

## 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

October 29, 2014

Project: Mayflower, AR Pipeline Incident

Submittal Date: 10/11/2014

Group Number: 1510344

SDG: PEO31

PO Number: 4410181435

Release Number: SIXSMITH

State of Sample Origin: AR

### Client Sample Description

WS-007(0.5-1.0)101014 Grab Surface Water  
WS-009(Surface)101014 Grab Surface Water  
WS-001(0.5-1.0)101014 Grab Surface Water  
WS-021(Surface)101014 Grab Surface Water  
WS-004(0.5-1.0)101014 Grab Surface Water

### Lancaster Labs (LL) #

7634034  
7634035  
7634036  
7634037  
7634038

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       |
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| ELECTRONIC COPY TO | ARCADIS    | Attn: Kim Abbott         |

Respectfully Submitted,



Katherine A. Klinefelter  
Principal Specialist

(717) 556-7256

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Project Name: Mayflower, AR Pipeline Incident  
LL Group #: 1510344

**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: 7634034, 7634035, 7634037, 7634038

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

Sample #s: 7634036

The laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis. The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. Since the recovery is >10%, the data is reported.

Batch #: 14288WAI026 (Sample number(s): 7634034-7634038)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 7634036

Sample Description: WS-007(0.5-1.0)101014 Grab Surface Water  
S20135565 Mayflower, AR  
Pipeline Incident

LL Sample # WW 7634034  
LL Group # 1510344  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/10/2014 10:00 by MH

ExxonMobil

PO Box 4592

Submitted: 10/11/2014 10:30

Houston TX 77210-4592

Reported: 10/29/2014 10:22

WS007 SDG#: PEO31-01

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

## 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      | 14288WAI026 | 10/28/2014 10:11       | Mark A Clark    | 1               |
| 10470   | BNA Water Extraction (SIM) | SW-846 3510C     | 1      | 14288WAI026 | 10/16/2014 09:15       | Jessica M Velez | 1               |

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

Sample Description: WS-009(Surface)101014 Grab Surface Water  
S20135565 Mayflower, AR  
Pipeline Incident

LL Sample # WW 7634035  
LL Group # 1510344  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/10/2014 10:05 by MH

ExxonMobil

PO Box 4592

Submitted: 10/11/2014 10:30

Houston TX 77210-4592

Reported: 10/29/2014 10:22

WS009 SDG#: PEO31-02

| 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.               | 0.031                               | 0.061                             | 1               |
| 08357   | Phenanthrene           | 85-01-8          | N.D.               | 0.031                               | 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.

## 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      | 14288WAI026 | 10/28/2014 10:38       | Mark A Clark    | 1               |
| 10470   | BNA Water Extraction (SIM) | SW-846 3510C     | 1      | 14288WAI026 | 10/16/2014 09:15       | Jessica M Velez | 1               |

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

Sample Description: WS-001(0.5-1.0)101014 Grab Surface Water  
S20135565 Mayflower, AR  
Pipeline Incident

LL Sample # WW 7634036  
LL Group # 1510344  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/10/2014 10:10 by MH

ExxonMobil

PO Box 4592

Submitted: 10/11/2014 10:30

Houston TX 77210-4592

Reported: 10/29/2014 10:22

WS001 SDG#: PEO31-03

| 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          | 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 the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. Since the recovery is >10%, the data is 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      | 14288WAI026 | 10/28/2014 11:05       | Mark A Clark    | 1               |
| 10470   | BNA Water Extraction (SIM) | SW-846 3510C     | 1      | 14288WAI026 | 10/16/2014 09:15       | Jessica M Velez | 1               |

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

Sample Description: WS-021(Surface)101014 Grab Surface Water  
S20135565 Mayflower, AR  
Pipeline Incident

LL Sample # WW 7634037  
LL Group # 1510344  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/10/2014 10:15 by MH

ExxonMobil

PO Box 4592

Submitted: 10/11/2014 10:30

Houston TX 77210-4592

Reported: 10/29/2014 10:22

WS021 SDG#: PEO31-04

| CAT No. | Analysis Name          | CAS Number       | As Received Result | As Received Method Detection Limit* | As Received Limit of Quantitation | Dilution Factor |
|---------|------------------------|------------------|--------------------|-------------------------------------|-----------------------------------|-----------------|
| GC/MS   | Semivolatiles          | SW-846 8270C SIM | ug/l               | ug/l                                | ug/l                              |                 |
| 08357   | Acenaphthene           | 83-32-9          | N.D.               | 0.010                               | 0.050                             | 1               |
| 08357   | Acenaphthylene         | 208-96-8         | N.D.               | 0.010                               | 0.050                             | 1               |
| 08357   | Anthracene             | 120-12-7         | N.D.               | 0.010                               | 0.050                             | 1               |
| 08357   | Benzo(a)anthracene     | 56-55-3          | N.D.               | 0.010                               | 0.050                             | 1               |
| 08357   | Benzo(a)pyrene         | 50-32-8          | N.D.               | 0.010                               | 0.050                             | 1               |
| 08357   | Benzo(b)fluoranthene   | 205-99-2         | 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                               | 0.060                             | 1               |
| 08357   | Phenanthrene           | 85-01-8          | N.D.               | 0.030                               | 0.060                             | 1               |
| 08357   | Pyrene                 | 129-00-0         | N.D.               | 0.010                               | 0.050                             | 1               |

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.

## 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      | 14288WAI026 | 10/28/2014 11:33       | Mark A Clark    | 1               |
| 10470   | BNA Water Extraction (SIM) | SW-846 3510C     | 1      | 14288WAI026 | 10/16/2014 09:15       | Jessica M Velez | 1               |

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

Sample Description: WS-004(0.5-1.0)101014 Grab Surface Water  
S20135565 Mayflower, AR  
Pipeline Incident

LL Sample # WW 7634038  
LL Group # 1510344  
Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 10/10/2014 10:20 by MH

ExxonMobil

PO Box 4592

Submitted: 10/11/2014 10:30

Houston TX 77210-4592

Reported: 10/29/2014 10:22

WS004 SDG#: PEO31-05

| 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                               | 0.061                             | 1               |
| 08357   | Phenanthrene           | 85-01-8          | N.D.               | 0.031                               | 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.

## 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      | 14288WAI026 | 10/28/2014 12:00       | Mark A Clark    | 1               |
| 10470   | BNA Water Extraction (SIM) | SW-846 3510C     | 1      | 14288WAI026 | 10/16/2014 09:15       | Jessica M Velez | 1               |

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



## Quality Control Summary

Client Name: ExxonMobil  
Reported: 10/29/14 at 10:22 AM

Group Number: 1510344

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: 14288WAI026 Sample number(s): 7634034-7634038 |              |             |           |              |          |           |                 |     |         |
| Acenaphthene  | N.D.         | 0.010       | 0.050     | ug/l         | 107      | 105       | 82-126          | 2   | 30      |
| Acenaphthylene  | N.D.         | 0.010       | 0.050     | ug/l         | 89       | 89        | 72-124          | 0   | 30      |
| Anthracene  | N.D.         | 0.010       | 0.050     | ug/l         | 96       | 94        | 83-125          | 2   | 30      |
| Benzo(a)anthracene  | N.D.         | 0.010       | 0.050     | ug/l         | 89       | 88        | 79-122          | 0   | 30      |
| Benzo(a)pyrene  | N.D.         | 0.010       | 0.050     | ug/l         | 96       | 92        | 72-126          | 4   | 30      |
| Benzo(b)fluoranthene  | N.D.         | 0.010       | 0.050     | ug/l         | 105      | 100       | 79-136          | 5   | 30      |
| Benzo(g,h,i)perylene  | N.D.         | 0.010       | 0.050     | ug/l         | 105      | 97        | 59-137          | 8   | 30      |
| Benzo(k)fluoranthene  | N.D.         | 0.010       | 0.050     | ug/l         | 101      | 95        | 72-129          | 6   | 30      |
| Chrysene  | N.D.         | 0.010       | 0.050     | ug/l         | 101      | 99        | 77-122          | 2   | 30      |
| Dibenz(a,h)anthracene                                       | N.D.         | 0.010       | 0.050     | ug/l         | 99       | 96        | 42-143          | 3   | 30      |
| Fluoranthene  | N.D.         | 0.010       | 0.050     | ug/l         | 96       | 92        | 76-121          | 3   | 30      |
| Fluorene  | N.D.         | 0.010       | 0.050     | ug/l         | 97       | 97        | 82-119          | 0   | 30      |
| Indeno(1,2,3-cd)pyrene                                      | N.D.         | 0.010       | 0.050     | ug/l         | 98       | 93        | 53-136          | 6   | 30      |
| 1-Methylnaphthalene   | N.D.         | 0.010       | 0.050     | ug/l         | 93       | 89        | 75-117          | 4   | 30      |
| 2-Methylnaphthalene   | N.D.         | 0.010       | 0.050     | ug/l         | 87       | 85        | 68-124          | 2   | 30      |
| Naphthalene   | N.D.         | 0.030       | 0.060     | ug/l         | 94       | 92        | 78-117          | 2   | 30      |
| Phenanthrene  | N.D.         | 0.030       | 0.060     | ug/l         | 99       | 97        | 83-116          | 2   | 30      |
| Pyrene  | N.D.         | 0.010       | 0.050     | ug/l         | 104      | 102       | 70-124          | 2   | 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: 14288WAI026

|         | Fluoranthene-d10 | Benzo(a)pyrene-d12 | 1-Methylnaphthalene-d10 |
|---------|------------------|--------------------|-------------------------|
| 7634034 | 72               | 38                 | 72                      |
| 7634035 | 75               | 40                 | 75                      |
| 7634036 | 63               | 35*                | 63                      |
| 7634037 | 72               | 40                 | 71                      |
| 7634038 | 77               | 50                 | 73                      |
| Blank   | 95               | 104                | 87                      |
| LCS     | 94               | 106                | 98                      |
| LCSD    | 91               | 100                | 97                      |
| Limits: | 56-134           | 36-156             | 59-132                  |

\*- Outside of specification

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

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

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

## Quality Control Summary

Client Name: ExxonMobil  
Reported: 10/29/14 at 10:22 AM

Group Number: 1510344

### Surrogate Quality Control

\*- Outside of specification

\*\*\_This limit was used in the evaluation of the final result for the blank

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

# ExxonMobil Analysis Request/Chain of Custody



Lancaster Laboratories  
Environmental

Acct. # 14739 For Eurofins Lancaster Laboratories Environmental use only.  
Group # 1510344 Sample # 7634034-38  
Instructions on reverse side correspond with circled numbers.

| <b>1 Client Information</b>  |          |      |       | <b>4 Matrix</b>  |            |   |   | <b>5 Analyses Requested</b>  |  |  |  |  |  |  |  |  |  |  |  | SCR#: <u>159745</u><br><br><b>Preservation Codes</b><br>H = HCl      T = Thiosulfate<br>N = HNO <sub>3</sub> B = NaOH<br>S = H <sub>2</sub> SO <sub>4</sub> O = Other |            |            |            |            |            |            |            |            |             |            |            |            |            |            |             |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|----------|------|-------|--|------------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|---|------------|------------|------------|------------|------------|------------|------------|------------|-------------|------------|------------|------------|------------|------------|-------------|------------------|----------|------|---|--|--|---|---|--|--|--|--|--|--|--|--|--|------------------|----------|------|---|--|--|---|---|--|--|--|--|--|--|--|--|--|------------------|----------|------|---|--|--|---|---|--|--|--|--|--|--|--|--|--|------------------|----------|------|---|--|--|---|---|--|--|--|--|--|--|--|--|--|------------------|----------|------|---|--|--|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Facility #/SID<br><u>Mayflower Pipeline Incident</u><br>Site Address<br><u>Mayflower AR</u><br>ExxonMobil PM<br><u>Mike Sixsmith</u><br>Consultant/Office<br><u>Arcadis</u><br>Consultant PM<br><u>Steve Barrick</u><br>Sampler<br><u>Matt Hamby</u> |          |      |       | Cost Center/AFE<br><br>Consultant Phone #<br><u>919-302-6799</u>         |            |   |   | Sediment <input type="checkbox"/> Potable <input type="checkbox"/> Ground <input type="checkbox"/> Surface <input checked="" type="checkbox"/><br>NPDES <input type="checkbox"/> Air <input type="checkbox"/>  |  |  |  | Preservation Code<br>Total # of Containers <u>PAH 8270 SIM</u> |  |  |  |  |  |  |  |   |            |            |            |            |            |            |            |            |             |            |            |            |            |            |             |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>2 Sample Identification</b>   |          |      |       | <b>3 Collected</b>   |            | Grab <input type="checkbox"/> Composite <input type="checkbox"/>  |   | <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Date</th> <th>Time</th> <th>Soil</th> <th>Water</th> <th>Oil</th> <th>Containers</th> <th>Analysis 1</th> <th>Analysis 2</th> <th>Analysis 3</th> <th>Analysis 4</th> <th>Analysis 5</th> <th>Analysis 6</th> <th>Analysis 7</th> <th>Analysis 8</th> <th>Analysis 9</th> <th>Analysis 10</th> </tr> <tr> <td>WS-009 (0.5-1.0)</td> <td>10/10/14</td> <td>1000</td> <td>X</td> <td></td> <td></td> <td>2</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>WS-009 (Surface)</td> <td>10/10/14</td> <td>1005</td> <td>X</td> <td></td> <td></td> <td>2</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>WS-001 (0.5-1.0)</td> <td>10/10/14</td> <td>1010</td> <td>X</td> <td></td> <td></td> <td>2</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>WS-021 (Surface)</td> <td>10/10/14</td> <td>1015</td> <td>X</td> <td></td> <td></td> <td>2</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>WS-004 (0.5-1.0)</td> <td>10/10/14</td> <td>1020</td> <td>X</td> <td></td> <td></td> <td>2</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table> |  |  |  |  |  |  |  |  |  |  |  | Date  | Time       | Soil       | Water      | Oil        | Containers | Analysis 1 | Analysis 2 | Analysis 3 | Analysis 4  | Analysis 5 | Analysis 6 | Analysis 7 | Analysis 8 | Analysis 9 | Analysis 10 | WS-009 (0.5-1.0) | 10/10/14 | 1000 | X |  |  | 2 | X |  |  |  |  |  |  |  |  |  | WS-009 (Surface) | 10/10/14 | 1005 | X |  |  | 2 | X |  |  |  |  |  |  |  |  |  | WS-001 (0.5-1.0) | 10/10/14 | 1010 | X |  |  | 2 | X |  |  |  |  |  |  |  |  |  | WS-021 (Surface) | 10/10/14 | 1015 | X |  |  | 2 | X |  |  |  |  |  |  |  |  |  | WS-004 (0.5-1.0) | 10/10/14 | 1020 | X |  |  | 2 | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Date   | Time     | Soil | Water | Oil  | Containers |   |   |  |  |  |  |  |  |  |  |  |  |  |  | Analysis 1  | Analysis 2 | Analysis 3 | Analysis 4 | Analysis 5 | Analysis 6 | Analysis 7 | Analysis 8 | Analysis 9 | Analysis 10 |            |            |            |            |            |             |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| WS-009 (0.5-1.0)   | 10/10/14 | 1000 | X     |  |            | 2   | X |  |  |  |  |  |  |  |  |  |  |  |  |   |            |            |            |            |            |            |            |            |             |            |            |            |            |            |             |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| WS-009 (Surface)   | 10/10/14 | 1005 | X     |  |            | 2   | X |  |  |  |  |  |  |  |  |  |  |  |  |   |            |            |            |            |            |            |            |            |             |            |            |            |            |            |             |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| WS-001 (0.5-1.0)   | 10/10/14 | 1010 | X     |  |            | 2   | X |  |  |  |  |  |  |  |  |  |  |  |  |   |            |            |            |            |            |            |            |            |             |            |            |            |            |            |             |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| WS-021 (Surface)   | 10/10/14 | 1015 | X     |  |            | 2   | X |  |  |  |  |  |  |  |  |  |  |  |  |   |            |            |            |            |            |            |            |            |             |            |            |            |            |            |             |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| WS-004 (0.5-1.0)   | 10/10/14 | 1020 | X     |  |            | 2   | X |  |  |  |  |  |  |  |  |  |  |  |  |   |            |            |            |            |            |            |            |            |             |            |            |            |            |            |             |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |          |      |       |  |            |   |   |  |  |  |  |  |  |  |  |  |  |  |  |   |            |            |            |            |            |            |            |            |             |            |            |            |            |            |             |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |          |      |       |  |            |   |   |  |  |  |  |  |  |  |  |  |  |  |  |   |            |            |            |            |            |            |            |            |             |            |            |            |            |            |             |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |          |      |       |  |            |   |   |  |  |  |  |  |  |  |  |  |  |  |  |   |            |            |            |            |            |            |            |            |             |            |            |            |            |            |             |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |          |      |       |  |            |   |   |  |  |  |  |  |  |  |  |  |  |  |  |   |            |            |            |            |            |            |            |            |             |            |            |            |            |            |             |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |          |      |       |  |            |   |   |  |  |  |  |  |  |  |  |  |  |  |  |   |            |            |            |            |            |            |            |            |             |            |            |            |            |            |             |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |          |      |       |  |            |   |   |  |  |  |  |  |  |  |  |  |  |  |  |   |            |            |            |            |            |            |            |            |             |            |            |            |            |            |             |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |          |      |       |  |            |   |   |  |  |  |  |  |  |  |  |  |  |  |  |   |            |            |            |            |            |            |            |            |             |            |            |            |            |            |             |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |          |      |       |  |            |   |   |  |  |  |  |  |  |  |  |  |  |  |  |   |            |            |            |            |            |            |            |            |             |            |            |            |            |            |             |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>7 Turnaround Time Requested (TAT) (please circle)</b><br>Standard      5 day      4 day<br>72 hour      48 hour      24 hour  |          |      |       | Relinquished by <u>[Signature]</u> Date <u>9-23-14</u> Time <u>0825</u>  |            | Received by <u>[Signature]</u> Date <u>10-9-14</u> Time <u> </u>  |   |  |  |  |  |  |  |  |  |  |  |  |  |   |            |            |            |            |            |            |            |            |             |            |            |            |            |            |             |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |          |      |       | Relinquished by <u>[Signature]</u> Date <u>10-10-14</u> Time <u>1600</u> |            | Received by <u>[Signature]</u> Date <u> </u> Time <u> </u>  |   |  |  |  |  |  |  |  |  |  |  |  |  |   |            |            |            |            |            |            |            |            |             |            |            |            |            |            |             |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>8 Data Package</b> (circle if required)<br>Type I - Full<br>Type VI (Raw Data)<br>NJ Reduced<br>Other <u> </u>  |          |      |       | <b>EDD</b> (circle if required)<br>Locus EIM (default)<br>Other <u> </u> |            | Relinquished by Commercial Carrier<br>UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other <input type="checkbox"/> |   | Received by <u>[Signature]</u> Date <u>10-11-14</u> Time <u>1030</u>   |  |  |  |  |  |  |  |  |  |  |  |   |            |            |            |            |            |            |            |            |             |            |            |            |            |            |             |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |          |      |       |  |            | Temperature Upon Receipt <u>2.4</u> °C  |   | Custody Seals Intact? <u>Yes</u> No  |  |  |  |  |  |  |  |  |  |  |  |   |            |            |            |            |            |            |            |            |             |            |            |            |            |            |             |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |                  |          |      |   |  |  |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Client: ExxonMobil

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**Delivery and Receipt Information**

|                     |            |                     |                         |
|---------------------|------------|---------------------|-------------------------|
| Delivery Method:    | <u>UPS</u> | Arrival Timestamp:  | <u>10/11/2014 10:30</u> |
| Number of Packages: | <u>1</u>   | Number of Projects: | <u>1</u>                |

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**Arrival Condition Summary**

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

Unpacked by Timothy Cubberley (6520) at 13:21 on 10/11/2014

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**Samples Chilled Details***Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.*

| <u>Cooler #</u> | <u>Thermometer ID</u> | <u>Corrected Temp</u> | <u>Therm. Type</u> | <u>Ice Type</u> | <u>Ice Present?</u> | <u>Ice Container</u> | <u>Elevated Temp?</u> |
|-----------------|-----------------------|-----------------------|--------------------|-----------------|---------------------|----------------------|-----------------------|
| 1               | DT131                 | 2.4                   | DT                 | Wet             | Y                   | Bagged               | N                     |

# Explanation of Symbols and Abbreviations

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

|                         |   |                 |                                  |
|-------------------------|---|-----------------|----------------------------------|
| <b>RL</b>               | Reporting Limit   | <b>BMQL</b>     | Below Minimum Quantitation Level |
| <b>N.D.</b>             | none detected   | <b>MPN</b>      | Most Probable Number             |
| <b>TNTC</b>             | Too Numerous To Count   | <b>CP Units</b> | cobalt-chloroplatinate units     |
| <b>IU</b>               | International Units   | <b>NTU</b>      | nephelometric turbidity units    |
| <b>umhos/cm</b>         | micromhos/cm  | <b>ng</b>       | nanogram(s)                      |
| <b>C</b>                | degrees Celsius   | <b>F</b>        | degrees Fahrenheit               |
| <b>meq</b>              | milliequivalents  | <b>lb.</b>      | pound(s)                         |
| <b>g</b>                | gram(s)   | <b>kg</b>       | kilogram(s)                      |
| <b>µg</b>               | microgram(s)  | <b>mg</b>       | milligram(s)                     |
| <b>mL</b>               | milliliter(s)   | <b>L</b>        | liter(s)                         |
| <b>m3</b>               | cubic meter(s)  | <b>µL</b>       | microliter(s)                    |
|                         |   | <b>pg/L</b>     | picogram/liter                   |
| <b>&lt;</b>             | 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.   |                 |                                  |
| <b>&gt;</b>             | greater than  |                 |                                  |
| <b>ppm</b>              | 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. |                 |                                  |
| <b>ppb</b>              | parts per billion   |                 |                                  |
| <b>Dry weight basis</b> | 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

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

### Inorganic Qualifiers

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

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

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

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

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

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