ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

ExxonMobil
PO Box 4592
Houston TX 77210-4592

February 20, 2014

Project: Mayflower, AR Pipeline Incident

Submittal Date: 02/10/2014
Group Number: 1451415
SDG: PEM84
PO Number: 4410181435
Release Number: SIXSMITH
State of Sample Origin: AR

Client Sample Description	Lancaster Labs (LL) #
WS-007(0.5-1.0)020514 Grab Surface Water	7359114
WS-009(Surface)020514 Grab Surface Water	7359115
WS-001(0.5-1.0)020514 Grab Surface Water	7359116
WS-021(Surface)020514 Grab Surface Water	7359117
WS-004(0.5-1.0)020514 Grab Surface Water	7359118
WS-008(Surface)020514 Grab Surface Water	7359119
WS-020(Surface)020614 Grab Surface Water	7359120

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

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

Respectfully Submitted,

Katherine A. Klinefelter
Principal Specialist

(717) 556-7256

Project Name: Mayflower, AR Pipeline Incident
LLI Group #: 1451415

General Comments:

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

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

Project specific QC samples are not included in this data set

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

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

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

Analysis Specific Comments:

SW-846 8270C SIM, GC/MS Semivolatiles

Sample #s: 7359116, 7359117, 7359118, 7359119

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance:
acenaphthylene

Sample #s: 7359114, 7359115, 7359120

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance:
acenaphthylene
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 #: 14041WAE026 (Sample number(s): 7359114-7359120)

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD were below the acceptance window: Acenaphthylene

The relative percent difference(s) for the following analyte(s) in the LCS/LCSD were outside acceptance windows: Acenaphthylene, Dibenz(a,h)anthracene

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 7359114, 7359115, 7359120

Sample Description: WS-007(0.5-1.0)020514 Grab Surface Water
S20135565 Mayflower, AR
Pipeline Incident

LL Sample # WW 7359114
LL Group # 1451415
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 02/05/2014 09:50 by ZAP

Submitted: 02/10/2014 09:20
Reported: 02/20/2014 07:18

ExxonMobil
PO Box 4592
Houston TX 77210-4592

WS-07 SDG#: PEM84-01

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	0.011 J	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	0.011 J	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	0.023 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	0.021 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	0.040 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.	0.030	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.051	1
08357	Pyrene	129-00-0	0.030 J	0.010	0.051	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance:
acenaphthylene

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	14041WAE026	02/14/2014 19:57	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	14041WAE026	02/11/2014 12:00	William H Saadeh	1

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

Sample Description: WS-009(Surface)020514 Grab Surface Water
S20135565 Mayflower, AR
Pipeline Incident

LL Sample # WW 7359115
LL Group # 1451415
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 02/05/2014 09:55 by ZAP

Submitted: 02/10/2014 09:20
Reported: 02/20/2014 07:18

ExxonMobil
PO Box 4592
Houston TX 77210-4592

WS-09 SDG#: PEM84-02

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	0.014 J	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	0.014 J	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 and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance:
acenaphthylene

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	14041WAE026	02/14/2014 20:25	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	14041WAE026	02/11/2014 12:00	William H Saadeh	1

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

Sample Description: WS-001(0.5-1.0)020514 Grab Surface Water
S20135565 Mayflower, AR
Pipeline Incident

LL Sample # WW 7359116
LL Group # 1451415
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 02/05/2014 10:00 by ZAP

Submitted: 02/10/2014 09:20
Reported: 02/20/2014 07:18

ExxonMobil
PO Box 4592
Houston TX 77210-4592

WS-01 SDG#: PEM84-03

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	0.018 J	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	0.015 J	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	0.023 J	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	0.019 J	0.010	0.050	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance:
acenaphthylene

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	14041WAE026	02/14/2014 20:53	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	14041WAE026	02/11/2014 12:00	William H Saadeh	1

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

Sample Description: WS-021(Surface)020514 Grab Surface Water
S20135565 Mayflower, AR
Pipeline Incident

LL Sample # WW 7359117
LL Group # 1451415
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 02/05/2014 10:10 by ZAP

Submitted: 02/10/2014 09:20
Reported: 02/20/2014 07:18

ExxonMobil
PO Box 4592
Houston TX 77210-4592

WS-21 SDG#: PEM84-04

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	0.052	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	0.023 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	0.018 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	0.027 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	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	N.D.	0.031	0.052	1
08357	Phenanthrene	85-01-8	N.D.	0.031	0.052	1
08357	Pyrene	129-00-0	0.023 J	0.010	0.052	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance:
acenaphthylene

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	14041WAE026	02/14/2014 21:21	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	14041WAE026	02/11/2014 12:00	William H Saadeh	1

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

Sample Description: WS-004(0.5-1.0)020514 Grab Surface Water
S20135565 Mayflower, AR
Pipeline Incident

LL Sample # WW 7359118
LL Group # 1451415
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 02/05/2014 10:15 by ZAP

Submitted: 02/10/2014 09:20
Reported: 02/20/2014 07:18

ExxonMobil
PO Box 4592
Houston TX 77210-4592

WS-04 SDG#: PEM84-05

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	0.052	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	0.012 J	0.010	0.052	1
08357	Benzo(a)pyrene	50-32-8	0.014 J	0.010	0.052	1
08357	Benzo(b)fluoranthene	205-99-2	0.027 J	0.010	0.052	1
08357	Benzo(g,h,i)perylene	191-24-2	0.011 J	0.010	0.052	1
08357	Benzo(k)fluoranthene	207-08-9	0.011 J	0.010	0.052	1
08357	Chrysene	218-01-9	0.022 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	0.031 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	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	N.D.	0.031	0.052	1
08357	Phenanthrene	85-01-8	N.D.	0.031	0.052	1
08357	Pyrene	129-00-0	0.026 J	0.010	0.052	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance:
acenaphthylene

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	14041WAE026	02/14/2014 21:48	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	14041WAE026	02/11/2014 12:00	William H Saadeh	1

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

Sample Description: WS-008(Surface)020514 Grab Surface Water
S20135565 Mayflower, AR
Pipeline Incident

LL Sample # WW 7359119
LL Group # 1451415
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 02/05/2014 08:45 by ZAP

Submitted: 02/10/2014 09:20
Reported: 02/20/2014 07:18

ExxonMobil
PO Box 4592
Houston TX 77210-4592

WS-08 SDG#: PEM84-06

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.	0.011	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	0.015 J	0.011	0.053	1
08357	Benzo(a)pyrene	50-32-8	0.016 J	0.011	0.053	1
08357	Benzo(b)fluoranthene	205-99-2	0.028 J	0.011	0.053	1
08357	Benzo(g,h,i)perylene	191-24-2	0.011 J	0.011	0.053	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.011	0.053	1
08357	Chrysene	218-01-9	0.021 J	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	0.026 J	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	0.030 J	0.011	0.053	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance:
acenaphthylene

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	14041WAE026	02/14/2014 22:16	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	14041WAE026	02/11/2014 12:00	William H Saadeh	1

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

Sample Description: WS-020(Surface)020614 Grab Surface Water
S20135565 Mayflower, AR
Pipeline Incident

LL Sample # WW 7359120
LL Group # 1451415
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 02/06/2014 11:00 by ZAP

Submitted: 02/10/2014 09:20
Reported: 02/20/2014 07:18

ExxonMobil
PO Box 4592
Houston TX 77210-4592

WS-20 SDG#: PEM84-07*

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	0.011 J	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	0.013 J	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	0.025 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	0.021 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	0.033 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.	0.030	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.051	1
08357	Pyrene	129-00-0	0.027 J	0.010	0.051	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC Standards. The following analytes are accepted based on this allowance:
acenaphthylene

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	14041WAE026	02/14/2014 22:44	Chad A Moline	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	14041WAE026	02/11/2014 12:00	William H Saadeh	1

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

Quality Control Summary

Client Name: ExxonMobil Group Number: 1451415
Reported: 02/20/14 at 07:18 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 Result	Blank MDL**	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 14041WAE026	Sample number(s): 7359114-7359120								
Acenaphthene	N.D.	0.010	0.050	ug/l	95	97	83-119	2	30
Acenaphthylene	N.D.	0.010	0.050	ug/l	102	74*	81-130	32*	30
Anthracene	N.D.	0.010	0.050	ug/l	105	90	83-125	15	30
Benzo(a)anthracene	N.D.	0.010	0.050	ug/l	104	102	79-122	2	30
Benzo(a)pyrene	N.D.	0.010	0.050	ug/l	101	95	80-121	6	30
Benzo(b)fluoranthene	N.D.	0.010	0.050	ug/l	110	128	79-136	16	30
Benzo(g,h,i)perylene	N.D.	0.010	0.050	ug/l	102	125	72-132	20	30
Benzo(k)fluoranthene	N.D.	0.010	0.050	ug/l	101	119	81-131	16	30
Chrysene	N.D.	0.010	0.050	ug/l	97	100	84-118	3	30
Dibenz(a,h)anthracene	N.D.	0.010	0.050	ug/l	87	122	66-133	34*	30
Fluoranthene	N.D.	0.010	0.050	ug/l	103	101	84-124	2	30
Fluorene	N.D.	0.010	0.050	ug/l	96	99	82-119	3	30
Indeno(1,2,3-cd)pyrene	N.D.	0.010	0.050	ug/l	97	123	68-132	24	30
1-Methylnaphthalene	N.D.	0.010	0.050	ug/l	104	104	86-130	0	30
2-Methylnaphthalene	N.D.	0.010	0.050	ug/l	105	106	81-131	1	30
Naphthalene	N.D.	0.030	0.050	ug/l	101	107	82-122	6	30
Phenanthrene	N.D.	0.030	0.050	ug/l	101	101	83-116	0	30
Pyrene	N.D.	0.010	0.050	ug/l	107	108	78-125	1	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: 14041WAE026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
7359114	75	50*	81
7359115	76	52*	83
7359116	78	62	82
7359117	89	80	90
7359118	87	79	93
7359119	81	64	86
7359120	77	55*	85
Blank	91	91	95

*- 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.

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

Quality Control Summary

Client Name: ExxonMobil Group Number: 1451415
Reported: 02/20/14 at 07:18 AM

Surrogate Quality Control

LCS	96	97	99
LCSD	94	90	102
Limits:	59-128	62-141	70-134

*- 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

eurofins | Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 14739 Group # 1451415 Sample # 7359114-120 1 of 1

Instructions on reverse side correspond with circled numbers.

1 Client Information

Facility #/SID: Mayflower Pipeline Incident

Site Address: Mayflower AR

ExxonMobil PM: Scott Bushroe — Cost Center/AFE:

Consultant/Office: Arcadis

Consultant PM: Steve Barrick — Consultant Phone #:

Sampler: Z.A. Powers / LM Hamby

4 Matrix: Sediment ☐; Soil ☐; Water: Ground ☐, Surface ☒, Potable ☐, NPDES ☐; Air ☐; Oil ☐

5 Analyses Requested — Preservation Code

SCR#:

Preservation Codes
H = HCl, T = Thiosulfate
N = HNO_3, B = NaOH
S = H_2SO_4, O = Other

2 Sample Identification	Collected Date	Collected Time	3 Grab	Composite	Sediment/Soil	Water	Oil/Air	Total # of Containers	8270 PAH
WS-007 (0.5-1.0) 020514	2/5/14	0950	X					2	X
WS-009 (surface) 020514	2/5/14	0955	X					2	X
WS-001 (0.5-1.0) 020514	2/5/14	1000	X					2	X
WS-021 (surface) 020514	2/5/14	1010	X					2	X
WS-004 (0.5-1.0) 020514	2/5/14	1015	X					2	X
WS-008 (surface) 020514	2/6/14	0845	X					2	X
WS-020 (surface) 020614	2/6/14	1100	X					2	X

6 Remarks

Tracking # 1Z 75Y 02X Y0 4082 9611

7 Turnaround Time Requested (TAT) (please circle)

(Standard) 5 day 4 day

72 hour 48 hour 24 hour

8 Data Package (circle if required)
Type I - Full
Type VI (Raw Data)
NJ Reduced
Other ____

EDD (circle if required)
Locus EIM (default)
Other ____

Relinquished by	Date	Time	Received by	Date	Time
Matt Hamby	2/7/14	1600	UPS		

9 Relinquished by Commercial Carrier: UPS X FedEx ____ Other ____ — Received by: [signature] — Date 2.10.14 — Time 920

Temperature Upon Receipt 1.5 °C

Custody Seals Intact? (Yes) No

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

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

7053 0713

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 4046

Group Number(s): 1451415

Client: ExxonMobil

Delivery and Receipt Information

Delivery Method:	UPS	Arrival Timestamp:	02/10/2014 9:20
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	AR		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Trip Blank Present:	No
Custody Seal Present:	Yes	Trip Blank Indicated on COC:	N/A
Custody Seal Intact:	Yes	Trip Blank Type:	N/A
Samples Chilled:	Yes	Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes	Air Quality Flow Controllers Present:	N/A
Missing Samples:	No	Flow Controller Quantity:	0
Extra Samples:	No	Air Quality Returns:	N/A
Discrepancy in Container Qty on COC:	No		
Sample IDs on COC match Containers:	Yes		
Sample Date/Times match COC:	Yes		
VOA Vial Headspace ≥ 6mm:	N/A		
VOA IDs (≥ 6mm):	N/A		

Unpacked by Brandy Barclay (2299) at 09:59 on 02/10/2014

Samples Chilled Details

Thermometer Types: DT = Digital IR = Infrared

Cooler #	Thermometer ID	Raw Temp (°C)	Corrected Temp (°C)	Thermometer Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	1.5	1.5	DT	Wet	Y	Bagged	N

General Comments:

2425 New Holland Pike
Lancaster, PA 17605-2425
T : 717-656-2300
F : 717-656-2681
www.LancasterLabs.com

eurofins | Lancaster Laboratories Environmental

Explanation of Symbols and Abbreviations

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

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
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 limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is ≥ 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 ≥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.