# Analysis Report

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### ANALYTICAL RESULTS

Prepared by:

Prepared for:

Eurofins Lancaster Laboratories Environmental 2425 New Holland Pike Lancaster, PA 17601 ExxonMobil c/o Arcadis 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

December 30, 2013

Project: Mayflower, AR Pipeline Incident

Submittal Date: 12/13/2013 Group Number: 1440780 SDG: PEM76 PO Number: B0086003.1301 State of Sample Origin: AR

Client Sample Description	Lancaster Labs (LL) #
WS-008(Surface)121113 Grab Surface Water	7312718
WS-007(0.5-1.0)121113 Grab Surface Water	7312719
WS-009(Surface)121113 Grab Surface Water	7312720
WS-001(0.5-1.0)121113 Grab Surface Water	7312721
WS-021(Surface)121113 Grab Surface Water	7312722
WS-004(0.5-1.0)121113 Grab Surface Water	7312723
WS-020(Surface)121213 Grab Surface Water	7312724
WS-014(1.5-2.0)121213 Grab Surface Water	7312725
WS-014(5.5-6.0)121213 Grab Surface Water	7312726
WS-015(1.5-2.0)121213 Grab Surface Water	7312727
WS-015(3.5-4.0)121213 Grab Surface Water	7312728
WS-012(1.5-2.0)121213 Grab Surface Water	7312729
WS-012(5.0-5.5)121213 Grab Surface Water	7312730
WS-010(1.5-2.0)121213 Grab Surface Water	7312731
WS-010(3.5-4.0)121213 Grab Surface Water	7312732
WS-006(0.5-1.0)121213 Grab Surface Water	7312733
WS-006(0.5-1.0)121213MS Grab Surface Water	7312734
WS-006(0.5-1.0)121213MSD Grab Surface Water	7312735
WS-011(1.5-2.0)121213 Grab Surface Water	7312736
WS-011(5.0-5.5)121213 Grab Surface Water	7312737
WS-EB-118-121213 Grab Water	7312738
DUP-WS-116-121213 Grab Surface Water	7312739

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

ELECTRONIC ARCADIS COPY TO

Attn: Stephen Barrick

# Analysis Report

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

Respectfully Submitted,

Katherine A. Klinefelter Principal Specialist

Katherine a. Klinefelter

(717) 556-7256



### Case Narrative

Project Name: Mayflower, AR Pipeline Incident LLI Group #: 1440780

#### 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

#### <u>Sample #s: 7312723</u>

The LCS surrogates were not spiked due to a laboratory error. The following corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials with the exception of:

several target compounds were detected in the re-extraction.

### <u>Sample #s: 7312720, 7312</u>738

The LCS surrogates were not spiked due to a laboratory error. The following corrective action was taken: The sample was re-extracted outside the method required holding

time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials with the exception of:

several target compounds were not detected in the re-extraction.

### <u>Sample #s: 7312719, 7312721, 7312725, 7312732</u>

The LCS surrogates were not spiked due to a laboratory error. The following corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials with the exception of:

target compounds were not detected in the re-extraction.

# <u>Sample #s: 7312718, 7312722, 7312724, 7312727, 7312728, 7312729, 7312731, 7312733, 7312734, 7312735, 7312736, 7312737, 7312739</u> The LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

#### Sample #s: 7312726, 7312730

The LCS surrogates were not spiked due to a laboratory error. The following corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials. The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

### Batch #: 13348WAI026 (Sample number(s): 7312718-7312739 UNSPK: 7312733)

The recovery(ies) for the following analyte(s) in the MS and/or MSD was outside the acceptance window: Benzo(a)pyrene

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside outside acceptance windows: Benzo(b)fluoranthene, Benzo(k) fluoranthene, Indeno(1,2,3-cd) pyrene, Dibenz(a,h) anthracene

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 7312726, 7312730, 7312734, LCS, MS



# Analysis Report

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Sample Description: WS-008(Surface)121113 Grab Surface Water

LL Sample # WW 7312718 Mayflower, AR LL Group # 1440780 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/11/2013 11:30 by CQP ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

11008 SDG#: PEM76-01

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.	0.011	0.055	1
08357	Acenaphthylene	208-96-8	N.D.	0.011	0.055	1
08357	Anthracene	120-12-7	N.D.	0.011	0.055	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.011	0.055	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.011	0.055	1
08357	Benzo(b) fluoranthene	205-99-2	N.D.	0.011	0.055	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.011	0.055	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.011	0.055	1
08357	Chrysene	218-01-9	N.D.	0.011	0.055	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.011	0.055	1
08357	Fluoranthene	206-44-0	N.D.	0.011	0.055	1
08357	Fluorene	86-73-7	N.D.	0.011	0.055	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.011	0.055	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.011	0.055	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.011	0.055	1
08357	Naphthalene	91-20-3	N.D.	0.033	0.055	1
08357	Phenanthrene	85-01-8	N.D.	0.033	0.055	1
08357	Pyrene	129-00-0	N.D.	0.011	0.055	1

The LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

#### 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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Tim	ne	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13348WAI026	12/20/2013	16:41	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13348WAI026	12/16/2013	10:20	Anna E Stager	1



# Analysis Report

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Sample Description: WS-007(0.5-1.0)121113 Grab Surface Water

LL Sample # WW 7312719 Mayflower, AR LL Group # 1440780 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/11/2013 12:15 by CQP ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

11007 SDG#: PEM76-02

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	0.051	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	0.014 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	0.013 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	0.031 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	N.D.	0.031	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.031	0.051	1
08357	Pyrene	129-00-0	0.020 J	0.010	0.051	1

The LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials with the exception of:

target compounds were not detected in the re-extraction.

### 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.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution
No.					Date and Tim	ne		Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13348WAI026	12/20/2013	17:09	Chad A Moline	1
10470	BNA Water Extraction	SW-846 3510C	1	13348WAI026	12/16/2013	10:20	Anna E Stager	1
	(SIM)							



# Analysis Report

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Sample Description: WS-009(Surface)121113 Grab Surface Water

LL Sample # WW 7312720 Mayflower, AR LL Group # 1440780 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/11/2013 12:30 by CQP ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

11009 SDG#: PEM76-03

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	0.051	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	0.021 J	0.010	0.051	1
08357	Benzo(b) fluoranthene	205-99-2	0.041 J	0.010	0.051	1
08357	Benzo(g,h,i)perylene	191-24-2	0.063	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	0.029 J	0.010	0.051	1
08357	Chrysene	218-01-9	0.018 J	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	0.062	0.010	0.051	1
08357	Fluoranthene	206-44-0	0.018 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	0.066	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	N.D.	0.030	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.051	1
08357	Pyrene	129-00-0	0.013 J	0.010	0.051	1

The LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials with the exception of:

several target compounds were not detected in the re-extraction.

### 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.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution
No.					Date and Time			Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13348WAI026	12/20/2013 17	7:37	Chad A Moline	1
10470	BNA Water Extraction	SW-846 3510C	1	13348WAI026	12/16/2013 10	0:20	Anna E Stager	1
	(SIM)							



# Analysis Report

LL Sample # WW 7312721

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Sample Description: WS-001(0.5-1.0)121113 Grab Surface Water

Mayflower, AR LL Group # 1440780
Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/11/2013 13:00 by CQP ExxonMobil c/o Arcadis

630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

11001 SDG#: PEM76-04

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	0.050	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	0.025 J	0.010	0.050	1
08357	Benzo(g,h,i)perylene	191-24-2	0.028 J	0.010	0.050	1
08357	Benzo(k)fluoranthene	207-08-9	0.023 J	0.010	0.050	1
08357	Chrysene	218-01-9	0.011 J	0.010	0.050	1
08357	Dibenz(a,h)anthracene	53-70-3	0.035 J	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	0.034 J	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

The LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials with the exception of:

target compounds were not detected in the re-extraction.

### 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.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution
No.					Date and Tir	me		Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13348WAI026	12/20/2013	18:05	Chad A Moline	1
10470	BNA Water Extraction	SW-846 3510C	1	13348WAI026	12/16/2013	10:20	Anna E Stager	1
	(SIM)							



# Analysis Report

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Sample Description: WS-021(Surface)121113 Grab Surface Water

LL Sample # WW 7312722 Mayflower, AR LL Group # 1440780 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/11/2013 13:10 by CQP ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

11021 SDG#: PEM76-05

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	0.051	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	N.D.	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 LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

#### 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.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution
No.					Date and Ti	me		Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13348WAI026	12/20/2013	18:33	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13348WAI026	12/16/2013	10:20	Anna E Stager	1



# Analysis Report

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Sample Description: WS-004(0.5-1.0)121113 Grab Surface Water

LL Sample # WW 7312723 Mayflower, AR LL Group # 1440780 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/11/2013 13:30 by CQP ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

11004 SDG#: PEM76-06

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	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	N.D.	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 LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials with the exception of:

several target compounds were detected in the re-extraction.

### 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.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution
No.					Date and Ti	me		Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13348WAI026	12/20/2013	19:01	Chad A Moline	1
10470	BNA Water Extraction	SW-846 3510C	1	13348WAI026	12/16/2013	10:20	Anna E Stager	1
	(SIM)							



# Analysis Report

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

Sample Description: WS-020(Surface)121213 Grab Surface Water

LL Sample # WW 7312724 Mayflower, AR LL Group # 1440780 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/12/2013 11:30 by CQP ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

12020 SDG#: PEM76-07

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	0.051	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	N.D.	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 LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

#### 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.

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	13348WAI026	12/20/2013 19	9:28	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13348WAI026	12/16/2013 10	0:20	Anna E Stager	1



# Analysis Report

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

Sample Description: WS-014(1.5-2.0)121213 Grab Surface Water

LL Sample # WW 7312725 Mayflower, AR LL Group # 1440780 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/12/2013 12:20 by CQP ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

12141 SDG#: PEM76-08

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	0.050	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	0.016 J	0.010	0.050	1
08357	Benzo(a)pyrene	50-32-8	0.077	0.010	0.050	1
08357	Benzo(b)fluoranthene	205-99-2	0.079	0.010	0.050	1
08357	Benzo(g,h,i)perylene	191-24-2	0.14	0.010	0.050	1
08357	Benzo(k)fluoranthene	207-08-9	0.080	0.010	0.050	1
08357	Chrysene	218-01-9	0.021 J	0.010	0.050	1
08357	Dibenz(a,h)anthracene	53-70-3	0.13	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	0.13	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

The LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials with the exception of:

target compounds were not detected in the re-extraction.

### 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.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution
No.					Date and Ti	me		Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13348WAI026	12/20/2013	19:56	Chad A Moline	1
10470	BNA Water Extraction	SW-846 3510C	1	13348WAI026	12/16/2013	10:20	Anna E Stager	1
	(SIM)							



# Analysis Report

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

Sample Description: WS-014(5.5-6.0)121213 Grab Surface Water

LL Sample # WW 7312726 Mayflower, AR LL Group # 1440780 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/12/2013 12:30 by CQP ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

12142 SDG#: PEM76-09

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

The LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

### 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.

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	13348WAI026	12/20/2013 2	0:24	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13348WAI026	12/16/2013 1	0:20	Anna E Stager	1



# Analysis Report

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

Sample Description: WS-015(1.5-2.0)121213 Grab Surface Water

LL Sample # WW 7312727 Mayflower, AR LL Group # 1440780 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/12/2013 12:40 by CQP ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

12151 SDG#: PEM76-10

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	0.050	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

The LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

#### 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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Ti	me	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13348WAI026	12/20/2013	20:52	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13348WAI026	12/16/2013	10:20	Anna E Stager	1



# Analysis Report

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

Sample Description: WS-015(3.5-4.0)121213 Grab Surface Water

LL Sample # WW 7312728 Mayflower, AR LL Group # 1440780 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/12/2013 12:50 by CQP ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

12152 SDG#: PEM76-11

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.	0.010	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

The LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

#### 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.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution
No.					Date and Ti	me		Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13348WAI026	12/20/2013	21:20	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13348WAI026	12/16/2013	10:20	Anna E Stager	1



# Analysis Report

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

Sample Description: WS-012(1.5-2.0)121213 Grab Surface Water

LL Sample # WW 7312729 Mayflower, AR LL Group # 1440780 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/12/2013 13:00 by CQP ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

12121 SDG#: PEM76-12

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.	0.010	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

The LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

#### 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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Ti	me	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13348WAI026	12/20/2013	21:48	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13348WAI026	12/16/2013	10:20	Anna E Stager	1



# Analysis Report

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

Sample Description: WS-012(5.0-5.5)121213 Grab Surface Water

LL Sample # WW 7312730 Mayflower, AR LL Group # 1440780 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

by CQP Collected: 12/12/2013 13:10 ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

12122 SDG#: PEM76-13

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.	0.010	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

The LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

#### 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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Ti	me	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13348WAI026	12/20/2013	22:15	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13348WAI026	12/16/2013	10:20	Anna E Stager	1



# Analysis Report

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

Sample Description: WS-010(1.5-2.0)121213 Grab Surface Water

LL Sample # WW 7312731 Mayflower, AR LL Group # 1440780 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/12/2013 13:30 by CQP ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

12101 SDG#: PEM76-14

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 8	270C 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	N.D.	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 LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

#### 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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Tir	me	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13348WAI026	12/20/2013	22:43	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13348WAI026	12/16/2013	10:20	Anna E Stager	1



# **Analysis Report**

LL Sample # WW 7312732

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

Sample Description: WS-010(3.5-4.0)121213 Grab Surface Water

Mayflower, AR LL Group # 1440780
Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/12/2013 13:40 by CQP ExxonMobil c/o Arcadis

630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

12102 SDG#: PEM76-15

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	0.051	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	0.018 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	N.D.	0.031	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.031	0.051	1
08357	Pyrene	129-00-0	0.054	0.010	0.051	1

The LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials with the exception of:

target compounds were not detected in the re-extraction.

### 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.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution
No.					Date and Ti	me		Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13348WAI026	12/20/2013	23:11	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13348WAI026	12/16/2013	10:20	Anna E Stager	1



# Analysis Report

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

Sample Description: WS-006(0.5-1.0)121213 Grab Surface Water

LL Sample # WW 7312733 Mayflower, AR LL Group # 1440780 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/12/2013 14:00 by CQP ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

12006 SDG#: PEM76-16BKG

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	N.D.	0.031	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.031	0.051	1
08357	Pyrene	129-00-0	N.D.	0.010	0.051	1
The	LCS surrogates were not spike	d due to a laborat	orv error. The	following		

The LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

#### 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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	e	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13348WAI026	12/20/2013 1	15:18	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13348WAI026	12/16/2013 1	10:20	Anna E Stager	1



# Analysis Report

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

Sample Description: WS-006(0.5-1.0)121213MS Grab Surface Water

LL Sample # WW 7312734 Mayflower, AR LL Group # 1440780 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/12/2013 14:00 by CQP ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

12006 SDG#: PEM76-16MS

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	1.0	0.010	0.050	1
08357	Acenaphthylene	208-96-8	1.0	0.010	0.050	1
08357	Anthracene	120-12-7	0.87	0.010	0.050	1
08357	Benzo(a)anthracene	56-55-3	0.70	0.010	0.050	1
08357	Benzo(a)pyrene	50-32-8	0.56	0.010	0.050	1
08357	Benzo(b) fluoranthene	205-99-2	0.67	0.010	0.050	1
08357	Benzo(g,h,i)perylene	191-24-2	0.61	0.010	0.050	1
08357	Benzo(k)fluoranthene	207-08-9	0.62	0.010	0.050	1
08357	Chrysene	218-01-9	0.67	0.010	0.050	1
08357	Dibenz(a,h)anthracene	53-70-3	0.53	0.010	0.050	1
08357	Fluoranthene	206-44-0	0.83	0.010	0.050	1
08357	Fluorene	86-73-7	1.0	0.010	0.050	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	0.55	0.010	0.050	1
08357	1-Methylnaphthalene	90-12-0	1.1	0.010	0.050	1
08357	2-Methylnaphthalene	91-57-6	1.1	0.010	0.050	1
08357	Naphthalene	91-20-3	1.1	0.030	0.050	1
08357	Phenanthrene	85-01-8	1.0	0.030	0.050	1
08357	Pyrene	129-00-0	0.83	0.010	0.050	1
The	ICS surrogates were not snike	due to a laborat	ory error The	following		

The LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

#### 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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Tim	e	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13348WAI026	12/20/2013	15:46	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13348WAI026	12/16/2013	10:20	Anna E Stager	1



# Analysis Report

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

Sample Description: WS-006(0.5-1.0)121213MSD Grab Surface Water

LL Sample # WW 7312735 Mayflower, AR LL Group # 1440780 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/12/2013 14:00 by CQP ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

12006 SDG#: PEM76-16MSD

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	0.050	1
08357	Acenaphthylene	208-96-8	1.1	0.010	0.050	1
08357	Anthracene	120-12-7	0.95	0.010	0.050	1
08357	Benzo(a)anthracene	56-55-3	0.93	0.010	0.050	1
08357	Benzo(a)pyrene	50-32-8	0.76	0.010	0.050	1
08357	Benzo(b) fluoranthene	205-99-2	0.92	0.010	0.050	1
08357	Benzo(g,h,i)perylene	191-24-2	0.77	0.010	0.050	1
08357	Benzo(k)fluoranthene	207-08-9	0.86	0.010	0.050	1
08357	Chrysene	218-01-9	0.89	0.010	0.050	1
08357	Dibenz(a,h)anthracene	53-70-3	0.76	0.010	0.050	1
08357	Fluoranthene	206-44-0	0.99	0.010	0.050	1
08357	Fluorene	86-73-7	1.1	0.010	0.050	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	0.77	0.010	0.050	1
08357	1-Methylnaphthalene	90-12-0	1.2	0.010	0.050	1
08357	2-Methylnaphthalene	91-57-6	1.1	0.010	0.050	1
08357	Naphthalene	91-20-3	1.1	0.030	0.050	1
08357	Phenanthrene	85-01-8	1.1	0.030	0.050	1
08357	Pyrene	129-00-0	0.98	0.010	0.050	1
The	ICS surrogates were not snike	due to a laborat	ory error The	following		

The LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

#### 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.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution
No.					Date and Ti	me		Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13348WAI026	12/20/2013	16:14	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13348WAI026	12/16/2013	10:20	Anna E Stager	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)121213 Grab Surface Water

LL Sample # WW 7312736 Mayflower, AR LL Group # 1440780 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/12/2013 14:20 by CQP ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

12111 SDG#: PEM76-17

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.	0.010	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	N.D.	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 LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

#### 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.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution
No.					Date and Ti	me		Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13348WAI026	12/20/2013	23:39	Chad A Moline	1
10470		SW-846 3510C	1	13348WAI026	12/16/2013	10:20	Anna E Stager	1
	(SIM)							



# 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)121213 Grab Surface Water

LL Sample # WW 7312737 Mayflower, AR LL Group # 1440780 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/12/2013 14:30 by CQP ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

12112 SDG#: PEM76-18

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	N.D.	0.031	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.031	0.051	1
08357	Pyrene	129-00-0	N.D.	0.010	0.051	1

The LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

#### 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.

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	13348WAI026	12/21/2013 00:0	7 Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13348WAI026	12/16/2013 10:2	0 Anna E Stager	1



# Analysis Report

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

Sample Description: WS-EB-118-121213 Grab Water

LL Sample # WW 7312738 Mayflower, AR LL Group # 1440780 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/12/2013 15:30 by CQP ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

12118 SDG#: PEM76-19EB

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	0.011 J	0.010	0.050	1
08357	Benzo(b) fluoranthene	205-99-2	0.017 J	0.010	0.050	1
08357	Benzo(g,h,i)perylene	191-24-2	0.024 J	0.010	0.050	1
08357	Benzo(k)fluoranthene	207-08-9	0.017 J	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	0.024 J	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	0.023 J	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	0.13	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

The LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials with the exception of:

several target compounds were not detected in the re-extraction.

### 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.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution
No.					Date and Ti	me		Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13348WAI026	12/21/2013	00:34	Chad A Moline	1
10470	BNA Water Extraction	SW-846 3510C	1	13348WAI026	12/16/2013	10:20	Anna E Stager	1
	(SIM)							



# Analysis Report

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

Sample Description: DUP-WS-116-121213 Grab Surface Water

LL Sample # WW 7312739 Mayflower, AR LL Group # 1440780 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 12/12/2013 by CQP ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 12/13/2013 09:15 Reported: 12/30/2013 10:31

12116 SDG#: PEM76-20FD\*

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	N.D.	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 '	CC currogates were not spiked	due to a laborat	ory error The	following		

The LCS surrogates were not spiked due to a laboratory error. The following

corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

#### 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.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Ti	me	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	13348WAI026	12/21/2013	01:02	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	13348WAI026	12/16/2013	10:20	Anna E Stager	1



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**Environmental** 

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# Quality Control Summary

Client Name: ExxonMobil c/o Arcadis Group Number: 1440780

Reported: 12/30/13 at 10:31 AM

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

Analysis Name	Blank <u>Result</u>	Blank MDL**	Blank <u>LOO</u>	Report <u>Units</u>	LCS %REC	LCSD %REC	LCS/LCSD <u>Limits</u>	RPD	RPD Max
Batch number: 13348WAI026	Sample num	ber(s): 7	312718-731	.2739					
Acenaphthene	N.D.	0.010	0.050	ug/l	112		77-118		
Acenaphthylene	N.D.	0.010	0.050	ug/l	105		80-123		
Anthracene	N.D.	0.010	0.050	ug/l	105		78-123		
Benzo(a)anthracene	N.D.	0.010	0.050	ug/l	103		73-127		
Benzo(a)pyrene	N.D.	0.010	0.050	ug/l	102		72-120		
Benzo(b)fluoranthene	N.D.	0.010	0.050	ug/l	114		79-136		
Benzo(g,h,i)perylene	N.D.	0.010	0.050	ug/l	105		64-130		
Benzo(k)fluoranthene	N.D.	0.010	0.050	ug/l	107		73-131		
Chrysene	N.D.	0.010	0.050	ug/l	105		76-125		
Dibenz(a,h)anthracene	N.D.	0.010	0.050	ug/l	104		58-131		
Fluoranthene	N.D.	0.010	0.050	ug/l	109		79-124		
Fluorene	N.D.	0.010	0.050	ug/l	111		74-115		
Indeno(1,2,3-cd)pyrene	N.D.	0.010	0.050	ug/l	102		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	106		75-120		
Pyrene	N.D.	0.010	0.050	ug/l	108		71-130		

### 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 %REC	MS/MSD Limits	RPD	RPD <u>MAX</u>	BKG Conc	DUP Conc	DUP <u>RPD</u>	Dup RPD <u>Max</u>
Batch number: 13348WAI026	Sample	number(s)	: 7312718	-73127	39 UNSP	K: 7312733			
Acenaphthene	103	107	47-136	4	30				
Acenaphthylene	102	106	33-146	4	30				
Anthracene	87	95	69-119	9	30				
Benzo(a)anthracene	70	92	37-150	28	30				
Benzo(a)pyrene	56*	75	64-123	29	30				
Benzo(b)fluoranthene	67	91	33-152	31*	30				
Benzo(g,h,i)perylene	60	77	36-138	24	30				
Benzo(k)fluoranthene	61	86	31-142	33*	30				
Chrysene	67	89	34-135	28	30				
Dibenz(a,h)anthracene	52	76	17-134	37*	30				
Fluoranthene	82	99	39-147	18	30				
Fluorene	100	106	38-149	6	30				
Indeno(1,2,3-cd)pyrene	54	76	29-143	34*	30				

- \*- 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.

# Analysis Report

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Page 2 of 2

# Quality Control Summary

Client Name: ExxonMobil c/o Arcadis Group Number: 1440780

Reported: 12/30/13 at 10:31 AM

### 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

	MS	MSD	MS/MSD		RPD	BKG	DUP	DUP	Dup RPD
<u>Analysis Name</u>	%REC	%REC	<u>Limits</u>	RPD	MAX	Conc	Conc	<u>RPD</u>	<u>Max</u>
1-Methylnaphthalene	109	115	49-152	5	30				
2-Methylnaphthalene	106	112	51-146	5	30				
Naphthalene	106	111	58-131	4	30				
Phenanthrene	101	109	48-140	7	30				
Pyrene	83	97	59-125	16	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: 13348WAI026

Baccii iia	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene- d10
7312718	109	93	109
7312719	96	63	100
7312720	105	84	105
7312721	103	86	106
7312722	103	81	102
7312723	94	84	101
7312724	95	66	98
7312725	108	85	108
7312726	94	53*	101
7312727	107	86	108
7312728	96	63	101
7312729	106	87	106
7312730	100	61*	101
7312731	98	68	101
7312732	103	86	103
7312733	111	90	108
7312734	95	56*	106
7312735	108	81	112
7312736	105	88	104
7312737	110	98	109
7312738	105	99	103
7312739	105	97	104
Blank	112	102	110
LCS	0*	0*	0*
MS	95	56*	106
MSD	108	81	112
Limits:	44-137	62-141	51-136

<sup>\*-</sup> Outside of specification

<sup>\*\*-</sup>This limit was used in the evaluation of the final result for the blank

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

<sup>(2)</sup> The unspiked result was more than four times the spike added.

# ExxonMobil Analysis Request/Chain of Custody

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**Lancaster Laboratories Environmental** 

111720	For Eurofins Lancaster Laboratories Environmental use only						
Acct. # 19 139	Group # <u>144078</u> 0 Sample # <u></u>						
Instructions on reverse side correspond with circled numbers							

1) Client Information (4) Matrix (5) Ana	nalyses Requested	1072
Facility #/SID	Preservation Code	SCR#:
MAYFLOWER PIPELINE INCIDENT		Preservation Codes
Site Address		H = HCl T = Thiosulfate
MAY FLOWER, AR  ExxonMobil PM   Cost Center/AFE   D 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9		$N = HNO_3$ $B = NaOH$
SCOTT BUSHANE		$S = H_2SO_4$ O = Other
SCOTT BUSHROE  Consultant/Office  Consultant/Office  Consultant/Office		6 Remarks
Consultant PM Consultant Phone # S S S S S S S S S S S S S S S S S S		
Consultant PM STEVE BARRICK 919. 302. 6799  Sampler  Sampler		
OFFICE BURGEY DAGA FIG. PITTING PITTING		
2) Collected que la company de		
WS-008(Surface) 121113 12-11-2013 1136 X X 2 X		
WS-067/0.5-1.0) 121113 12-11-2013 1215 X X 2X		
WS-009 (Surface) 1211 13 12-11-2013 1230 X X 2 X		
WS-001 (0.5-1.0) 121113 12-11-2013 1300 X X 2X		
WS-021 (Surface) 121113 12-11-2013 1310 X X 2X		
WS-004 (0.5-1.0) 121113 12-11-2013 1330 X X 2X		
NS-020 (Surface) 1212 13 12-12-2013 1130 X X 2 X		
WS-014 (1.5-2.0) 12 12 13 12-12-2613 1220 X X 2 X		
WS-014 (5.5-6.0) 12 12 13 12-12-2013 1230 X X X X		
NS-015 (1.5-2.6) 1212 13 12-12-2613 1240 X X 2 X		
NS-015 (3.5-40) 121213 12-12-2013 1250 X X 2 X		
WS-012 (15-20) 21213 12-12-2013 1300 X X 2X		
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Relinquished by Date Time	Received by	Date Time
72 hour 48 hour 24 hour Relinquished by Date Time	Received by	Date Time
8) Data Package (circle if required) EDD (circle if required)	Troopined by	
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Type VI (Raw Data) Other UPS FedEx Other	1 7	Date 12/13/13 Time 15
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# ExxonMobil Analysis Request/Chain of Custody

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Lancaster Laboratories Environmental

11177 12	For Eurofins Lancaster Laboratories Environmental use only									
Acct. # <u>17 19 7</u>	Group # <u>1440780</u> Sample # 7312718-3	8								
	Instructions on reverse side correspond with circled numbers	-								

1) Client Info	rmation	5 to 1919		4)	Matrix			(5)		Analy	ses R	eaue	sted	-		-	X	
											ervati					SCR#:		
MAYFLOWER PIPELINE Site Address	INCIDEN	<u> </u>		_	١.,											Pres	ervatio	1 Codes
Site Address																H = HCI	Т:	= Thiosulfate
MAYFLOWER, AR EXXONMOBILIPM	10 40 4 455			┦	E S								-			N = HNO	з В	= NaOH
SCOTT BUSHRUE	Cost Center/AFE				Ground Surface											$S = H_2SC$		= Other
Consultant/Office	<u> </u>			ment			Z.	SIM								6)	Remar	KS
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WS-010 (3.5-4.0) 121213	12-12-2013	1340 )	<u> </u>	1	Х		2	$\mathbf{x}$				+						
WS-006 (0.5-1.0) 121213	12-12-2013	1400 >	<del>}   -</del>		X		2	X				$\dashv$	1	1 1				
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# Environmental Sample Administration 1440780 Receipt Documentation Log

Client/I	Project:	xxon Mol	o: (	Shippin	g Containe	er Sealed: YES	) NO
Date of	Receipt:	2/13/13		Custody	/ Seal Pres	sent * : YE	S NO
Time o	f Receipt:	915			seal was inta	act unless otherwise	noted in the
Source	Code:	G0-1	·	Package		Chilled	Not Chilled
			Temperature of	Shipping Contai	iners		
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	BTIZI	1.2	TB	WI	$\mid \vee \mid$	B	
2	$\bigvee$	6,7	<b>V</b>	V		1	
3			\				
4							
5							
6							
Numbe	r of Trip Blanl	ks received <u>N</u>	OT listed on chain	of custody:	0		
Paperv	vork Discrepa	ancy/Unpack	ing Problems:				
					· · · · · · · · · · · · · · · · · · ·		
Unpacl	ker Signature	e/Emp#:	32-	2308	_ Date/Ti	me: 12/13/13	1301

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)
С	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
μg	microgram(s)	mg	milligram(s)
mĹ	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**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 ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

#### **Organic Qualifiers Inorganic Qualifiers** TIC is a possible aldol-condensation product В Value is <CRDL. but ≥IDL Α В Analyte was also detected in the blank Ε Estimated due to interference C Pesticide result confirmed by GC/MS М Duplicate injection precision not met D Compound quantitated on a diluted sample Ν Spike sample not within control limits Concentration exceeds the calibration range of Method of standard additions (MSA) used Е S for calculation the instrument U Ν Presumptive evidence of a compound (TICs only) Compound was not detected Concentration difference between primary and Post digestion spike out of control limits W Duplicate analysis not within control limits confirmation columns >25% U Compound was not detected Correlation coefficient for MSA < 0.995 X,Y,ZDefined in case narrative

### 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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