



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

#### 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

June 12, 2014

Project: Mayflower, AR Pipeline Incident

Submittal Date: 05/30/2014 Group Number: 1478188 SDG: PEO02 PO Number: 4410181435 Release Number: SIXSMITH State of Sample Origin: AR

| Client Sample Description                | Lancaster Labs (LL) # |
|--|-----------------------|
| WS-007(0.5-1.0)052914 Grab Surface Water | 7482111               |
| WS-009(Surface)052914 Grab Surface Water | 7482112               |
| WS-001(0.5-1.0)052914 Grab Surface Water | 7482113               |
| WS-021(Surface)052914 Grab Surface Water | 7482114               |
| WS-004(0.5-1.0)052914 Grab Surface Water | 7482115               |

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

| ELECTRONIC<br>COPY TO | ARCADIS    | Attn: Stephen Barrick    |
|-----------------------|------------|--------------------------|
| ELECTRONIC<br>COPY TO | ARCADIS    | Attn: Lyndi Mott         |
| ELECTRONIC            | ExxonMobil | Attn: Michael J. Firth   |
| COPY TO<br>ELECTRONIC | ARCADIS    | Attn: Emily Leamer       |
| COPY TO<br>ELECTRONIC | ARCADIS    | Attn: Rhiannon Parmalee  |
| COPY TO<br>ELECTRONIC | ExxonMobil | Attn: Michael L Sixsmith |
| COPY TO<br>ELECTRONIC | ExxonMobil | Attn: Julie Foster       |
| СОРҮ ТО               |            |                          |
| ELECTRONIC<br>COPY TO | ARCADIS    | Attn: Kim Abbott         |





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

Respectfully Submitted,

Katherine a. Klinefelter

Katherine A. Klinefelter Principal Specialist

(717) 556-7256

# 🛟 eurofins

Lancaster Laboratories Environmental

Project Name: Mayflower, AR Pipeline Incident LL Group #: 1478188

#### 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: <u>SW-846 8270C SIM, GC/MS Semivolatiles</u>

sample #s: 7482111, 7482112, 7482113, 7482114, 7482115 The laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.



**Analysis Report** 

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

#### Sample Description: WS-007(0.5-1.0)052914 Grab Surface Water S20135565 Mayflower, AR Pipeline Incident

LL Sample # WW 7482111 LL Group # 1478188 Account # 14739

#### Project Name: Mayflower, AR Pipeline Incident

Collected: 05/29/2014 13:45 by LMH

ExxonMobil PO Box 4592 Houston TX 77210-4592

Submitted: 05/30/2014 09:30 Reported: 06/12/2014 15:05

07051 SDG#: PEO02-01

| CAT<br>No. | Analysis Name                 | CAS Number | As Received<br>Result | As Received<br>Method<br>Detection Limit* | As Received<br>Limit of<br>Quantitation | Dilution<br>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        | laboratory did not receive su |            |                       |   |   |                    |

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.

|       | Laboratory Sample Analysis Record |                  |        |             |             |       |                  |          |  |
|-------|-----------------------------------|------------------|--------|-------------|-------------|-------|------------------|----------|--|
| 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      | 14151WAG026 | 06/11/2014  | 09:37 | Brian K Graham   | 1        |  |
| 10470 | BNA Water Extraction<br>(SIM)     | SW-846 3510C     | 1      | 14151WAG026 | 06/02/2014  | 07:40 | Roman Kuropatkin | 1        |  |



**Analysis Report** 

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

#### Sample Description: WS-009(Surface)052914 Grab Surface Water LL S20135565 Mayflower, AR LL Pipeline Incident Acc

LL Sample # WW 7482112 LL Group # 1478188 Account # 14739

#### Project Name: Mayflower, AR Pipeline Incident

Collected: 05/29/2014 13:55 by LMH

ExxonMobil PO Box 4592 Houston TX 77210-4592

Submitted: 05/30/2014 09:30 Reported: 06/12/2014 15:05

09SRF SDG#: PEO02-02

| CAT<br>No. | Analysis Name                  | CAS Number | As Received<br>Result | As Received<br>Method<br>Detection Limit* | As Received<br>Limit of<br>Quantitation | Dilution<br>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        | 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.

|       | Laboratory Sample Analysis Record |                  |        |             |               |       |                  |          |  |
|-------|-----------------------------------|------------------|--------|-------------|---------------|-------|------------------|----------|--|
| CAT   | Analysis Name                     | Method           | Trial# | Batch#      | Analysis      |       | Analyst          | Dilution |  |
| No.   |                                   |                  |        |             | Date and Time | э     |                  | Factor   |  |
| 08357 | PAHs in waters by SIM             | SW-846 8270C SIM | 1      | 14151WAG026 | 06/11/2014 1  | L0:07 | Brian K Graham   | 1        |  |
| 10470 | BNA Water Extraction<br>(SIM)     | SW-846 3510C     | 1      | 14151WAG026 | 06/02/2014 0  | 07:40 | Roman Kuropatkin | 1        |  |

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



Analysis Report

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

#### Sample Description: WS-001(0.5-1.0)052914 Grab Surface Water S20135565 Mayflower, AR Pipeline Incident

LL Sample # WW 7482113 LL Group # 1478188 Account # 14739

#### Project Name: Mayflower, AR Pipeline Incident

Collected: 05/29/2014 14:05 by LMH

ExxonMobil PO Box 4592 Houston TX 77210-4592

Submitted: 05/30/2014 09:30 Reported: 06/12/2014 15:05

01051 SDG#: PEO02-03

| CAT<br>No. | Analysis Name                 | CAS Number         | As Received<br>Result | As Received<br>Method<br>Detection Limit* | As Received<br>Limit of<br>Quantitation | Dilution<br>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        | laboratory did not receive su | fficient sample vo |                       |   |   |                    |

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.

|       | Laboratory Sample Analysis Record |                  |        |             |                |                     |          |  |  |
|-------|-----------------------------------|------------------|--------|-------------|----------------|---------------------|----------|--|--|
| 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      | 14151WAG026 | 06/11/2014 10: | 36 Brian K Graham   | 1        |  |  |
| 10470 | BNA Water Extraction<br>(SIM)     | SW-846 3510C     | 1      | 14151WAG026 | 06/02/2014 07: | 40 Roman Kuropatkin | 1        |  |  |

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



**Analysis Report** 

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

#### Sample Description: WS-021(Surface)052914 Grab Surface Water LI S20135565 Mayflower, AR LI Pipeline Incident Ac

LL Sample # WW 7482114 LL Group # 1478188 Account # 14739

#### Project Name: Mayflower, AR Pipeline Incident

Collected: 05/29/2014 14:15 by LMH

ExxonMobil PO Box 4592 Houston TX 77210-4592

Submitted: 05/30/2014 09:30 Reported: 06/12/2014 15:05

21SRF SDG#: PEO02-04

| CAT<br>No. | Analysis Name                 | CAS Number | As Received<br>Result | As Received<br>Method<br>Detection Limit* | As Received<br>Limit of<br>Quantitation | Dilution<br>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        | laboratory did not receive su |            |                       |   |   |                    |

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.

|            | Laboratory Sample Analysis Record |                  |        |             |                           |                    |                    |  |  |
|------------|-----------------------------------|------------------|--------|-------------|---------------------------|--------------------|--------------------|--|--|
| CAT<br>No. | Analysis Name                     | Method           | Trial# | Batch#      | Analysis<br>Date and Time | Analyst            | Dilution<br>Factor |  |  |
| 08357      | PAHs in waters by SIM             | SW-846 8270C SIM | 1      | 14151WAG026 | 06/11/2014 11:0           | 6 Brian K Graham   | 1                  |  |  |
| 10470      | BNA Water Extraction (SIM)        | SW-846 3510C     | 1      | 14151WAG026 | 06/02/2014 07:4           | 0 Roman Kuropatkin | 1                  |  |  |



**Analysis Report** 

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

#### Sample Description: WS-004(0.5-1.0)052914 Grab Surface Water S20135565 Mayflower, AR Pipeline Incident

LL Sample # WW 7482115 LL Group # 1478188 Account # 14739

#### Project Name: Mayflower, AR Pipeline Incident

Collected: 05/29/2014 14:25 by LMH

ExxonMobil PO Box 4592 Houston TX 77210-4592

Submitted: 05/30/2014 09:30 Reported: 06/12/2014 15:05

04051 SDG#: PEO02-05\*

| CAT<br>No. | Analysis Name                 | CAS Number         | As Received<br>Result | As Received<br>Method<br>Detection Limit* | As Received<br>Limit of<br>Quantitation | Dilution<br>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        | laboratory did not receive su | fficient sample vo | lume 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.

|       | Laboratory Sample Analysis Record |                  |        |             |             |       |                  |          |  |
|-------|-----------------------------------|------------------|--------|-------------|-------------|-------|------------------|----------|--|
| 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      | 14151WAG026 | 06/11/2014  | 11:36 | Brian K Graham   | 1        |  |
| 10470 | BNA Water Extraction<br>(SIM)     | SW-846 3510C     | 1      | 14151WAG026 | 06/02/2014  | 07:40 | Roman Kuropatkin | 1        |  |



Analysis Report

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

Page 1 of 2

### Quality Control Summary

Client Name: ExxonMobil Reported: 06/12/14 at 03:05 PM Group Number: 1478188

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<br><u>Result</u> | Blank<br>MDL** | Blank<br><u>LOQ</u> | Report<br><u>Units</u> | LCS<br><u>%REC</u> | LCSD<br><u>%REC</u> | LCS/LCSD<br><u>Limits</u> | <u>RPD</u> | <u>RPD Max</u> |
|---------------------------|------------------------|----------------|---------------------|------------------------|--------------------|---------------------|---------------------------|------------|----------------|
| Batch number: 14151WAG026 | Sample num             | uber(s): 7     | 482111-748          | 32115                  |                    |                     |                           |            |                |
| Acenaphthene              | N.D.                   | 0.010          | 0.050               | ug/l                   | 107                | 106                 | 83-119                    | 1          | 30             |
| Acenaphthylene            | N.D.                   | 0.010          | 0.050               | ug/l                   | 103                | 103                 | 81-130                    | 1          | 30             |
| Anthracene                | N.D.                   | 0.010          | 0.050               | ug/l                   | 103                | 101                 | 83-125                    | 2          | 30             |
| Benzo(a)anthracene        | N.D.                   | 0.010          | 0.050               | ug/l                   | 105                | 105                 | 79-122                    | 0          | 30             |
| Benzo(a)pyrene            | N.D.                   | 0.010          | 0.050               | ug/l                   | 106                | 103                 | 80-121                    | 3          | 30             |
| Benzo(b) fluoranthene     | N.D.                   | 0.010          | 0.050               | ug/l                   | 109                | 108                 | 79-136                    | 1          | 30             |
| Benzo(g,h,i)perylene      | N.D.                   | 0.010          | 0.050               | ug/l                   | 98                 | 96                  | 72-132                    | 2          | 30             |
| Benzo(k)fluoranthene      | N.D.                   | 0.010          | 0.050               | ug/l                   | 107                | 101                 | 81-131                    | 6          | 30             |
| Chrysene                  | N.D.                   | 0.010          | 0.050               | ug/l                   | 103                | 102                 | 84-118                    | 1          | 30             |
| Dibenz(a,h)anthracene     | N.D.                   | 0.010          | 0.050               | ug/l                   | 99                 | 97                  | 66-133                    | 2          | 30             |
| Fluoranthene              | N.D.                   | 0.010          | 0.050               | ug/l                   | 103                | 98                  | 84-124                    | 4          | 30             |
| Fluorene                  | N.D.                   | 0.010          | 0.050               | ug/l                   | 98                 | 97                  | 82-119                    | 1          | 30             |
| Indeno(1,2,3-cd)pyrene    | N.D.                   | 0.010          | 0.050               | ug/l                   | 98                 | 96                  | 68-132                    | 2          | 30             |
| 1-Methylnaphthalene       | N.D.                   | 0.010          | 0.050               | ug/l                   | 91                 | 91                  | 86-130                    | 0          | 30             |
| 2-Methylnaphthalene       | N.D.                   | 0.010          | 0.050               | ug/l                   | 88                 | 87                  | 81-131                    | 1          | 30             |
| Naphthalene               | N.D.                   | 0.030          | 0.050               | ug/l                   | 94                 | 93                  | 82-122                    | 1          | 30             |
| Phenanthrene              | N.D.                   | 0.030          | 0.050               | ug/l                   | 99                 | 99                  | 83-116                    | 0          | 30             |
| Pyrene                    | N.D.                   | 0.010          | 0.050               | ug/l                   | 96                 | 96                  | 78-125                    | 0          | 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.

|            | Name: PAHs in w<br>mber: 14151WAG02 |                    |                             |
|------------|-------------------------------------|--------------------|-----------------------------|
| 240011 114 | Fluoranthene-d10                    | Benzo(a)pyrene-d12 | 1-Methylnaphthalene-<br>d10 |
| 7482111    | 96                                  | 99                 | 87                          |
| 7482112    | 100                                 | 86                 | 90                          |
| 7482113    | 103                                 | 92                 | 87                          |
| 7482114    | 116                                 | 94                 | 90                          |
| 7482115    | 108                                 | 108                | 90                          |
| Blank      | 104                                 | 116                | 89                          |
| LCS        | 106                                 | 123                | 94                          |
| LCSD       | 103                                 | 118                | 92                          |

\*- 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.



62-141

# **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

Client Name: ExxonMobil Reported: 06/12/14 at 03:05 PM Group Number: 1478188

Surrogate Quality Control

Limits: 59-128

70-134

\*- 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.

|   |                                 |                                 | Ex             | хс      | onl       | Иd               | obil                    | A     | n             | alı   | VS             | is          | R     | eo     | IJe        | S      | //   | ha       | ain      | of (                                  |        | sto               | dv       |
|---|---------------------------------|---------------------------------|----------------|---------|-----------|------------------|-------------------------|-------|---------------|-------|----------------|-------------|-------|--------|------------|--------|------|----------|----------|---------------------------------------|--------|-------------------|----------|
| 🎲 eurofins                                      | Lancaster Labo<br>Environmental | ratories                        |                |         |           |                  | For Euro<br>Group<br>In |       |               |       |                |             |       |        |            |        |      |          |          |                                       |        | of                |          |
| 1)<br>Facility #/SID                            | A                               | Information                     |                |         |           | 4)               | Matrix                  |       | Ţ             | 5     | -11-312-11-1-4 |             | nalys |        |            |        |      |          | SCR      | #·                                    |        |                   |          |
| Mayflow   | er Pipell-                      | re Incider                      | nt             |         |           |                  |                         |       |               |       | T              |             | Prese | ervati | on Co      | ode    | T    | <b>T</b> |          | Preserv                               | vation | Cadaa             |          |
| Site Address /<br>MG                            | iflower                         | AR                              |                |         |           |                  | Ground                  |       |               | ~     |                |             |       |        |            |        |      |          |          | = HCI<br>= HNO <sub>3</sub>           | T =    | Thiosulfa<br>NaOH | ate      |
| ExxonMobil PM<br>Mike Six.<br>Consultant/Office | smith                           | Cost Center/AFE                 |                | 2 in in |           | L<br>T           | Ground<br>Surface       |       |               | SIR   | >              |             |       |        |            |        |      |          |          | $= H_2SO_4$                           |        | Other             |          |
| Consultant PM                                   | is                              | Consultant Phone #              |                |         |           | sediment         |                         | Air   | iners         | 24    |                |             |       |        |            |        |      |          | Ŭ        |                                       |        |                   |          |
| <u>Steve</u><br>Sampler                         | Barrick                         | Consultant Phone #<br>919 - 302 | -6799          |         | e         | S                | Potable NPDES           | ₹     | of Containers | 831   |                |             |       |        |            |        |      |          |          |                                       |        |                   |          |
| Leland Matt                                     | how Hamby                       |                                 | sted           | 3)<br>9 | Composite |                  |                         |       | #             | A H   | 1              |             |       |        |            |        |      |          |          |                                       |        |                   |          |
| Sample Identific                                | ation                           | Date                            | Time           | Grab    | Col       | Soil             | Water                   | ö     | Total         | đ     |                |             |       |        |            |        |      |          |          |                                       |        |                   |          |
| WS-007 (0.                                      | 5-1.0) 0529                     | 14 5-29-14                      | 1345           | Х       |           |                  | X                       |       | 2             | X     |                |             |       |        |            |        |      | +        |          |                                       |        |                   |          |
| WS-009 (Su                                      | Have) 0529                      | 14 5-29-14                      | 1355           | χ       |           |                  | X                       |       | 2             | X     |                |             | -     |        |            |        |      |          |          |                                       |        |                   |          |
| WS-001 (0,                                      | 5-1.0)0529                      | 714 5-29-14                     | 1405           | X       |           |                  | X                       |       | 2             | X     |                |             |       |        |            |        |      |          |          |                                       |        |                   |          |
| W3-021 (5                                       | urfice ) 0529                   | 14 5-29-14                      | 1415           | Х       |           |                  | V                       |       | 2             | X     |                |             |       |        |            |        |      |          |          |                                       |        |                   |          |
| WS-004(0:                                       | 5-1,050524                      | 14 5-29-14                      | 1425           | X       |           |                  | X                       |       | 2             | Ϋ́    |                |             |       |        |            |        |      |          |          |                                       |        |                   |          |
|   |                                 |                                 |                |         |           |                  | / \                     |       |               | Ĩ,    |                |             |       |        |            |        |      |          |          |                                       |        |                   |          |
|   |                                 |                                 |                |         |           |                  |                         |       |               |       |                |             |       |        |            |        |      |          |          |                                       |        |                   |          |
|   | ·                               |                                 |                |         |           |                  |                         |       |               |       |                |             |       |        |            |        |      | ╞──╊     |          |                                       |        |                   |          |
|   |                                 |                                 |                |         |           |                  |                         |       |               |       |                |             |       |        |            |        |      |          |          |                                       |        |                   |          |
|   | ·                               |                                 |                |         |           |                  |                         |       |               |       |                |             |       |        |            |        |      | † †      |          | · · · · · · · · · · · · · · · · · · · |        |                   |          |
|   |                                 |                                 |                |         |           |                  |                         |       |               |       |                |             |       |        |            |        |      |          |          |                                       |        |                   |          |
|   |                                 |                                 |                |         |           |                  |                         |       |               |       |                |             |       |        |            |        | 1    |          |          |                                       |        |                   |          |
|   | ime Requested (                 | <b>TAT)</b> (please circle)     | Relinquisher   | d by    | 5Z        |                  |                         |       | Date          | 1     | 1.1            | Time        | -74   | Re     | eceived    | by     |      |          |          | Date                                  |        | Time              | 9        |
| Standard  | > 5 day                         | 4 day                           | Relinquished   |         | r k       |                  |                         |       | 5/            | 291   | 17             | _16         | 36    |        |            |        |      |          |          |                                       |        |                   | $\smile$ |
|   |                                 |                                 | i teiniquisnet | L Dy    |           |                  |                         |       | Daté          |       |                | Time        |       | Re     | eceived    | by     |      |          |          | Date                                  |        | Time              |          |
| 72 hour   | 48 hour                         | 24 hour                         | Relinquished   | d by    |           |                  |                         |       | Date          |       |                | Time        |       | Re     | ceived     | bv     |      |          |          | Date                                  |        | Time              |          |
| 8) Data Package                                 | (circle if required)            | EDD (circle if required)        |                |         |           |                  |                         |       |               |       |                |             |       |        |            |        |      |          |          |                                       |        |                   | -        |
| Type I - Full                                   |                                 | Locus EIM (default)             | Relinquished   | by Co   | ommerci   | nmercial Carrier |                         |       |               |       | Re             | Received by |       |        |            |        | Date |          | Time     | ~                                     |        |                   |          |
| Type VI (Raw [                                  | Data)                           | Other                           | UPS_           | X       | -         | Fe               | dEx                     |       | Ot            | her _ |                |             |       |        | Mm//m/ 5.3 |        |      |          |          | 041                                   | 93     | ()                |          |
| NJ Reduced                                      |                                 |                                 |                | Te      | mnera     | ature            | Upon Re                 | ncein | , (           |       | <u> </u>       | °C          |       |        |            |        |      |          | <u> </u> |                                       |        |                   |          |
| Other   |                                 |                                 |                | .~      |           | auro             | Sponik                  | μισοι | <u>~</u>      |       |                | U           |       |        | U          | istody | Sea  | is inta  | Cť?      | (Ye                                   | es )   | No                | 0        |

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. Page 11 of 13

# 🔹 eurofins

Lancaster Laboratories Environmental

# Sample Administration Receipt Documentation Log

Doc Log ID:

Group Number(s):

15965

1478188

# Client: ExxonMobil

|                                     | Γ                   | Mayflower             |                   |            |  |  |  |
|-------------------------------------|---------------------|-----------------------|-------------------|------------|--|--|--|
| Delivery and Receipt Information    |                     |                       |                   |            |  |  |  |
| Delivery Method: UI                 | PS                  | Arrival Timestamp:    | <u>05/30/2014</u> | 9:30       |  |  |  |
| Number of Packages: <u>1</u>        |                     | Number of Projects:   | <u>1</u>          |            |  |  |  |
| State/Province of Origin: <u>AF</u> | <u> </u>            |                       | ,                 |            |  |  |  |
|                                     | Arrival Co          | ondition Summary      |                   |            |  |  |  |
| Shipping Container Sealed:          | <u>Yes</u>          | Total Trip Blank Qty: |                   | <u>0</u>   |  |  |  |
| Custody Seal Present:               | Yes                 | Trip Blank Type:      |                   | <u>N/A</u> |  |  |  |
| Custody Seal Intact:                | Yes                 | Air Quality Samples   | Present:          | <u>No</u>  |  |  |  |
| Samples Chilled:                    | Yes                 | Air Quality Flow Con  | trollers Present: | <u>N/A</u> |  |  |  |
| Paperwork Enclosed:                 | <u>Yes</u>          | Flow Controller Quar  | ntity:            | <u>0</u>   |  |  |  |
| Samples Intact:                     | Yes                 | Air Quality Returns:  |                   | <u>N/A</u> |  |  |  |
| Missing Samples:                    | No                  |                       |                   |            |  |  |  |
| Extra Samples:                      | No                  |                       |                   |            |  |  |  |
| Discrepancy in Container Qty on     | COC: <u>No</u>      |                       |                   |            |  |  |  |
| Sample IDs on COC match Con         | tainers: <u>Yes</u> |                       |                   |            |  |  |  |
| Sample Date/Times match COC         | : <u>Yes</u>        |                       |                   |            |  |  |  |
| VOA Vial Headspace $\geq$ 6mm:      | <u>N/A</u>          |                       |                   |            |  |  |  |
| VOA IDs ( ≥ 6mm):                   | <u>N/A</u>          | -                     |                   |            |  |  |  |

Unpacked by Brandy Barclay (2299) at 11:01 on 05/30/2014

# Samples Chilled Details: Mayflower

| Th              | ermometer Types | s: DT = Dig    | ital (Temp. Bottle | ) IR =   | Infrared (Sur | face Temp)    | All Temperatures in °C.          |                |  |  |
|-----------------|-----------------|----------------|--------------------|----------|---------------|---------------|----------------------------------|----------------|--|--|
|                 |                 |                |                    |          |               |               | <u>Samples</u><br>Collected Same |                |  |  |
| <u>Cooler #</u> | Thermometer ID  | Corrected Temp | Therm. Type        | Ice Type | Ice Present?  | Ice Container | Day as Receipt?                  | Elevated Temp? |  |  |
| 1               | DT146           | 0.6            | DT                 | Wet      | Y             | Bagged        | N                                | Ν              |  |  |

🔅 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)                      |
| С        | degrees Celsius       | F        | degrees Fahrenheit               |
| meq      | milliequivalents      | lb.      | pound(s)                         |
| g        | gram(s)               | kg       | kilogram(s)                      |
| μg       | microgram(s)          | mg       | milligram(s)                     |
| mL       | milliliter(s)         | Ĺ        | liter(s)                         |
| m3       | cubic meter(s)        | μL       | microliter(s)                    |
|          |                       | pg/L     | picogram/liter                   |

- < less than The number following the sign is the <u>limit of quantitation</u>, the smallest amount of analyte which can be reliably determined using this specific test.
- > greater than
- **ppm** parts per million One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
- ppb parts per billion
- **Dry weight basis** Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C - result confirmed by reanalysis.

**J** - estimated value – The result is  $\geq$  the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

## **Organic Qualifiers**

- A TIC is a possible aldol-condensation product
- **B** Analyte was also detected in the blank
- C Pesticide result confirmed by GC/MS
- **D** Compound quantitated on a diluted sample
- E Concentration exceeds the calibration range of the instrument
- **N** Presumptive evidence of a compound (TICs only)
- **P** Concentration difference between primary and confirmation columns >25%
- U Compound was not detected
- X,Y,Z Defined in case narrative

## Inorganic Qualifiers

- B Value is <CRDL, but ≥IDL
- **E** Estimated due to interference
- M Duplicate injection precision not met
- **N** Spike sample not within control limits
- **S** Method of standard additions (MSA) used for calculation
- U Compound was not detected
- W Post digestion spike out of control limits
- \* Duplicate analysis not within control limits
- + Correlation coefficient for MSA < 0.995

## Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.