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Date: November 13, 2016
To: S. Burchette, Work Assignment Manager, EPA/ERTC
From: J. Syslo, Analytical Support Chemist, SERAS *J. Syslo 11/15/16*
Through: D. Killeen, Quality Control Officer, SERAS
Subject: Preliminary Results of the Analysis of Air for PAH's Collected on XAD Tubes using
SERAS SOP# 1817
With the Results of the MDL & DE Studies for PAH's on XAD-2 Tubes using SERAS SOP# 1817
Project: Buffalo NY Fire: WA# SER84001

This document contains the analytical results for the following samples:

Chain(s) of Custody #: 2-111116-081630-003

Analysis: PAH's in Air by GC/MS-SIM
No. of Samples: 10
Matrix: Air samples collected on XAD-2 tubes

This report contains the results of the analysis of ten XAD-2 tube samples for PAH compounds following the procedures outlined using SERAS SOP# 1817. The samples were received and analyzed on 11/12/16. The preliminary results were issued on 11/13/16.

Each sample consists of three sections; a filter, and an XAD-2 tube that contains a front and back section. The front and back sections of the XAD tube, and the filter are extracted and analyzed separately and the analytical results of the filter, front and back for each sample is added and reported as one result.

Only one sample had a few target compounds detected in the front portion of the XAD tube and the pre filter section. The detected concentrations were below the method RL and the concentrations reported as "J", or estimated values.

Before the samples were extracted and analyzed, a desorption efficiency (DE) study and method detection limit (MDL) study were performed on XAD tubes. The data for that study is included in this report.

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Central File

**Table 1.0 Results of the Analysis for PAH in Air Collected on XAD-2 Tubes
WA# SER84001 Buffalo NY Fire**

SERAS SOP 1817

Sample No. Sampling Location Volume (L)	1652 Lot Blank 0		1660 A B Courts 504		1631 AS013 456		1634 AS015 480		1637 AS010 480	
Compound Name	Conc. µg	RL µg	Conc. µg / m³	RL µg / m³	Conc. µg / m³	RL µg / m³	Conc. µg / m³	RL µg / m³	Conc. µg / m³	RL µg / m³
Naphthalene	U	9.10	16.5	J 18.0	U	19.9	U	19.0	U	19.0
2-Methylnaphthalene	U	9.20	1.90	J 18.2	U	20.2	U	19.2	U	19.2
1-Methylnaphthalene	U	9.11	1.55	J 18.1	U	20.0	U	19.0	U	19.0
Biphenyl	U	9.04	3.77	J 17.9	U	19.8	U	18.8	U	18.8
2,6-Dimethylnaphthalene	U	9.11	U	18.1	U	20.0	U	19.0	U	19.0
Acenaphthylene	U	9.39	2.83	J 18.6	U	20.6	U	19.6	U	19.6
Acenaphthene	U	9.29	1.22	J 18.4	U	20.4	U	19.3	U	19.3
Dibenzofuran	U	9.12	2.10	J 18.1	U	20.0	U	19.0	U	19.0
Fluorene	U	9.07	1.55	J 18.0	U	19.9	U	18.9	U	18.9
Phenanthrene	U	8.88	7.76	J 17.6	U	19.5	U	18.5	U	18.5
Anthracene	U	9.05	U	18.0	U	19.8	U	18.8	U	18.8
Carbazole	U	9.15	U	18.2	U	20.1	U	19.1	U	19.1
Fluoranthene	U	9.12	3.02	J 18.1	U	20.0	U	19.0	U	19.0
Pyrene	U	9.14	2.50	J 18.1	U	20.1	U	19.1	U	19.1
Benzo(a)anthracene	U	9.78	1.79	J 19.4	U	21.4	U	20.4	U	20.4
Chrysene	U	9.31	2.30	J 18.5	U	20.4	U	19.4	U	19.4
Benzo(b)fluoranthene	U	10.1	U	20.0	U	22.2	U	21.1	U	21.1
Benzo(k)fluoranthene	U	9.42	U	18.7	U	20.7	U	19.6	U	19.6
Benzo(e)pyrene	U	10.0	U	19.9	U	22.0	U	20.9	U	20.9
Benzo(a)pyrene	U	10.5	U	20.8	U	23.0	U	21.8	U	21.8
Indeno(1,2,3-cd)pyrene	U	10.5	U	20.9	U	23.1	U	21.9	U	21.9
Dibenzo(a,h)anthracene	U	10.5	U	20.8	U	23.0	U	21.9	U	21.9
Benzo(g,h,i)perylene	U	11.0	U	21.8	U	24.1	U	22.9	U	22.9

Table 1.1 Results of the Analysis for PAH in Air Collected on XAD-2 Tubes
WA# SER84001 Buffalo NY Fire

SERAS SOP 1817

Sample No. Sampling Location Volume (L)	1640 AS012 480		1643 AS011 480		1646 AS014 456		1649 AS004 480		1655 Field Blank 0	
Compound Name	Conc. µg / m³	RL µg / m³	Conc. µg / m³	RL µg / m³	Conc. µg / m³	RL µg / m³	Conc. µg / m³	RL µg / m³	Conc. µg	RL µg
Naphthalene	U	19.0	U	19.0	U	19.9	U	19.0	U	9.10
2-Methylnaphthalene	U	19.2	U	19.2	U	20.2	U	19.2	U	9.20
1-Methylnaphthalene	U	19.0	U	19.0	U	20.0	U	19.0	U	9.11
Biphenyl	U	18.8	U	18.8	U	19.8	U	18.8	U	9.04
2,6-Dimethylnaphthalene	U	19.0	U	19.0	U	20.0	U	19.0	U	9.11
Acenaphthylene	U	19.6	U	19.6	U	20.6	U	19.6	U	9.39
Acenaphthene	U	19.3	U	19.3	U	20.4	U	19.3	U	9.29
Dibenzofuran	U	19.0	U	19.0	U	20.0	U	19.0	U	9.12
Fluorene	U	18.9	U	18.9	U	19.9	U	18.9	U	9.07
Phenanthrene	U	18.5	U	18.5	U	19.5	U	18.5	U	8.88
Anthracene	U	18.8	U	18.8	U	19.8	U	18.8	U	9.05
Carbazole	U	19.1	U	19.1	U	20.1	U	19.1	U	9.15
Fluoranthene	U	19.0	U	19.0	U	20.0	U	19.0	U	9.12
Pyrene	U	19.1	U	19.1	U	20.1	U	19.1	U	9.14
Benzo(a)anthracene	U	20.4	U	20.4	U	21.4	U	20.4	U	9.78
Chrysene	U	19.4	U	19.4	U	20.4	U	19.4	U	9.31
Benzo(b)fluoranthene	U	21.1	U	21.1	U	22.2	U	21.1	U	10.1
Benzo(k)fluoranthene	U	19.6	U	19.6	U	20.7	U	19.6	U	9.42
Benzo(e)pyrene	U	20.9	U	20.9	U	22.0	U	20.9	U	10.0
Benzo(a)pyrene	U	21.8	U	21.8	U	23.0	U	21.8	U	10.5
Indeno(1,2,3-cd)pyrene	U	21.9	U	21.9	U	23.1	U	21.9	U	10.5
Dibenzo(a,h)anthracene	U	21.9	U	21.9	U	23.0	U	21.9	U	10.5
Benzo(g,h,i)perylene	U	22.9	U	22.9	U	24.1	U	22.9	U	11.0

Table 2.0 Results of the Analysis for PAH in Air Collected on XAD-2 Tubes
WA# SER84001 Buffalo NY Fire

SERAS SOP 1817

Sample No. Sampling Location Volume (L)	1652 Lot Blank 0		1660 A B Courts 504		1631 AS013 456		1634 AS015 480		1637 AS010 480	
Compound Name	Conc. µg	RL µg	Conc. ppbv	RL ppbv	Conc. ppbv	RL ppbv	Conc. ppbv	RL ppbv	Conc. ppbv	RL ppbv
Naphthalene	U	9.10	3.14 J	3.44	U	3.81	U	3.62	U	3.62
2-Methylnaphthalene	U	9.20	0.326 J	3.14	U	3.47	U	3.29	U	3.29
1-Methylnaphthalene	U	9.11	0.267 J	3.11	U	3.43	U	3.26	U	3.26
Biphenyl	U	9.04	0.597 J	2.84	U	3.14	U	2.98	U	2.98
2,6-Dimethylnaphthalene	U	9.11	U	2.83	U	3.13	U	2.97	U	2.97
Acenaphthylene	U	9.39	0.455 J	3.00	U	3.31	U	3.15	U	3.15
Acenaphthene	U	9.29	0.193 J	2.92	U	3.23	U	3.07	U	3.07
Dibenzofuran	U	9.12	0.305 J	2.63	U	2.91	U	2.76	U	2.76
Fluorene	U	9.07	0.228 J	2.65	U	2.92	U	2.78	U	2.78
Phenanthrene	U	8.88	1.06 J	2.42	U	2.67	U	2.54	U	2.54
Anthracene	U	9.05	U	2.46	U	2.72	U	2.59	U	2.59
Carbazole	U	9.15	U	2.65	U	2.93	U	2.79	U	2.79
Fluoranthene	U	9.12	0.365 J	2.19	U	2.42	U	2.30	U	2.30
Pyrene	U	9.14	0.302 J	2.19	U	2.42	U	2.30	U	2.30
Benzo(a)anthracene	U	9.78	0.191 J	2.08	U	2.30	U	2.18	U	2.18
Chrysene	U	9.31	0.247 J	1.98	U	2.19	U	2.08	U	2.08
Benzo(b)fluoranthene	U	10.1	U	1.94	U	2.15	U	2.04	U	2.04
Benzo(k)fluoranthene	U	9.42	U	1.81	U	2.00	U	1.90	U	1.90
Benzo(e)pyrene	U	10.0	U	1.93	U	2.13	U	2.02	U	2.02
Benzo(a)pyrene	U	10.5	U	2.02	U	2.23	U	2.12	U	2.12
Indeno(1,2,3-cd)pyrene	U	10.5	U	1.85	U	2.04	U	1.94	U	1.94
Dibenzo(a,h)anthracene	U	10.5	U	1.83	U	2.02	U	1.92	U	1.92
Benzo(g,h,i)perylene	U	11.0	U	1.93	U	2.13	U	2.03	U	2.03

Table 2.1 Results of the Analysis for PAH in Air Collected on XAD-2 Tubes
WA# SER84001 Buffalo NY Fire

SERAS SOP 1817

Sample No. Sampling Location Volume (L)	1640 AS012 480		1643 AS011 480		1646 AS014 456		1649 AS004 480		1655 Field Blank 0	
Compound Name	Conc. ppbv	RL ppbv	Conc. ppbv	RL ppbv	Conc. ppbv	RL ppbv	Conc. ppbv	RL ppbv	Conc. µg	RL µg
Naphthalene	U	3.62	U	3.62	U	3.81	U	3.62	U	9.10
2-Methylnaphthalene	U	3.29	U	3.29	U	3.47	U	3.29	U	9.20
1-Methylnaphthalene	U	3.26	U	3.26	U	3.43	U	3.26	U	9.11
Biphenyl	U	2.98	U	2.98	U	3.14	U	2.98	U	9.04
2,6-Dimethylnaphthalene	U	2.97	U	2.97	U	3.13	U	2.97	U	9.11
Acenaphthylene	U	3.15	U	3.15	U	3.31	U	3.15	U	9.39
Acenaphthene	U	3.07	U	3.07	U	3.23	U	3.07	U	9.29
Dibenzofuran	U	2.76	U	2.76	U	2.91	U	2.76	U	9.12
Fluorene	U	2.78	U	2.78	U	2.92	U	2.78	U	9.07
Phenanthrene	U	2.54	U	2.54	U	2.67	U	2.54	U	8.88
Anthracene	U	2.59	U	2.59	U	2.72	U	2.59	U	9.05
Carbazole	U	2.79	U	2.79	U	2.93	U	2.79	U	9.15
Fluoranthene	U	2.30	U	2.30	U	2.42	U	2.30	U	9.12
Pyrene	U	2.30	U	2.30	U	2.42	U	2.30	U	9.14
Benzo(a)anthracene	U	2.18	U	2.18	U	2.30	U	2.18	U	9.78
Chrysene	U	2.08	U	2.08	U	2.19	U	2.08	U	9.31
Benzo(b)fluoranthene	U	2.04	U	2.04	U	2.15	U	2.04	U	10.1
Benzo(k)fluoranthene	U	1.90	U	1.90	U	2.00	U	1.90	U	9.42
Benzo(e)pyrene	U	2.02	U	2.02	U	2.13	U	2.02	U	10.0
Benzo(a)pyrene	U	2.12	U	2.12	U	2.23	U	2.12	U	10.5
Indeno(1,2,3-cd)pyrene	U	1.94	U	1.94	U	2.04	U	1.94	U	10.5
Dibenzo(a,h)anthracene	U	1.92	U	1.92	U	2.02	U	1.92	U	10.5
Benzo(g,h,i)perylene	U	2.03	U	2.03	U	2.13	U	2.03	U	11.0

CHAIN OF CUSTODY RECORD

No: 2-111116-081630-0003

DateShipped:

Site #: 84-001

Cooler #:

CarrierName:

Contact Name:

Lab:

AirbillNo:

Contact Phone:

Lab Phone:

WO# R611001

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Special Instructions: SKC 226-30-06 Lot#8110. SKC 225-1713 Lot#12737-7DC-221.
+ 10 Extra FILTERS + TUBES

**SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #**

[illegible]