Analysis Report

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ANALYTICAL RESULTS

Prepared by: Prepared for:

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

June 18, 2014

Project: Mayflower, AR Pipeline Incident

Submittal Date: 06/06/2014 Group Number: 1479984 SDG: PEO03 PO Number: 4410181435 Release Number: SIXSMITH State of Sample Origin: AR

Client Sample Description	<u>Lancaster Labs (LL) #</u>
WS-007(0.5-1.0)060514 Grab Surface Water	7490065
WS-009(Surface)060514 Grab Surface Water	7490066
WS-001(0.5-1.0)060514 Grab Surface Water	7490067
WS-021(Surface)060514 Grab Surface Water	7490068
WS-004(0.5-1.0)060514 Grab Surface Water	7490069

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

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

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Respectfully Submitted,

Katherine A. Klinefelter Principal Specialist

Katherine a. Klinefelter

(717) 556-7256

Case Narrative

Project Name: Mayflower, AR Pipeline Incident LL Group #: 1479984

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

<u>Sample #s: 7490065, 7490066, 7490067, 7490068, 7490069</u> The laboratory did not receive sufficient sample volume to perform the method QC requirement for MS/MSD or MS/DUP analysis.

Batch #: 14158WAE026 (Sample number(s): 7490065-7490069)

The recovery(ies) for one or more surrogates were outside of the QC window for sample(s) 7490068



Analysis Report

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Sample Description: WS-007(0.5-1.0)060514 Grab Surface Water

S20135565 Mayflower, AR

Pipeline Incident

LL Sample # WW 7490065

LL Group # 1479984 Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 06/05/2014 09:00 by LMH ExxonMobil PO Box 4592

Houston TX 77210-4592

Submitted: 06/06/2014 09:30 Reported: 06/18/2014 09:54

65007 SDG#: PEO03-01

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	0.052	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.052	1
08357	Anthracene	120-12-7	N.D.	0.010	0.052	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.052	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.052	1
08357	Benzo(b)fluoranthene	205-99-2	0.015 J	0.010	0.052	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.052	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.010	0.052	1
08357	Chrysene	218-01-9	0.013 J	0.010	0.052	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.052	1
08357	Fluoranthene	206-44-0	0.027 J	0.010	0.052	1
08357	Fluorene	86-73-7	N.D.	0.010	0.052	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.052	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.052	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.052	1
08357	Naphthalene	91-20-3	0.082	0.031	0.052	1
08357	Phenanthrene	85-01-8	N.D.	0.031	0.052	1
08357	Pyrene	129-00-0	0.018 J	0.010	0.052	1
	laboratory did not receive suf					

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

General Sample Comments

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

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	14158WAE026	06/14/2014 10:06	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	14158WAE026	06/09/2014 15:00	Seth A Farrier	1



Analysis Report

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Sample Description: WS-009(Surface)060514 Grab Surface Water

S20135565 Mayflower, AR

Pipeline Incident

LL Sample # WW 7490066

LL Group # 1479984 Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 06/05/2014 09:05 by LMH ExxonMobil PO Box 4592

Houston TX 77210-4592

Submitted: 06/06/2014 09:30 Reported: 06/18/2014 09:54

65009 SDG#: PEO03-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles SW-846	8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.050	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.050	1
08357	Anthracene	120-12-7	N.D.	0.010	0.050	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.050	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.050	1
08357	Benzo(b) fluoranthene	205-99-2	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	0.057	0.030	0.050	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.050	1
08357	Pyrene	129-00-0	N.D.	0.010	0.050	1
	laboratory did not receive suf					

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

General Sample Comments

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

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	14158WAE026	06/14/2014 10:33	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	14158WAE026	06/09/2014 15:00	Seth A Farrier	1



Analysis Report

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Sample Description: WS-001(0.5-1.0)060514 Grab Surface Water

S20135565 Mayflower, AR Pipeline Incident

LL Group # 1479984 Account # 14739

LL Sample # WW 7490067

Project Name: Mayflower, AR Pipeline Incident

Collected: 06/05/2014 09:15 by LMH ExxonMobil

PO Box 4592

Houston TX 77210-4592

Submitted: 06/06/2014 09:30 Reported: 06/18/2014 09:54

65001 SDG#: PEO03-03

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	0.013 J	0.010	0.051	1						
08357	Fluorene	86-73-7	N.D.	0.010	0.051	1						
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.051	1						
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.051	1						
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.051	1						
08357	Naphthalene	91-20-3	0.078	0.030	0.051	1						
08357	Phenanthrene	85-01-8	N.D.	0.030	0.051	1						
08357	Pyrene	129-00-0	N.D.	0.010	0.051	1						
The	laboratory did not receive sur	The laboratory did not receive sufficient sample volume to perform										

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

General Sample Comments

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

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	14158WAE026	06/14/2014 11:00	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	14158WAE026	06/09/2014 15:00	Seth A Farrier	1



Analysis Report

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Sample Description: WS-021(Surface)060514 Grab Surface Water

S20135565 Mayflower, AR

Pipeline Incident

LL Sample # WW 7490068

LL Group # 1479984 Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 06/05/2014 09:20 by LMH ExxonMobil

PO Box 4592

Houston TX 77210-4592

Submitted: 06/06/2014 09:30 Reported: 06/18/2014 09:54

65021 SDG#: PEO03-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS	Semivolatiles SW-846	8270C SIM	ug/l	ug/l	ug/l	
08357	Acenaphthene	83-32-9	N.D.	0.010	0.051	1
08357	Acenaphthylene	208-96-8	N.D.	0.010	0.051	1
08357	Anthracene	120-12-7	N.D.	0.010	0.051	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.010	0.051	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.010	0.051	1
08357	Benzo(b) fluoranthene	205-99-2	N.D.	0.010	0.051	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.010	0.051	1
08357	Benzo(k) fluoranthene	207-08-9	N.D.	0.010	0.051	1
08357	Chrysene	218-01-9	N.D.	0.010	0.051	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.010	0.051	1
08357	Fluoranthene	206-44-0	N.D.	0.010	0.051	1
08357	Fluorene	86-73-7	N.D.	0.010	0.051	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.010	0.051	1
08357	1-Methylnaphthalene	90-12-0	N.D.	0.010	0.051	1
08357	2-Methylnaphthalene	91-57-6	N.D.	0.010	0.051	1
08357	Naphthalene	91-20-3	0.066	0.030	0.051	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.051	1
08357	Pyrene	129-00-0	N.D.	0.010	0.051	1
The	laboratory did not receive suf	fficient sample vo	lume to perform			

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

General Sample Comments

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

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	14158WAE026	06/14/2014 11:27	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	14158WAE026	06/09/2014 15:00	Seth A Farrier	1



Analysis Report

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Sample Description: WS-004(0.5-1.0)060514 Grab Surface Water

LL Sample # WW 7490069 S20135565 Mayflower, AR LL Group # 1479984 Pipeline Incident Account # 14739

Project Name: Mayflower, AR Pipeline Incident

Collected: 06/05/2014 09:25 by LMH ExxonMobil PO Box 4592

Submitted: 06/06/2014 09:30 Houston TX 77210-4592

Reported: 06/18/2014 09:54

65004 SDG#: PEO03-05*

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	0.050	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	0.062	0.030	0.050	1
08357	Phenanthrene	85-01-8	N.D.	0.030	0.050	1
08357	Pyrene	129-00-0	N.D.	0.010	0.050	1
	laboratory did not receive suf method QC requirement for MS/M					

General Sample Comments

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

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	14158WAE026	06/14/2014 11:55	Brian K Graham	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	14158WAE026	06/09/2014 15:00	Seth A Farrier	1

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Quality Control Summary

Client Name: ExxonMobil Group Number: 1479984

Reported: 06/18/14 at 09:54 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: 14158WAE026	Sample numb	ber(s): 7	490065-749	0069					
Acenaphthene	N.D.	0.010	0.050	ug/l	102	105	83-119	3	30
Acenaphthylene	N.D.	0.010	0.050	ug/l	94	97	81-130	4	30
Anthracene	N.D.	0.010	0.050	ug/l	96	100	83-125	3	30
Benzo(a)anthracene	N.D.	0.010	0.050	ug/l	87	91	79-122	5	30
Benzo(a)pyrene	N.D.	0.010	0.050	ug/l	89	93	80-121	4	30
Benzo(b)fluoranthene	N.D.	0.010	0.050	ug/l	98	102	79-136	4	30
Benzo(g,h,i)perylene	N.D.	0.010	0.050	ug/l	81	87	72-132	6	30
Benzo(k)fluoranthene	N.D.	0.010	0.050	ug/l	89	94	81-131	5	30
Chrysene	N.D.	0.010	0.050	ug/l	92	95	84-118	4	30
Dibenz(a,h)anthracene	N.D.	0.010	0.050	ug/l	68	73	66-133	8	30
Fluoranthene	N.D.	0.010	0.050	ug/l	94	96	84-124	2	30
Fluorene	N.D.	0.010	0.050	ug/l	91	94	82-119	4	30
Indeno(1,2,3-cd)pyrene	N.D.	0.010	0.050	ug/l	74	79	68-132	7	30
1-Methylnaphthalene	N.D.	0.010	0.050	ug/l	87	90	86-130	4	30
2-Methylnaphthalene	N.D.	0.010	0.050	ug/l	82	86	81-131	4	30
Naphthalene	N.D.	0.030	0.050	ug/l	88	92	82-122	4	30
Phenanthrene	N.D.	0.030	0.050	ug/l	95	98	83-116	3	30
Pyrene	N.D.	0.010	0.050	ug/l	85	92	78-125	9	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: 14158WAE026

bacen na	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene- d10
7490065	99	76	83
7490066	94	64	74
7490067	103	75	85
7490068	73	47*	66*
7490069	98	74	83
Blank	95	101	83
LCS	95	99	85
LCSD	96	102	88

- *- 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.



Analysis Report

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Quality Control Summary

Client Name: ExxonMobil Group Number: 1479984

Reported: 06/18/14 at 09:54 AM

Surrogate Quality Control

Limits: 59-128 62-141 70-134

^{*-} Outside of specification

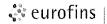
^{**-}This limit was used in the evaluation of the final result for the blank

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

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

ExxonMobil Analysis Request/Chain of Custody

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May flower ExxonMobil PM	· AR	Cost Center/AFE				 	Ground Surface											1		H = H N = H	HNO₃	T = Thic B = NaC O = Oth	iosulfate iOH
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2) Sample Identifies	- <u>-</u>		lected	Grab	l mo	Soil	Water	1_1	Total #	RH	# 100 mm	1							, 1	1			
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WS-00 (0.5-1		6-5-19	0915	X	+	\vdash	<u> </u>	₩	2	1X	1	+	+	+	_			4					
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72 hour	48 hour	24 hour	Relinquished	d by				+	Date		T	Time		Rr	Received	ad by					Date	Time	ne .
8) Data Package		DD (circle if required)							· _	_	Ministration of the last of th							A			A1.5		
Type I - Full		ocus EIM (default)	' 1	Nº 6	mmerci									Re	eceived	d by	,	1/1			Date (/i	Time	A 1 /
Type VI (Raw D	vata) Oth	ther	UPS_	X		Fe	edEx		Oth	ther) (n	ml	/_'	111	m		661		150
NJ Reduced Other				Te	mper	ature	e Upon Re	eceip'	t <u></u>	4,,4	01	°C		1	C	<i>C</i> Custod		Marine Company		THE REAL PROPERTY AND ADDRESS OF THE PARTY AND	Yes	<u> </u>	No



Sample Administration Receipt Documentation Log

Doc Log ID:

16640

Group Number(s):

1479984

Client: ExxonMobil

Mayflower

Delivery and Receipt Information

Delivery Method:

UPS

Arrival Timestamp:

06/06/2014 9:30

Number of Packages:

1

Number of Projects:

1

State/Province of Origin:

<u>AR</u>

Arrival Condition Summary

Shipping Container Sealed:

Yes

Total Trip Blank Qty:

0

Custody Seal Present:

Yes

Trip Blank Type:

<u>N/A</u>

Custody Seal Intact:

Yes

Air Quality Samples Present:

<u>No</u>

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

N/A 0

Samples Intact:

<u>Yes</u>

Air Quality Returns:

N/A

Missing Samples:

No No

Extra Samples:

<u>No</u>

Discrepancy in Container Qty on COC: Sample IDs on COC match Containers:

<u>Yes</u>

Sample Date/Times match COC:

<u>Yes</u>

VOA Vial Headspace ≥ 6mm:

N/A

VOA IDs (\geq 6mm):

N/A

Unpacked by Brandy Barclay (2299) at 11:46 on 06/06/2014

Samples Chilled Details: Mayflower

Thermometer Types:

DT = Digital (Temp. Bottle)

IR = Infrared (Surface Temp)

All Temperatures in °C.

Samples | Collected Same

Cooler # Thermometer ID

Corrected Temp

Therm. Type

Ice Type Ice Present? Ice Container

Day as Receipt?

Elevated Temp?

1

DT146

0.9

DT

Wet

Bagged

Ν

Ν



Explanation of Symbols and Abbreviations

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

RL	Reporting Limit	BMQL	Below Minimum Quantitation Level
N.D.	none detected	MPN	Most Probable Number
TNTC	Too Numerous To Count	CP Units	cobalt-chloroplatinate units
IU	International Units	NTU	nephelometric turbidity units
umhos/cm	micromhos/cm	ng	nanogram(s)
С	degrees Celsius	F	degrees Fahrenheit
meq	milliequivalents	lb.	pound(s)
g	gram(s)	kg	kilogram(s)
μg	microgram(s)	mg	milligram(s)
mL	milliliter(s)	Ĺ	liter(s)
m3	cubic meter(s)	μL	microliter(s)
		pg/L	picogram/liter

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

Data Qualifiers:

C - result confirmed by reanalysis.

J - estimated value – The result is ≥ 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	Ε	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
Ε	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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