt 99-12°C				Date		Time	
Custody Seals Intact?				Date		Time	
Yes <input type="checkbox"/> No <input type="checkbox"/>				Date		Time	

ExxonMobil Analysis Request/Chain of Custody



Lancaster Laboratories
Environmental

Acct. #

14739

For Eurofins Lancaster Laboratories Environmental use only
Group # 1436021 Sample # 7289043-65

Instructions on reverse side correspond with circled numbers.

2 of 2

1 Client Information				4 Matrix		5 Analyses Requested		6 Preservation Codes	
Facility #/SID				Preservation Code		Preservation Codes		Remarks	
Mayflower Pipeline Incident				Surface <input checked="" type="checkbox"/> Air <input type="checkbox"/>		H = HCl N = HNO ₃ S = H ₂ SO ₄		T = Thiosulfate B = NaOH O = Other	
Mayflower, AR				Ground <input type="checkbox"/> NPDES <input type="checkbox"/>					
Scott Bushoe				Potable <input type="checkbox"/> Oil <input type="checkbox"/>					
ARCADIS				Sediment <input type="checkbox"/> Water <input checked="" type="checkbox"/>					
Steve Barrick				Soil <input type="checkbox"/> Composite <input type="checkbox"/>					
Consultant Phone # 919-302-6749									
Rym Lewis									
2 Sample Identification		3 Collected		4 Matrix		5 Analyses Requested		6 Preservation Codes	
		Date	Time	Grab		Total # of Containers		Remarks	
WS-014(55-60)1213		11-21-2013	0850	<input checked="" type="checkbox"/>		2			
WS-012(15-20)1213		11-21-2013	0900	<input checked="" type="checkbox"/>		2			
WS-012(50-55)1213		11-21-2013	0910	<input checked="" type="checkbox"/>		2			
WS-010(15-20)1213		11-21-2013	0920	<input checked="" type="checkbox"/>		2			
WS-010(35-40)1213		11-21-2013	0930	<input checked="" type="checkbox"/>		2			
WS-006(0.5-1.0)1213MSD		11-21-2013	0940	<input checked="" type="checkbox"/>		2			
WS-008(surface)1213		11-21-2013	1130	<input checked="" type="checkbox"/>		4			
WS-EB-114-11213		11-21-2013	1400	<input checked="" type="checkbox"/>		2			
DUP-WS-113-11213		11-21-2013	—	<input checked="" type="checkbox"/>		2			
Turnaround Time Requested (TAT) (please circle)		5 day		Relinquished by		Date		Time	
Standard		4 day		Relinquished by		Date		Time	
72 hour		24 hour		Relinquished by		Date		Time	
Data Package (circle if required)		EDD (circle if required)		Relinquished by Commercial Carrier		Date		Time	
Type I - Full		Locus EIM (default)		UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other <input type="checkbox"/>		Date		Time	
Type VI (Raw Data)		Other		Temperature Upon Receipt 0.9-1.0°C		Date		Time	
NJ Reduced				Custody/Seals Intact?		Date		Time	
Other				Yes <input type="checkbox"/> No <input type="checkbox"/>		Date		Time	

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

7053 0713

Megan A. Moeller

1436021

From: Kathy Klinefelter
Sent: Monday, November 25, 2013 2:21 PM
To: Megan A. Moeller
Subject: FW: Mayflower Surface Water Weekly Sampling COCs and Tracking Numbers 11.21.2013
Attachments: UPS Tracking Numbers 11.21.2013.pdf; Surface Water COCs 11.21.2013.pdf
Group 1436021. Thanks!

From: Lewis, Ryan [mailto:Ryan.Lewis@arcadis-us.com]
Sent: Thursday, November 21, 2013 8:13 PM
To: Kathy Klinefelter; Kull, Valerie; Mott, Lyndi; Quartey-Papafio, Clement; Chandler, Jennifer; SA Env Entry; Rachel L. Kreamer; Capria, Dennis; Brewer, Stacey; McKenzie, Mary
Cc: Molina, Joe; Lipka, Shelby; Parmelee, Rhiannon; Pritchard, Jamie; Patil, Sonal
Subject: Mayflower Surface Water Weekly Sampling COCs and Tracking Numbers 11.21.2013

Hello All,

Included are the COC's and tracking numbers for this week's surface water sampling event.

COCs relinquish date and time are blank and should read "11.21.2013" @ "1630".

Thanks,

Ryan B Lewis | Geologist 1 | ryan.lewis@arcadis-us.com

ARCADIS U.S., Inc. | 111 SW Columbia Street, Suite 670 | Portland, OR 97201
T: 503 220 8201 ext. 1101 | M: 503 863 9060
www.arcadis-us.com

ARCADIS, Imagine the result
Please consider the environment before printing this email.

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Environmental Sample Administration
Receipt Documentation Log

1436021

Client/Project:

Exxon mobil

Shipping Container Sealed:

YES

NO

Date of Receipt:

112213

Custody Seal Present * :

YES

NO

Time of Receipt:

900

* Custody seal was intact unless otherwise noted in the
discrepancy section

Source Code:

60-1

Package:

Chilled

Not Chilled

Temperature of Shipping Containers

Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	DH46	1.7	TB	WI	Y	B	
2	↓	0.9	↓	↓	↓	↓	
3							
4							
5							
6							

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

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#:

Bucurely Bucurely 2299

Date/Time:

112213 1156

Issued by Dept. 6042 Management

Explanation of Symbols and Abbreviations

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

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
C	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
µg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	L	liter(s)
m³	cubic meter(s)	µL	microliter(s)
		pg/L	picogram/liter
<	less than - The number following the sign is the <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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