## Analysis Report

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

### ANALYTICAL RESULTS

Prepared by: Prepared for:

Eurofins Lancaster Laboratories Environmental 2425 New Holland Pike Lancaster, PA 17601 ExxonMobil PO Box 4592 Houston TX 77210-4592

August 29, 2014

Project: Mayflower, AR Pipeline Incident

Submittal Date: 08/23/2014 Group Number: 1498237 SDG: PEO18 PO Number: 4410181435 Release Number: SIXSMITH State of Sample Origin: AR

Client Sample Description	Lancaster Labs (LL) #
WS-007(0.5-1.0)082114 Grab Surface Water	7575957
WS-009(Surface)082114 Grab Surface Water	7575958
WS-001(0.5-1.0)082114 Grab Surface Water	7575959
WS-021(Surface)082114 Grab Surface Water	7575960
WS-004(0.5-1.0)082114 Grab Surface Water	7575961

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

ELECTRONIC	ARCADIS	Attn: Stephen Barrick
COPY TO		
ELECTRONIC	ARCADIS	Attn: Lyndi Mott
COPY TO		
ELECTRONIC	ExxonMobil	Attn: Michael J. Firth
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ELECTRONIC	ARCADIS	Attn: Emily Leamer
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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		
ELECTRONIC	ARCADIS	Attn: Kim Abbott
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## Analysis Report

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Respectfully Submitted,

Katherine A. Klinefelter Principal Specialist

Katherine a. Klinefelter

(717) 556-7256



Project Name: Mayflower, AR Pipeline Incident LL Group #: 1498237

#### 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: 7575959, 7575960, 7575961

The laboratory did not receive sufficient sample volume to perform

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

### Sample #s: 7575958

The laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis. The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted and the QC is compliant. However, the sample surrogates were outside of QC limits in the re-extraction. Similar results were obtained in both trials.

#### Sample #s: 7575957

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. The laboratory did not receive sufficient sample volume to perform

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

### Batch #: 14237wAC026 (Sample number(s): 7575957, 7575959-7575961)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 7575957

Batch #: 14239WAG026 (Sample number(s): 7575958)

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD were below the acceptance window: Naphthalene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene, Benzo(g,h,i)perylene

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

8/29/2014 2:17:27PM



## **Analysis Report**

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Sample Description: WS-007(0.5-1.0)082114 Grab Surface Water

S20135565 Mayflower, AR

Pipeline Incident

LL Sample # WW 7575957

LL Group # 1498237 Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 08/21/2014 12:35 by ZP ExxonMobil PO Box 4592

Houston TX 77210-4592

Submitted: 08/23/2014 08:50 Reported: 08/29/2014 14:16

82107 SDG#: PEO18-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles SW-846	8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.051	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.051	1
08357	Anthracene	120-12-7	N.D.	0.010	0.051	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.051	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.051	1
08357	Chrysene	218-01-9	N.D.	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.051	1
08357	Fluoranthene	206-44-0	0.016 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	0.012 J	0.010	0.051	1
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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.

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

### 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	14237WAC026	08/27/2014	04:25	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	14237WAC026	08/25/2014	18:00	Nicholas W Shroyer	1



## Analysis Report

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Sample Description: WS-009(Surface)082114 Grab Surface Water

S20135565 Mayflower, AR

Pipeline Incident

LL Sample # WW 7575958

LL Group # 1498237 Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 08/21/2014 12:40 by ZP ExxonMobil

PO Box 4592

Houston TX 77210-4592

Submitted: 08/23/2014 08:50 Reported: 08/29/2014 14:16

82109 SDG#: PEO18-02

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	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	0.061	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.061	1
08357	Pyrene	129-00-0	N.D.	0.010	0.051	1

The laboratory did not receive sufficient sample volume to perform

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

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC

Summary. The following corrective action was taken:

The sample was re-extracted and the QC is compliant. However, the sample

surrogates were outside of QC limits in the re-extraction. 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	14239WAG026	08/28/2014	05:44	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	2	14239WAG026	08/27/2014	22:15	Karen L Beyer	1



## Analysis Report

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Sample Description: WS-001(0.5-1.0)082114 Grab Surface Water

LL Sample # WW 7575959 S20135565 Mayflower, AR LL Group # 1498237 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 08/21/2014 12:45 by ZP ExxonMobil PO Box 4592

Submitted: 08/23/2014 08:50 Houston TX 77210-4592

Reported: 08/29/2014 14:16

821-1 SDG#: PEO18-03

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	N.D.	0.010	0.051	1
08357	Benzo(b) fluoranthene	205-99-2	N.D.	0.010	0.051	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.051	1
08357	Chrysene	218-01-9	N.D.	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.051	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.051	1
08357	Fluorene	86-73-7	N.D.	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.051	1
08357	Naphthalene	91-20-3	0.033 J	0.030	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.051	1
08357	Pyrene	129-00-0	N.D.	0.010	0.051	1
The :	laboratory did not receive sur					

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

### 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	14237WAC026	08/27/2014	05:20	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	14237WAC026	08/25/2014	18:00	Nicholas W Shroyer	1



## Analysis Report

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

Sample Description: WS-021(Surface)082114 Grab Surface Water

S20135565 Mayflower, AR

Pipeline Incident

LL Sample # WW 7575960

LL Group # 1498237 Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 08/21/2014 12:50 by ZP ExxonMobil

PO Box 4592

Houston TX 77210-4592

Submitted: 08/23/2014 08:50 Reported: 08/29/2014 14:16

82121 SDG#: PEO18-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles SW-846	8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.051	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.051	1
08357	Anthracene	120-12-7	N.D.	0.010	0.051	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.051	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.010	0.051	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.051	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.051	1
08357	Chrysene	218-01-9	N.D.	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.051	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.051	1
08357	Fluorene	86-73-7	N.D.	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.051	1
08357	Naphthalene	91-20-3	0.042 J	0.030	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.051	1
08357	Pyrene	129-00-0	N.D.	0.010	0.051	1
	laboratory did not receive su					

the method QC requirement for  ${\rm MS/MSD}$  or  ${\rm MS/DUP}$  analysis.

### 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
	PAHs in waters by SIM	SW-846 8270C SIM	1	14237WAC026	08/27/2014		Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	14237WAC026	08/25/2014	18:00	Nicholas W Shroyer	1



## Analysis Report

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Sample Description: WS-004(0.5-1.0)082114 Grab Surface Water

LL Sample # WW 7575961 S20135565 Mayflower, AR LL Group # 1498237 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 08/21/2014 12:55 by ZP ExxonMobil PO Box 4592

Houston TX 77210-4592

Submitted: 08/23/2014 08:50 Reported: 08/29/2014 14:16

82104 SDG#: PEO18-05\*

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.	0.031	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
	laboratory did not receive suf					

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

### 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	14237WAC026	08/27/2014	06:15	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	14237WAC026	08/25/2014	18:00	Nicholas W Shroyer	1



## Analysis Report

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## Quality Control Summary

Client Name: ExxonMobil Group Number: 1498237

Reported: 08/29/14 at 02:16 PM

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>LOQ</u>	Report <u>Units</u>	LCS %REC	LCSD %REC	LCS/LCSD <u>Limits</u>	RPD	RPD Max
Batch number: 14237WAC026	Sample numl	ber(s): 75	75957,757	5959-7575961	L				
Acenaphthene	N.D.	0.010	0.050	uq/l	115	113	82-126	1	30
Acenaphthylene	N.D.	0.010	0.050	uq/l	90	92	72-124	2	30
Anthracene	N.D.	0.010	0.050	uq/l	98	100	83-125	2	30
Benzo(a)anthracene	N.D.	0.010	0.050	ug/l	96	94	79-122	2	30
Benzo(a)pyrene	N.D.	0.010	0.050	uq/l	94	88	72-126	7	30
Benzo(b) fluoranthene	N.D.	0.010	0.050	ug/l	99	92	79-136	7	30
Benzo(q,h,i)perylene	N.D.	0.010	0.050	ug/l	94	79	59-137	18	30
Benzo(k) fluoranthene	N.D.	0.010	0.050	ug/l	94	84	72-129	11	30
Chrysene	N.D.	0.010	0.050	ug/l	100	96	77-122	4	30
Dibenz(a,h)anthracene	N.D.	0.010	0.050	uq/l	75	57	42-143	27	30
Fluoranthene	N.D.	0.010	0.050	uq/l	88	89	76-121	1	30
Fluorene	N.D.	0.010	0.050	ug/l	93	93	82-119	0	30
Indeno(1,2,3-cd)pyrene	N.D.	0.010	0.050	ug/l	86	70	53-136	21	30
1-Methylnaphthalene	N.D.	0.010	0.050	ug/l	92	95	75-117	3	30
2-Methylnaphthalene	N.D.	0.010	0.050	ug/l	91	90	68-124	0	30
Naphthalene	N.D.	0.030	0.050	ug/l	93	96	78-117	3	30
Phenanthrene	N.D.	0.030	0.050	uq/l	97	99	83-116	2	30
Pyrene	N.D.	0.010	0.050	ug/l	98	103	70-124	5	30
Batch number: 14239WAG026	Sample numl	ber(s): 75	75958						
Acenaphthene	N.D.	0.010	0.050	uq/l	89	115	82-126	25	30
Acenaphthylene	N.D.	0.010	0.050	ug/l	73	93	72-124	24	30
Anthracene	N.D.	0.010	0.050	uq/l	80*	102	83-125	24	30
Benzo(a)anthracene	N.D.	0.010	0.050	ug/l	68*	98	79-122	36*	30
Benzo(a)pyrene	N.D.	0.010	0.050	ug/l	57*	97	72-126	51*	30
Benzo(b) fluoranthene	N.D.	0.010	0.050	ug/l	63*	103	79-136	48*	30
Benzo(g,h,i)perylene	N.D.	0.010	0.050	ug/l	42*	97	59-137	80*	30
Benzo(k)fluoranthene	N.D.	0.010	0.050	ug/l	50*	93	72-129	61*	30
Chrysene	N.D.	0.010	0.050	ug/l	63*	101	77-122	47*	30
Dibenz(a,h)anthracene	N.D.	0.010	0.050	ug/l	30*	79	42-143	91*	30
Fluoranthene	N.D.	0.010	0.050	ug/l	70*	90	76-121	25	30
Fluorene	N.D.	0.010	0.050	ug/l	75*	94	82-119	23	30
Indeno(1,2,3-cd)pyrene	N.D.	0.010	0.050	ug/l	37*	87	53-136	82*	30
1-Methylnaphthalene	N.D.	0.010	0.050	ug/l	75	96	75-117	24	30
2-Methylnaphthalene	N.D.	0.010	0.050	ug/l	75	97	68-124	25	30
Naphthalene	N.D.	0.030	0.060	ug/l	75*	94	78-117	23	30
Phenanthrene	N.D.	0.030	0.060	ug/l	78*	100	83-116	24	30
Pyrene	N.D.	0.010	0.050	ug/l	80	105	70-124	27	30

<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.



## Analysis Report

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

Page 2 of 2

## Quality Control Summary

95

59-132

Client Name: ExxonMobil Group Number: 1498237

Reported: 08/29/14 at 02:16 PM

## 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: 14237WAC026
Fluoranthene-d10

LCSD

Limits:

56-134

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene- d10
7575957	62	31*	79
7575959	78	48	87
7575960	87	65	93
7575961	83	66	92
Blank	88	102	96
LCS	89	103	96
LCSD	87	97	96
Limits:	56-134	36-156	59-132
	Name: PAHs in wat umber: 14239WAG026	ters by SIM	
	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene- d10
7575958	75	61	84
Blank	86	85	89
LCS	68	61	75

103

36-156

<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.

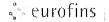
# ExxonMobil Analysis Request/Chain of Custody

eurofins eurofins

Lancaster Laboratories Environmental Acct. # 14739

For Eurofins Lancaster Laboratories Environmental use only
Group #1446337 Sample # 7575957-61
Instructions on reverse side correspond with circled numbers.

1) Client Info	rmation			(4	1)	Matrix			5				s Re					SCR#	<i>į</i> .		
Facility #/SID	1 01. 1	,									Pı	reser	vatior	Cod	е			SUN			
May Hower Pipeline	ine dent				١.	A													Preservation	n Codes	
Site Address					- [1															= Thiosulfate	
ExxonMobil PM	Cost Center/AFE					ace														= NaOH	
May Hower Pipeline Site Address  May Hower, AR  ExxonMobil PM  Mike Sixsmith  Consultant/Office	Oost Gentel/Al L			L	_	Ground Surface												V25000000000000000000000000000000000000	: H <sub>2</sub> SO <sub>4</sub> C	= Other	208000
Consultant/Office					5 I	0 0,			, Z									6	Kema	11/2	
Arcadis Consultant PM				:				lers	SIM				l								
Consultant PM	Consultant Phone				Se	S e	Air	tair	i 1												
Steve Barrick	919-302					Potable NPDES		Con	220				ŀ								
Steve Barrick Sampler Zae Powers 2			3	Composite	٦			Total # of Containers	(82,												
2)	Colle	cted	ا ۾ ا	å .		ter		al#	T												
Sample Identification	Date	Time	Grab	8 6	Sol	Water	ō	Tot	PAT								- VALUE AND				
WS-007(0.5-1.0)082114	8.2/14	1235	X			X		2	X									gagat garesandia kilologika (1977)			
WS-009 (surface) 0B2114		1240	X			X		2	7										· · · · · · · · · · · · · · · · · · ·		
us-001(0,5-1.0) 082114	8-21-14	1245	X		T	X		2											J-000-000-000-000-000-000-000-000-000-0		
WS-021 (SUr Race) 082114		1250	X			X		2	X								ĺ				
W5-004 (0.5-1.0) 682114	8021.14		X		ľ	X		2	X									1-010000000000000000000000000000000000			$\neg$
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7) Turnaround Time Requested (TAT)	(please circle)	Relinquished	by					Date			Time		Rec	eived by	<u> </u>		1		Date	Time	9
Standard 5 day	4 day	7						8-2	4.1	4	1400	0									
Standard	4 day	Relinquished	by					Date			Time		Rec	eived by	1				Date	Time	
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Type VI (Raw Data)  NJ Reduced  Other	er	_ UPS_	X		Fed	ı⊏X		Ut	her_	en protesta in Line		handar zonnám háli te			~						_
Other			Ter	nperat	ture	Upon Re	eceip	t	3-2		,C			Cus	tody	Seals	s Inta	ct?	(es)	No	omio diggino
	F		-					**************************************		Managara (managara)							Y23/23/2000				



## Sample Administration Receipt Documentation Log

Doc Log ID:

25601

Group Number(s): 1498231

Client: ExxonMobil

**Delivery and Receipt Information** 

Delivery Method:

**UPS** 

Arrival Timestamp:

08/23/2014 8:50

Number of Packages:

1

Number of Projects:

1

**Arrival Condition Summary** 

Shipping Container Sealed:

Yes Yes Total Trip Blank Qty:

0

**Custody Seal Present:** 

Trip Blank Type:

<u>N/A</u>

Custody Seal Intact:

Yes

Air Quality Samples Present:

<u>No</u>

Samples Chilled: Paperwork Enclosed: Yes <u>Yes</u> Air Quality Flow Controllers Present: Flow Controller Quantity:

N/A 0

Samples Intact:

Yes

No

Air Quality Returns:

N/A

Missing Samples:

Extra Samples:

<u>No</u>

Discrepancy in Container Qty on COC:

No Yes

Sample IDs on COC match Containers: Sample Date/Times match COC:

<u>Yes</u>

VOA Vial Headspace ≥ 6mm:

N/A

VOA IDs ( $\geq$ 6mm):

N/A

Unpacked by Timothy Cubberley (6520) at 10:04 on 08/23/2014

Samples Chilled Details

Wet

Thermometer Types:

DT = Digital (Temp. Bottle)

IR = Infrared (Surface Temp)

All Temperatures in °C.

Cooler#

Page 1 of 1

Thermometer ID DT131

Corrected Temp 3.2

Therm. Type DT

Ice Type

Ice Present? Ν

Ice Container Bagged

Elevated Temp?

Ν



## **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**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
Α	TIC is a possible aldol-condensation product	В	Value is <crdl, but="" th="" ≥idl<=""></crdl,>
В	Analyte was also detected in the blank	E	Estimated due to interference
С	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	S	Method of standard additions (MSA) used
	the instrument		for calculation
N	Presumptive evidence of a compound (TICs only)	U	Compound was not detected
Р	Concentration difference between primary and	W	Post digestion spike out of control limits
	confirmation columns >25%	*	Duplicate analysis not within control limits
U	Compound was not detected	+	Correlation coefficient for MSA < 0.995
X,Y,Z	Defined 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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