### Analysis Report

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

### ANALYTICAL RESULTS

Prepared by:

Prepared for:

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

September 13, 2013

Project: Mayflower, AR Pipeline Incident

Submittal Date: 09/09/2013 Group Number: 1417374 SDG: PEL34 PO Number: B0086003.1301 State of Sample Origin: AR

Client Sample Description	<u>Lancaster Labs (LL) #</u>
WS-006(0.5-1.0)090813 Filt Grab Surface Water	7190429
WS-005(Surface)090813 Filt Grab Surface Water	7190430
WS-002(Surface)090813 Filt Grab Surface Water	7190431
WS-011(1.5-2.0)090813 Filt Grab Surface Water	7190432
WS-011(5.0-5.5)090813 Filt Grab Surface Water	7190433
WS-018(Surface)090813 Filt Grab Surface Water	7190434
WS-003(Surface)090813 Filt Grab Surface Water	7190435
WS-007(0.5-1.0)090813 Filt Grab Surface Water	7190436
WS-001(0.5-1.0)090813 Filt Grab Surface Water	7190437
DUP-WS-84-090813 Filt Grab Surface Water	7190438
WS-EB-55-090813 Filt Grab Water	7190439

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	ARCADIS	Attn: Lyndi Mott
COPY TO ELECTRONIC	ExxonMobil	Attn: Michael J. Firth
COPY TO	L D G L D VG	
ELECTRONIC COPY TO	ARCADIS	Attn: Emily Leamer
ELECTRONIC	ARCADIS	Attn: Rhiannon Parmalee
COPY TO ELECTRONIC	ARCADIS	Attn: Jamie Pritchard
COPY TO	ARCADIS	Attii. Jaime Tritenard
ELECTRONIC	ExxonMobil	Attn: Michael L Sixsmith



## Analysis Report

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COPY TO ELECTRONIC COPY TO

ExxonMobil

Attn: Julie Foster

Katherine a. Klinefelter

Respectfully Submitted,

Katherine A. Klinefelter Principal Specialist

(717) 556-7256



### Case Narrative

Project Name: Mayflower, AR Pipeline Incident LLI Group #: 1417374

#### 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 6010B, Metals Dissolved

Batch #: 132531848007 (Sample number(s): 7190429-7190439 UNSPK: 7190435 BKG: 7190435)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Arsenic



## Analysis Report

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Sample Description: WS-006(0.5-1.0)090813 Filt Grab Surface Water

LL Sample # WW 7190429 Mayflower, AR LL Group # 1417374 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/08/2013 09:45 by DD ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 09/09/2013 12:10 Reported: 09/13/2013 09:21

F0606 SDG#: PEL34-01

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	Dissolved	SW-846	6010B	mg/l	mg/l	mg/l	
07035	Arsenic		7440-38-2	0.0102 J	0.0068	0.0200	1
07046	Barium		7440-39-3	0.0168	0.00033	0.0050	1
07049	Cadmium		7440-43-9	N.D.	0.00076	0.0050	1
07051	Chromium		7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead		7439-92-1	N.D.	0.0047	0.0150	1
07061	Nickel		7440-02-0	0.0018 J	0.0015	0.0100	1
07036	Selenium		7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver		7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium		7440-62-2	N.D.	0.0020	0.0050	1
		SW-846	7470A	mg/l	mg/l	mg/l	
00259	Mercury		7439-97-6	N.D.	0.000060	0.00020	1

#### General Sample Comments

This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	1	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132531848007	09/12/2013 13	3:40 I	Katlin N Cataldi	1
07046	Barium	SW-846 6010B	1	132531848007	09/12/2013 13	3:40 I	Katlin N Cataldi	1
07049	Cadmium	SW-846 6010B	1	132531848007	09/12/2013 13	3:40 I	Katlin N Cataldi	1
07051	Chromium	SW-846 6010B	1	132531848007	09/12/2013 13	3:40 I	Katlin N Cataldi	1
07055	Lead	SW-846 6010B	1	132531848007	09/12/2013 13	3:40 I	Katlin N Cataldi	1
07061	Nickel	SW-846 6010B	1	132531848007	09/12/2013 13	3:40 I	Katlin N Cataldi	1
07036	Selenium	SW-846 6010B	1	132531848007	09/12/2013 13	3:40 I	Katlin N Cataldi	1
07066	Silver	SW-846 6010B	1	132531848007	09/12/2013 13	3:40 I	Katlin N Cataldi	1
07071	Vanadium	SW-846 6010B	1	132531848007	09/12/2013 13	3:40 I	Katlin N Cataldi	1
00259	Mercury	SW-846 7470A	1	132535713007	09/12/2013 07	7:48 I	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132531848007	09/11/2013 23		Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132535713007	09/11/2013 16	5:50	Nelli S Markaryan	1



## Analysis Report

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

Sample Description: WS-005(Surface)090813 Filt Grab Surface Water

LL Sample # WW 7190430 Mayflower, AR LL Group # 1417374 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/08/2013 10:05 by DD ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 09/09/2013 12:10 Reported: 09/13/2013 09:21

5-SF-SDG#: PEL34-02

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	Dissolved	SW-846	6010B	mg/l	mg/l	mg/l	
07035	Arsenic		7440-38-2	0.0076 J	0.0068	0.0200	1
07046	Barium		7440-39-3	0.0444	0.00033	0.0050	1
07049	Cadmium		7440-43-9	N.D.	0.00076	0.0050	1
07051	Chromium		7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead		7439-92-1	N.D.	0.0047	0.0150	1
07061	Nickel		7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium		7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver		7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium		7440-62-2	N.D.	0.0020	0.0050	1
		SW-846	7470A	mg/l	mg/l	mg/l	
00259	Mercury		7439-97-6	N.D.	0.000060	0.00020	1

#### General Sample Comments

This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution
No.					Date and Tim	ne		Factor
07035	Arsenic	SW-846 6010B	1	132531848007	09/12/2013	13:44	Katlin N Cataldi	1
07046	Barium	SW-846 6010B	1	132531848007	09/12/2013	13:44	Katlin N Cataldi	1
07049	Cadmium	SW-846 6010B	1	132531848007	09/12/2013	13:44	Katlin N Cataldi	1
07051	Chromium	SW-846 6010B	1	132531848007	09/12/2013	13:44	Katlin N Cataldi	1
07055	Lead	SW-846 6010B	1	132531848007	09/12/2013	13:44	Katlin N Cataldi	1
07061	Nickel	SW-846 6010B	1	132531848007	09/12/2013	13:44	Katlin N Cataldi	1
07036	Selenium	SW-846 6010B	1	132531848007	09/12/2013	13:44	Katlin N Cataldi	1
07066	Silver	SW-846 6010B	1	132531848007	09/12/2013	13:44	Katlin N Cataldi	1
07071	Vanadium	SW-846 6010B	1	132531848007	09/12/2013	13:44	Katlin N Cataldi	1
00259	Mercury	SW-846 7470A	1	132535713007	09/12/2013	07:56	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132531848007	09/11/2013	23:45	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132535713007	09/11/2013	16:50	Nelli S Markaryan	1



## Analysis Report

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Sample Description: WS-002(Surface)090813 Filt Grab Surface Water

LL Sample # WW 7190431 Mayflower, AR LL Group # 1417374 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/08/2013 10:30 by DD ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 09/09/2013 12:10 Reported: 09/13/2013 09:21

2-SF-SDG#: PEL34-03

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	Dissolved	SW-846	6010B	mg/l	mg/l	mg/l	
07035	Arsenic		7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium		7440-39-3	0.0150	0.00033	0.0050	1
07049	Cadmium		7440-43-9	N.D.	0.00076	0.0050	1
07051	Chromium		7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead		7439-92-1	N.D.	0.0047	0.0150	1
07061	Nickel		7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium		7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver		7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium		7440-62-2	N.D.	0.0020	0.0050	1
		SW-846	7470A	mg/l	mg/l	mg/l	
00259	Mercury		7439-97-6	N.D.	0.000060	0.00020	1

#### General Sample Comments

This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132531848007	09/12/2013 13	:56 Katlin N Cataldi	1
07046	Barium	SW-846 6010B	1	132531848007	09/12/2013 13	:56 Katlin N Cataldi	1
07049	Cadmium	SW-846 6010B	1	132531848007	09/12/2013 13	:56 Katlin N Cataldi	1
07051	Chromium	SW-846 6010B	1	132531848007	09/12/2013 13	:56 Katlin N Cataldi	1
07055	Lead	SW-846 6010B	1	132531848007	09/12/2013 13	:56 Katlin N Cataldi	1
07061	Nickel	SW-846 6010B	1	132531848007	09/12/2013 13	:56 Katlin N Cataldi	1
07036	Selenium	SW-846 6010B	1	132531848007	09/12/2013 13	:56 Katlin N Cataldi	1
07066	Silver	SW-846 6010B	1	132531848007	09/12/2013 13	:56 Katlin N Cataldi	1
07071	Vanadium	SW-846 6010B	1	132531848007	09/12/2013 13	:56 Katlin N Cataldi	1
00259	Mercury	SW-846 7470A	1	132535713007	09/12/2013 07	:58 Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132531848007	09/11/2013 23	:45 Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132535713007	09/11/2013 16	:50 Nelli S Markarya	n 1



## Analysis Report

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

Sample Description: WS-011(1.5-2.0)090813 Filt Grab Surface Water

LL Sample # WW 7190432 Mayflower, AR LL Group # 1417374 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/08/2013 10:40 by DD ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 09/09/2013 12:10 Reported: 09/13/2013 09:21

1115F SDG#: PEL34-04

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	s Dissolved	SW-846	6010B	mg/l	mg/l	mg/l	
07035	Arsenic		7440-38-2	0.0076 J	0.0068	0.0200	1
07046	Barium		7440-39-3	0.0084	0.00033	0.0050	1
07049	Cadmium		7440-43-9	N.D.	0.00076	0.0050	1
07051	Chromium		7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead		7439-92-1	N.D.	0.0047	0.0150	1
07061	Nickel		7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium		7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver		7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium		7440-62-2	N.D.	0.0020	0.0050	1
		SW-846	7470A	mg/l	mg/l	mg/l	
00259	Mercury		7439-97-6	N.D.	0.000060	0.00020	1

#### General Sample Comments

This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132531848007	09/12/2013 14:00	Katlin N Cataldi	1
07046	Barium	SW-846 6010B	1	132531848007	09/12/2013 14:00	Katlin N Cataldi	1
07049	Cadmium	SW-846 6010B	1	132531848007	09/12/2013 14:0	Katlin N Cataldi	1
07051	Chromium	SW-846 6010B	1	132531848007	09/12/2013 14:0	Katlin N Cataldi	1
07055	Lead	SW-846 6010B	1	132531848007	09/12/2013 14:0	Katlin N Cataldi	1
07061	Nickel	SW-846 6010B	1	132531848007	09/12/2013 14:0	Katlin N Cataldi	1
07036	Selenium	SW-846 6010B	1	132531848007	09/12/2013 14:0	Katlin N Cataldi	1
07066	Silver	SW-846 6010B	1	132531848007	09/12/2013 14:0	Katlin N Cataldi	1
07071	Vanadium	SW-846 6010B	1	132531848007	09/12/2013 14:0	Katlin N Cataldi	1
00259	Mercury	SW-846 7470A	1	132535713007	09/12/2013 08:0	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132531848007	09/11/2013 23:4	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132535713007	09/11/2013 16:50	Nelli S Markaryan	1



## Analysis Report

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Sample Description: WS-011(5.0-5.5)090813 Filt Grab Surface Water

LL Sample # WW 7190433 Mayflower, AR LL Group # 1417374 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/08/2013 10:50 by DD ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 09/09/2013 12:10 Reported: 09/13/2013 09:21

1150F SDG#: PEL34-05

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	Dissolved	SW-846	6010B	mg/l	mg/l	mg/l	
07035	Arsenic		7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium		7440-39-3	0.0182	0.00033	0.0050	1
07049	Cadmium		7440-43-9	N.D.	0.00076	0.0050	1
07051	Chromium		7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead		7439-92-1	N.D.	0.0047	0.0150	1
07061	Nickel		7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium		7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver		7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium		7440-62-2	N.D.	0.0020	0.0050	1
		SW-846	7470A	mg/l	mg/l	mg/l	
00259	Mercury		7439-97-6	N.D.	0.000060	0.00020	1

#### General Sample Comments

This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132531848007	09/12/2013 14:	04 Katlin N Cataldi	1
07046	Barium	SW-846 6010B	1	132531848007	09/12/2013 14:	04 Katlin N Cataldi	1
07049	Cadmium	SW-846 6010B	1	132531848007	09/12/2013 14:	04 Katlin N Cataldi	1
07051	Chromium	SW-846 6010B	1	132531848007	09/12/2013 14:	04 Katlin N Cataldi	1
07055	Lead	SW-846 6010B	1	132531848007	09/12/2013 14:	04 Katlin N Cataldi	1
07061	Nickel	SW-846 6010B	1	132531848007	09/12/2013 14:	04 Katlin N Cataldi	1
07036	Selenium	SW-846 6010B	1	132531848007	09/12/2013 14:	04 Katlin N Cataldi	1
07066	Silver	SW-846 6010B	1	132531848007	09/12/2013 14:	04 Katlin N Cataldi	1
07071	Vanadium	SW-846 6010B	1	132531848007	09/12/2013 14:	04 Katlin N Cataldi	1
00259	Mercury	SW-846 7470A	1	132535713007	09/12/2013 08:	07 Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132531848007	09/11/2013 23:	45 Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132535713007	09/11/2013 16:	50 Nelli S Markaryan	1



## Analysis Report

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

Sample Description: WS-018(Surface)090813 Filt Grab Surface Water

LL Sample # WW 7190434 Mayflower, AR LL Group # 1417374 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/08/2013 11:15 by DD ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 09/09/2013 12:10 Reported: 09/13/2013 09:21

-18SF SDG#: PEL34-06

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	s Dissolved	SW-846	6010B	mg/l	mg/l	mg/l	
07035	Arsenic		7440-38-2	0.0080 J	0.0068	0.0200	1
07046	Barium		7440-39-3	0.0594	0.00033	0.0050	1
07049	Cadmium		7440-43-9	N.D.	0.00076	0.0050	1
07051	Chromium		7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead		7439-92-1	N.D.	0.0047	0.0150	1
07061	Nickel		7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium		7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver		7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium		7440-62-2	N.D.	0.0020	0.0050	1
		SW-846	7470A	mg/l	mg/l	mg/l	
00259	Mercury		7439-97-6	N.D.	0.000060	0.00020	1

#### General Sample Comments

This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132531848007	09/12/2013 14	:08 Katlin N Cataldi	1
07046	Barium	SW-846 6010B	1	132531848007	09/12/2013 14	:08 Katlin N Cataldi	1
07049	Cadmium	SW-846 6010B	1	132531848007	09/12/2013 14	:08 Katlin N Cataldi	1
07051	Chromium	SW-846 6010B	1	132531848007	09/12/2013 14	:08 Katlin N Cataldi	1
07055	Lead	SW-846 6010B	1	132531848007	09/12/2013 14	:08 Katlin N Cataldi	1
07061	Nickel	SW-846 6010B	1	132531848007	09/12/2013 14	:08 Katlin N Cataldi	1
07036	Selenium	SW-846 6010B	1	132531848007	09/12/2013 14	:08 Katlin N Cataldi	1
07066	Silver	SW-846 6010B	1	132531848007	09/12/2013 14	:08 Katlin N Cataldi	1
07071	Vanadium	SW-846 6010B	1	132531848007	09/12/2013 14	:08 Katlin N Cataldi	1
00259	Mercury	SW-846 7470A	1	132535713007	09/12/2013 08	:09 Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132531848007	09/11/2013 23	:45 Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132535713007	09/11/2013 16	:50 Nelli S Markaryan	1



## Analysis Report

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Sample Description: WS-003(Surface)090813 Filt Grab Surface Water

LL Sample # WW 7190435 Mayflower, AR LL Group # 1417374 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/08/2013 11:25 by DD ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 09/09/2013 12:10 Reported: 09/13/2013 09:21

-3S-F SDG#: PEL34-07

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	s Dissolved	SW-846	6010B	mg/l	mg/l	mg/l	
07035	Arsenic		7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium		7440-39-3	0.0246	0.00033	0.0050	1
07049	Cadmium		7440-43-9	N.D.	0.00076	0.0050	1
07051	Chromium		7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead		7439-92-1	N.D.	0.0047	0.0150	1
07061	Nickel		7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium		7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver		7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium		7440-62-2	N.D.	0.0020	0.0050	1
		SW-846	7470A	mg/l	mg/l	mg/l	
00259	Mercury		7439-97-6	N.D.	0.000060	0.00020	1

#### General Sample Comments

This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132531848007	09/12/2013 13:16	Katlin N Cataldi	1
07046	Barium	SW-846 6010B	1	132531848007	09/12/2013 13:16	Katlin N Cataldi	1
07049	Cadmium	SW-846 6010B	1	132531848007	09/12/2013 13:16	Katlin N Cataldi	1
07051	Chromium	SW-846 6010B	1	132531848007	09/12/2013 13:16	Katlin N Cataldi	1
07055	Lead	SW-846 6010B	1	132531848007	09/12/2013 13:16	Katlin N Cataldi	1
07061	Nickel	SW-846 6010B	1	132531848007	09/12/2013 13:16	Katlin N Cataldi	1
07036	Selenium	SW-846 6010B	1	132531848007	09/12/2013 13:16	Katlin N Cataldi	1
07066	Silver	SW-846 6010B	1	132531848007	09/12/2013 13:16	Katlin N Cataldi	1
07071	Vanadium	SW-846 6010B	1	132531848007	09/12/2013 13:16	Katlin N Cataldi	1
00259	Mercury	SW-846 7470A	1	132535713007	09/12/2013 08:11	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132531848007	09/11/2013 23:45	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132535713007	09/11/2013 16:50	Nelli S Markaryan	1



## 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)090813 Filt Grab Surface Water

LL Sample # WW 7190436 Mayflower, AR LL Group # 1417374 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/08/2013 11:40 by DD ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 09/09/2013 12:10 Reported: 09/13/2013 09:21

7051F SDG#: PEL34-08

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	Dissolved	SW-846	6010B	mg/l	mg/l	mg/l	
07035	Arsenic		7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium		7440-39-3	0.0124	0.00033	0.0050	1
07049	Cadmium		7440-43-9	N.D.	0.00076	0.0050	1
07051	Chromium		7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead		7439-92-1	N.D.	0.0047	0.0150	1
07061	Nickel		7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium		7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver		7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium		7440-62-2	N.D.	0.0020	0.0050	1
		SW-846	7470A	mg/l	mg/l	mg/l	
00259	Mercury		7439-97-6	N.D.	0.000060	0.00020	1

#### General Sample Comments

This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132531848007	09/12/2013 14:	L2 Katlin N Cataldi	1
07046	Barium	SW-846 6010B	1	132531848007	09/12/2013 14:	L2 Katlin N Cataldi	1
07049	Cadmium	SW-846 6010B	1	132531848007	09/12/2013 14:	L2 Katlin N Cataldi	1
07051	Chromium	SW-846 6010B	1	132531848007	09/12/2013 14:	L2 Katlin N Cataldi	1
07055	Lead	SW-846 6010B	1	132531848007	09/12/2013 14:	L2 Katlin N Cataldi	1
07061	Nickel	SW-846 6010B	1	132531848007	09/12/2013 14:	L2 Katlin N Cataldi	1
07036	Selenium	SW-846 6010B	1	132531848007	09/12/2013 14:	L2 Katlin N Cataldi	1
07066	Silver	SW-846 6010B	1	132531848007	09/12/2013 14:	L2 Katlin N Cataldi	1
07071	Vanadium	SW-846 6010B	1	132531848007	09/12/2013 14:	L2 Katlin N Cataldi	1
00259	Mercury	SW-846 7470A	1	132535713007	09/12/2013 08:	L3 Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132531848007	09/11/2013 23:	15 Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132535713007	09/11/2013 16:	50 Nelli S Markaryan	1



## 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)090813 Filt Grab Surface Water

LL Sample # WW 7190437 Mayflower, AR LL Group # 1417374 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/08/2013 11:55 by DD ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 09/09/2013 12:10 Reported: 09/13/2013 09:21

1051F SDG#: PEL34-09

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	Dissolved	SW-846	6010B	mg/l	mg/l	mg/l	
07035	Arsenic		7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium		7440-39-3	0.0279	0.00033	0.0050	1
07049	Cadmium		7440-43-9	N.D.	0.00076	0.0050	1
07051	Chromium		7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead		7439-92-1	N.D.	0.0047	0.0150	1
07061	Nickel		7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium		7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver		7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium		7440-62-2	N.D.	0.0020	0.0050	1
		SW-846	7470A	mg/l	mg/l	mg/l	
00259	Mercury		7439-97-6	N.D.	0.000060	0.00020	1

#### General Sample Comments

This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132531848007	09/12/2013 14	:16 Katlin N Cataldi	1
07046	Barium	SW-846 6010B	1	132531848007	09/12/2013 14	:16 Katlin N Cataldi	1
07049	Cadmium	SW-846 6010B	1	132531848007	09/12/2013 14	:16 Katlin N Cataldi	1
07051	Chromium	SW-846 6010B	1	132531848007	09/12/2013 14	:16 Katlin N Cataldi	1
07055	Lead	SW-846 6010B	1	132531848007	09/12/2013 14	:16 Katlin N Cataldi	1
07061	Nickel	SW-846 6010B	1	132531848007	09/12/2013 14	:16 Katlin N Cataldi	1
07036	Selenium	SW-846 6010B	1	132531848007	09/12/2013 14	:16 Katlin N Cataldi	1
07066	Silver	SW-846 6010B	1	132531848007	09/12/2013 14	:16 Katlin N Cataldi	1
07071	Vanadium	SW-846 6010B	1	132531848007	09/12/2013 14	:16 Katlin N Cataldi	1
00259	Mercury	SW-846 7470A	1	132535713007	09/12/2013 08	:15 Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132531848007	09/11/2013 23	:45 Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132535713007	09/11/2013 16	:50 Nelli S Markaryan	1



## Analysis Report

LL Sample # WW 7190438

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

Sample Description: DUP-WS-84-090813 Filt Grab Surface Water

Mayflower, AR

Pipeline Incident

LL Group # 1417374

Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/08/2013 by DD ExxonMobil c/o Arcadis

630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 09/09/2013 12:10 Reported: 09/13/2013 09:21

FD84- SDG#: PEL34-10FD

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	Dissolved	SW-846	6010B	mg/l	mg/l	mg/l	
07035	Arsenic		7440-38-2	N.D.	0.0068	0.0200	1
07046	Barium		7440-39-3	0.0141	0.00033	0.0050	1
07049	Cadmium		7440-43-9	N.D.	0.00076	0.0050	1
07051	Chromium		7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead		7439-92-1	N.D.	0.0047	0.0150	1
07061	Nickel		7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium		7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver		7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium		7440-62-2	N.D.	0.0020	0.0050	1
		SW-846	7470A	mg/l	mg/l	mg/l	
00259	Mercury		7439-97-6	N.D.	0.000060	0.00020	1

#### General Sample Comments

This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132531848007	09/12/2013 14:20	Katlin N Cataldi	1
07046	Barium	SW-846 6010B	1	132531848007	09/12/2013 14:20	Katlin N Cataldi	1
07049	Cadmium	SW-846 6010B	1	132531848007	09/12/2013 14:20	Katlin N Cataldi	1
07051	Chromium	SW-846 6010B	1	132531848007	09/12/2013 14:20	Katlin N Cataldi	1
07055	Lead	SW-846 6010B	1	132531848007	09/12/2013 14:20	Katlin N Cataldi	1
07061	Nickel	SW-846 6010B	1	132531848007	09/12/2013 14:20	Katlin N Cataldi	1
07036	Selenium	SW-846 6010B	1	132531848007	09/12/2013 14:20	Katlin N Cataldi	1
07066	Silver	SW-846 6010B	1	132531848007	09/12/2013 14:20	Katlin N Cataldi	1
07071	Vanadium	SW-846 6010B	1	132531848007	09/12/2013 14:20	Katlin N Cataldi	1
00259	Mercury	SW-846 7470A	1	132535713007	09/12/2013 08:17	Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132531848007	09/11/2013 23:45	Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132535713007	09/11/2013 16:50	Nelli S Markaryan	1



## Analysis Report

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

Sample Description: WS-EB-55-090813 Filt Grab Water

LL Sample # WW 7190439 Mayflower, AR LL Group # 1417374 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 09/08/2013 12:20 by DD ExxonMobil c/o Arcadis

> 630 Plaza Drive, Suite 600 Highlands Ranch CO 80129

Submitted: 09/09/2013 12:10 Reported: 09/13/2013 09:21

EBF55 SDG#: PEL34-11EB\*

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
Metals	s Dissolved	SW-846	6010B	mg/l	mg/l	mg/l	
07035	Arsenic		7440-38-2	0.0075 J	0.0068	0.0200	1
07046	Barium		7440-39-3	N.D.	0.00033	0.0050	1
07049	Cadmium		7440-43-9	N.D.	0.00076	0.0050	1
07051	Chromium		7440-47-3	N.D.	0.0016	0.0150	1
07055	Lead		7439-92-1	N.D.	0.0047	0.0150	1
07061	Nickel		7440-02-0	N.D.	0.0015	0.0100	1
07036	Selenium		7782-49-2	N.D.	0.0084	0.0200	1
07066	Silver		7440-22-4	N.D.	0.0021	0.0050	1
07071	Vanadium		7440-62-2	N.D.	0.0020	0.0050	1
		SW-846	7470A	mg/l	mg/l	mg/l	
00259	Mercury		7439-97-6	N.D.	0.000060	0.00020	1

#### General Sample Comments

This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07035	Arsenic	SW-846 6010B	1	132531848007	09/12/2013 14	:24 Katlin N Cataldi	1
07046	Barium	SW-846 6010B	1	132531848007	09/12/2013 14	:24 Katlin N Cataldi	1
07049	Cadmium	SW-846 6010B	1	132531848007	09/12/2013 14	:24 Katlin N Cataldi	1
07051	Chromium	SW-846 6010B	1	132531848007	09/12/2013 14	:24 Katlin N Cataldi	1
07055	Lead	SW-846 6010B	1	132531848007	09/12/2013 14	:24 Katlin N Cataldi	1
07061	Nickel	SW-846 6010B	1	132531848007	09/12/2013 14	:24 Katlin N Cataldi	1
07036	Selenium	SW-846 6010B	1	132531848007	09/12/2013 14	:24 Katlin N Cataldi	1
07066	Silver	SW-846 6010B	1	132531848007	09/12/2013 14	:24 Katlin N Cataldi	1
07071	Vanadium	SW-846 6010B	1	132531848007	09/12/2013 14	:24 Katlin N Cataldi	1
00259	Mercury	SW-846 7470A	1	132535713007	09/12/2013 08	:19 Damary Valentin	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	132531848007	09/11/2013 23	:45 Annamaria Stipkovits	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	132535713007	09/11/2013 16	:50 Nelli S Markaryan	1

**Environmental** 



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Page 1 of 1

### Quality Control Summary

Client Name: ExxonMobil c/o Arcadis Group Number: 1417374

Reported: 09/13/13 at 09:21 AM

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

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

### Laboratory Compliance Quality Control

Analysis Name	Blank <u>Result</u>	Blank MDL**	Blank <u>LOO</u>	Report <u>Units</u>	LCS %REC	LCSD %REC	LCS/LCSD <u>Limits</u>	RPD	RPD Max
Batch number: 132531848007	Sample numb	ber(s): 71	90429-719	0439					
Arsenic	N.D.	0.0068	0.0200	mg/l	108		90-113		
Barium	N.D.	0.00033	0.0050	mg/l	102		90-110		
Cadmium	0.00077 J	0.00076	0.0050	mg/l	107		90-112		
Chromium	N.D.	0.0016	0.0150	mg/l	103		90-110		
Lead	N.D.	0.0047	0.0150	mg/l	107		88-110		
Nickel	N.D.	0.0015	0.0100	mg/l	107		90-111		
Selenium	N.D.	0.0084	0.0200	mg/l	105		80-120		
Silver	N.D.	0.0021	0.0050	mg/l	93		80-120		
Vanadium	N.D.	0.0020	0.0050	mg/l	103		90-110		
Batch number: 132535713007	Sample numb	ber(s): 71	90429-719	0439					
Mercury	N.D.	0.00006 0	0.00020	mg/l	97		80-120		

#### Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS <u>%REC</u>	MSD <u>%REC</u>	MS/MSD <u>Limits</u>	RPD	RPD <u>MAX</u>	BKG <u>Conc</u>	DUP <u>Conc</u>	DUP <u>RPD</u>	Dup RPD <u>Max</u>
Batch number: 132531848007	Sample	number(s	): 7190429	-71904	39 UNS	PK: 7190435	BKG: 719043	5	
Arsenic	105	107	81-123	2	20	N.D.	0.0077 J	200* (1)	20
Barium	102	104	78-118	2	20	0.0246	0.0241	2 (1)	20
Cadmium	105	106	83-116	1	20	N.D.	N.D.	0 (1)	20
Chromium	102	104	81-120	2	20	N.D.	N.D.	0 (1)	20
Lead	103	105	75-125	2	20	N.D.	N.D.	0 (1)	20
Nickel	106	107	86-115	1	20	N.D.	N.D.	0 (1)	20
Selenium	101	104	75-125	3	20	N.D.	N.D.	0 (1)	20
Silver	92	94	75-125	2	20	N.D.	N.D.	0 (1)	20
Vanadium	104	106	90-111	2	20	N.D.	N.D.	0 (1)	20
Batch number: 132535713007							BKG: 719042		
Mercury	97	95	80-120	2	20	N.D.	N.D.	0 (1)	20

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

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

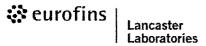
<sup>(1)</sup> The result for one or both determinations was less than five times the LOQ.

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

## ExxonMobil Analysis Request/Chain of Custody

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WS-TB-1	44-040813	9-8-13	1300 X			X		2	X													
7 Turnaround	Time Requested (T	AT) (please circle)	Relinquished by		//			Date	<i>6</i> .	2	Time	。 つ	Re	ceived by	<del>'</del>				Date		Time	9
Standard	5 day	4 day	Relinquished by	m j	10			+	18-1	017	<u> </u>	<u> </u>	_									
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72 hour	48 hour	24 hour	Relinquished by			<del>\</del>		Date			Time		Re	eceived by	$\overline{}$	$\overline{}$			Date	-	Time	
8) Data Package	e (circle if required)	EDD (circle if required)					1									X	J /	$\overline{}$		,		
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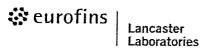
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# G-1417374 Environmental Sample Administration **Receipt Documentation Log**

Client/	Client/Project: Exxm Mobil Shipping Container Sealed: YES NO										
Date of Receipt: 919113 Custody Seal Present *: YES NO											
Time o	of Receipt:	1210		* Custody		act unless otherwise	e noted in the				
Source	e Code:	01		Package		Chilled	Not Chilled				
·	Temperature of Shipping Containers										
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments				
1	DTI21	2.0	TB	WI	7	B					
2		0.5									
3		1.7									
4		09					OD + 5W)				
5		25									
6	$\bigvee$	0.4									
Number of Trip Blanks received <u>NOT</u> listed on chain of custody:											
Paperw	Paperwork Discrepancy/Unpacking Problems:										
						_,					
						· · · · · · · · · · · · · · · · · · ·	-				
Unpaci	Unpacker Signature/Emp#: May 969 Date/Time: 9/9/13 1315										
	Issued by Dept. 6042 Management										

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## 6-1417374

### Environmental Sample Administration Receipt Documentation Log

							_	
Client	/Project:	Exxm Mo	b:\	Shippin	ng Contain	er Sealed: Yi	ES NO	
Date o	of Receipt: _	919/13	<u>*</u>	Custod	y Seal Pre	sent * · · · · · · · · · · · · · · · · · ·	ES NO	
Time o	of Receipt: _	1210	_	* Custody	seal was inta	act unless otherwis		
Sourc	e Code:	01			discrepancy s		A Mark Olivius	
		- 20		Packag	e. 	Chille	d) Not Chilled	
			Temperature of	Shipping Contai	iners			
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments	
17	DT121	2.1	TB	WI	, 4	5		
78		0.3					F .	
1/9		0.8	,					
10		1.7	į.·		,		·	
<b>5</b> /		1.3			~			
/6 12		1.9			:			
Number	Number of Trip Blanks received NOT listed on chain of custody:							
Paperw	Paperwork Discrepancy/Unpacking Problems:							
				A	·			
			3					
•							——————————————————————————————————————	
						· · · · · · · · · · · · · · · · · · ·		
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Unpack	er Signature/i	Emp#: (	WHO/	964	Date/Tim	ne: 9/9/13	1315	
	-		Issued by Den	t 6042 Manageme				

2174.06



### **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)	L	liter(s)
m3	cubic meter(s)	μL	microliter(s)
		pg/L	picogram/liter

- < less than The number following the sign is the <u>limit of quantitation</u>, the smallest amount of analyte which can be reliably determined using this specific test.
- > greater than

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

ppb parts per billion

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

Data Qualifiers:

C - result confirmed by reanalysis.

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

U.S. EPA CLP Data Qualifiers:

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

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

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

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

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

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